GEORGE MASON UNIVERSITY
BOARD OF VISITORS

BOARD OF VISITORS MEETING
December 12, 2019
Merten Hall, Fairfax Campus

AGENDA

7:30 - 8:00 a.m. *(Room 1205)*	***Continental Breakfast***
8:00 – 8:25 a.m. *(Room 1201)*	**Executive Committee**
8:30 – 9:20 a.m. *(Room 1203)*	**Development Committee**
9:25 – 10:15 a.m. *(Room 1201)*	**Academic Programs, Diversity and University Community Committee**
10:20 – 11:10 a.m. *(Room 1203)*	**Audit Committee**
11:15 a.m. – 12:05 p.m. *(Room 1204)*	**Research Committee**
12:10 – 1:00 p.m. *(Room 1201)*	**Finance and Land Use Committee**
1:00 – 1:35 p.m. *(Room 1202)*	***Lunch***

BOARD OF VISITORS MEETING AGENDA

Merten Hall, Hazel Conference Room

1:35 p.m.	**I.**	**Call to Order**
1:35 p.m.	**II.**	**Approval of the Minutes (ACTION ITEMS)** **A.** Executive Committee Meeting Minutes for October 10, 2019 **B.** Full Board Meeting Minutes for October 10, 2019
1:35 – 1:45 p.m.	**III.**	**Rector's Report** **A.** Presidential Search Announcement Committee of the Board of Visitors
1:45 – 2:00 p.m.	**IV.**	**President's Report** **A.** Continuing Education (per HB1952) – Michelle Marks
2:00 – 2:10 p.m.	**V.**	**Provost's Report**
2:10 – 2:25 p.m.	**VI.**	**New Business** **A.** Exclusion Resolution **(ACTION ITEM) -** Melissa Perez

B. Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Reaffirmation - Janette Muir and Matt Smith

VII. Committee Reports

2:25 – 2:30 p.m. **A. Development Committee**

2:30 – 2:35 p.m. **B. Academic Programs, Diversity and University Community Committee (ACTION ITEMS)**

1. New Program Approvals
   a. MS, Learning Design Technology
   b. BS, Nutrition
   c. PhD, Mechanical Engineering
   d. MS, Kinesiology
   e. PhD, Kinesiology

2. Program Closures
   a. MA, History of Decorative Arts
   b. MS, Management of Secure Information Systems

3. Program Modification
   a. MEd, Guidance and Counseling, to Med, Counseling
   b. MS, Computer Forensics, to MS, Digital Forensics

4. Faculty Actions
   a. Conferral of Emeritus/Emerita Status
   b. Elections of New Tenured Hires

5. Sci-Tech Campus Renaming Resolution

2:35 – 2:40 p.m. **C. Audit Committee**

2:40 – 2:45 p.m. **D. Research Committee**

2:45 – 2:50 p.m. **E. Finance and Land Use Committee (ACTION ITEMS)**

1. Resolution to Proceed to Tier III
2. Capital Lease Resolution
3. PPEA Solicitation

2:50 – 3:30 p.m. **VIII. Closed Session**

A. Consultation with Legal Counsel pertaining to actual or probable litigation (Code of VA: §2.2-3711.A.7)
B. Personnel Matter (Code of VA: §2.2-3711.A.1)
C. Public Contract (Code of VA: §2.2-3711.A.29)\
D. Gifts, bequests, and fundraising activities (Code of VA: §2.2-3711.A.9)
E. Consultation with Legal Counsel regarding specific legal matters requiring the provision of legal advice (Code of VA: §2.2-3711.A.8)

3:30 p.m. **IX. Adjournment**

No public comment will be taken at this meeting.

GEORGE MASON UNIVERSITY BOARD OF VISITORS

Meeting of the Executive Committee December 12, 2019 8:00 – 8:25 a.m.

Merten Hall, Fairfax Campus Hazel Conference Room

AGENDA

I. Call to Order

II. President's Comments

III. Closed Session

- **A.** Consultation with Legal Counsel pertaining to actual or probable litigation (Code of VA: §2.2-3711.A.7)
- **B.** Personnel Matter (Code of VA: §2.2-3711.A.1)
- **C.** Public Contract (Code of VA: §2.2-3711.A.29)
- **D.** Gifts, bequests, and fundraising activities (Code of VA: §2.2-3711.A.9)
- **E.** Consultation with Legal Counsel regarding specific legal matters requiring the provision of legal advice (Code of VA: §2.2-3711.A.8)

IV. Adjournment

No public comment will be taken at this meeting.

George Mason University
Board of Visitors

Development Committee Meeting
December 12, 2019
8:30 a.m. – 9:20 a.m.
Merten Hall, Room 1203, Fairfax Campus

A G E N D A

I. Call to Order

II. Approval of Development Committee Meeting Minutes from October 10, 2019 (ACTION ITEM)

III. New Business

A. GMUF Chair Update – Terri Cofer Beirne
B. University Advancement and Alumni Relations Update – Trishana Bowden
C. Arlington Innovation District Development Report – Robert Bull, President, Compass Group

IV. Old Business

V. Adjournment

George Mason University
Board of Visitors

Development Committee Meeting
October 10, 2019
8:30 a.m. – 9:20 a.m.
Merten Hall, Room 1203, Fairfax Campus

Meeting Minutes

Attendees: Chairman Jimmy Hazel, Vice Chair Lisa Zuccari, Visitor Paul Reagan, Visitor Mehmood Kazmi, Rector Tom Davis

Absent: None

Guests: Interim President Anne Holton, Vice President Trishana Bowden, Faculty Senate Chair Representative Shannon Davis, Faculty Representative Chris Kennedy, Faculty Representative Alan Abramson, Student Representative Natalie Gelbvaks, Student Representative Camden Layton, Board of Trustees Chair Terri Cofer Beirne, Interim Deputy Vice President of University Advancement and Alumni Relations David Long

I. Call to Order

The meeting was called to order by Chairman Jimmy Hazel at 8:40 a.m.

II. Approval of Development Committee Meeting Minutes from May 2, 2019 (ACTION ITEM)

Chairman Hazel called for a motion to approve the meeting minutes from May 2, 2019. A **MOTION** was made, **SECONDED**, and the **MOTION CARRIED UNANIMOUSLY BY VOICE VOTE**.

III. New Business

A. GMUF Chair Report – Terri Cofer Beirne

Terri Cofer Beirne, Chair of the Board of Trustees of the George Mason University Foundation, Inc., delivered an update regarding the recent activities of the Board of Trustees.

B. University Advancement and Alumni Relations Report – Trishana Bowden

Trishana Bowden, Vice President of Advancement and Alumni Relations, and President of the George Mason University Foundation, Inc. provided an update on the activities of the Office of University Advancement and Alumni Relations.

Chairman Hazel called for a **MOTION** to move into closed session. A **MOTION** was made, **SECONDED**, and the **MOTION CARRIED UNANIMOUSLY BY VOICE VOTE**.

IV. Closed Session

A. Information relating to the negotiation and award of a specific contract (Code of VA: §2.2-3705.1)
B. Gifts, Bequests, and Fundraising Activities (Code of VA: §2.2-3711.A.9)

Chairman Hazel called for a **MOTION** to return to open session. A **MOTION** was made, **SECONDED**, and the **MOTION CARRIED UNANIMOUSLY BY VOICE VOTE**.

Returning from closed session, Chairman Hazel requested a roll call. Roll call was taken with all present members responding in the affirmative.

V. Old Business

No old business was discussed.

VI. Adjournment

There being no further business, the meeting was adjourned at 9:24 a.m.

Respectfully submitted,

Naomi Arlund-Roberts
Secretary pro tem

GEORGE MASON UNIVERSITY
BOARD OF VISITORS
Academic Programs, Diversity, and University Community Committee Meeting
Thursday, December 12, 2019
AGENDA

I. Call to Order

II. Approval of Academic Programs, Diversity and University Community Committee Minutes from October 10, 2019 (Action Item)

III. New Business

A. Provost's Update (S. D. Wu)

B. School of Computing Update (S. D. Wu | D. Crawford)

C. Supporting Our Outstanding Faculty (K. Eby)

D. SACSCOC Accreditation Process 2022 Overview (J. Muir | M. Smith)

E. Program Actions (**Action Item**)

1. New Program Approvals
    a) MS, Learning Design Technology
    b) BS, Nutrition
    c) PhD, Mechanical Engineering
    d) MS, Kinesiology
    e) PhD, Kinesiology
2. Program Closures
    a) MA, History of Decorative Arts
    b) MS, Management of Secure Information Systems
3. Program Modifications
    a) MEd, Guidance and Counseling, to MEd, Counseling
    b) MS, Computer Forensics, to MS, Digital Forensics

F. Report: Academic Program Fifth-Year Review

G. Faculty Actions (**Action Item**)

1. Promotion and/or Tenure
2. Conferral of Emeritus/Emerita Status
3. Elections of New Tenured Faculty

H. Faculty Announcements

1. Appointment of Faculty
2. Appointment of Administrative and Professional Faculty

3. Appointment/Reappointment of Deans/Directors and Department Chairs/School Directors
4. Renewals and Reappointments
5. Separations
6. Other Announcements
7. Summary of Faculty Actions and Announcements

I. Naming George Mason University's off-site campus in Prince William County to "George Mason University Science and Technology Campus" (**Action Item**)

IV. Adjournment

GEORGE MASON UNIVERSITY
BOARD OF VISITORS
Academic Programs, Diversity & University Community Committee

MINUTES
Thursday, October 10, 2019
9:25 AM – 10:14 AM
Merten Hall, Fairfax Campus

PRESENT: Rector: Tom Davis; Chair: Bob Witeck; Vice Chair: Simmi Bhuller; Visitors: Horace Blackman, Anjan Chimaladinne, Carolyn Moss, Nancy Prowitt, Paul Reagan and Lisa Zuccari; Faculty Senate Chair: Shannon Davis; Student Representatives: Natalie Gelbvaks and Camden Layton; Faculty Representatives: Christy Pichichero and Keith Renshaw; Staff Representatives: Provost S. David Wu, Rose Pascarell and Julian Williams.

ABSENT: Visitors: Juan Carlos Iturregui and Wendy Marquez

I. The meeting was called to order by Chair Bob Witeck at 9:25 AM.

II. Approval of Minutes (Action Item)
It was **MOVED** by Visitor Horace and **SECONDED** by Visitor Simmi that the minutes from the May 2 meeting be approved. **MOTION CARRIED UNANIMOUSLY.**

III. New Business

A. Provost's Update
S. David Wu – Provost and Executive Vice President
Provost Wu framed the conversation for the meeting by pointing to the recent Moody's bond rating upgrade to the overall success of Mason in enrollment and academic programs.

B. AY 2019-20 Enrollment Update
David Burge – Vice President, Enrollment Management
- Mason has again enrolled the largest class of students to date for AY 2019-20; largest increase was with in-state first-year freshman; slight decrease in transfer students due to advance, but expected to rebound moving forward.

C. Assessing the Quality of Student Experience
Rose Pascarell – Vice President, University life & David Burge – Vice President, Enrollment Management
- Internal surveys show a high satisfaction among our students and our 70% graduate rate reflects these numbers. External 'happiness' surveys, reported a lower rate of satisfaction, but the numbers of students who participated were extremely low.
- Over the past three years, Mason has been in the process of redesigning student experiences through the Mason Student Care Network, Mason 360, Mason Student Services Center and increasing student engagement over-all in an effort to improve the quality of the student experience.

D. Six-Year Plan Presentation: Institutional Strategies
S. David Wu – Provost and Executive Vice President
- Mason's strategic focus in the Six-Year Plan is to provide affordable access for all students, promoting student success, while stimulating innovation, research and economic prosperity for the Commonwealth. Mason's "Access to Excellence" strategy is fully aligned with the priorities of the state.

E. Program Actions

- The committee was presented with one new program approval to establish the Department of Cyber Security Engineering within the Volgenau School of Engineering (VSE), which was **UNANIMOUSLY APPROVED** for submission to the full board.

F. Faculty Actions

- Faculty Actions including Conferral of Emeritus/Emerita Status and Elections of new Tenured Faculty were also **UNANIMOUSLY APPROVED**.

G. Faculty Announcements

- Faculty announcements were acknowledged for the Committee's benefit. No further discussion was held.

IV. Annual Reports

- The *2018-2019 Degrees Awarded* and the *Fall 2019 Admission & Student Profile* reports were acknowledged for the Committee's benefit. No further questions or comments were made.

V. Adjournment

Chairperson Witeck called for a **MOTION** to adjourn the meeting; Visitor Blackman **MOVED**; and Visitor Reagan **SECONDED**. **The meeting adjourned at 10:14 AM.**

Respectfully submitted,

Heather A. Arold
Secretary Pro Tem

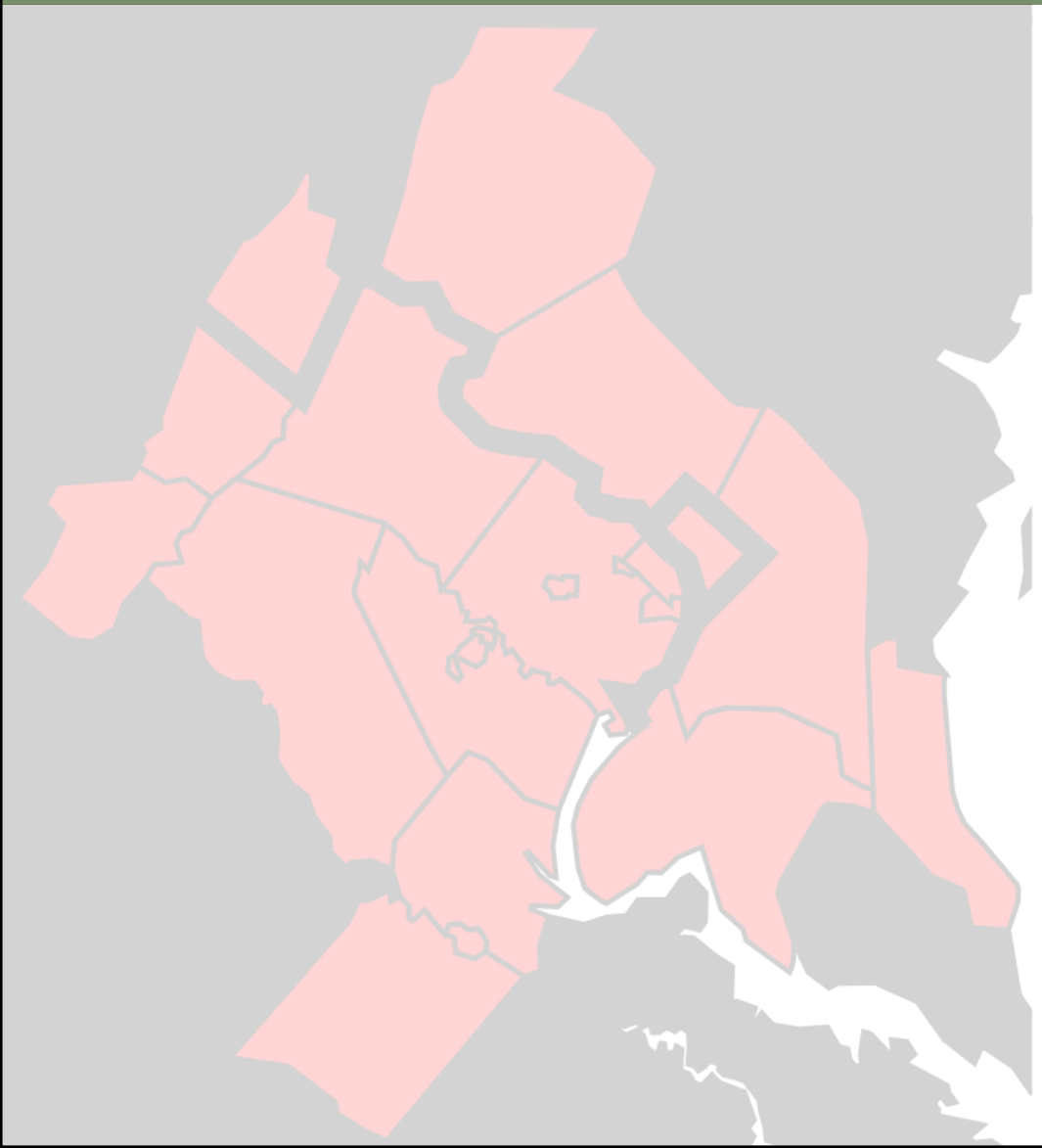
Mason School of Computing

Status Report

Deborah L. Crawford, PhD
Vice President for Research, Innovation & Economic Impact

BoV APDUC Committee
December 12, 2019 Meeting

The GWR
A Mecca for Tech Talent



Educated Workforce
#1 in US at 50.2%

Employed in Tech Occupations
#2 in US at 312,430

Tech Share of Total Employment
#5 in US at 10%

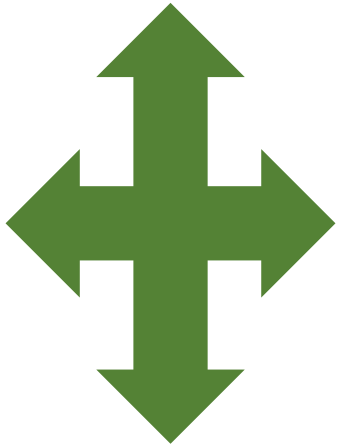
Source: Tech Cities 2.0, Cushman & Wakefield

amazon

hq2

School of Computing

a 1st in Virginia



TTIP

Tech Talent Investment Program

The Mason IDIA

New Urban Geography of Innovation

School of Computing (SoC)
Working Group Charge

- Current programmatic portfolio in computing
- Disciplinary and multidisciplinary education and research programs to be included in the new school
- New education, research and training programs that the school may promote and support, and programs that might be refined or transformed
- Organization of new school and how it will relate to and interface with the rest of the university
- Steps to be taken to increase the likelihood of a successful launch









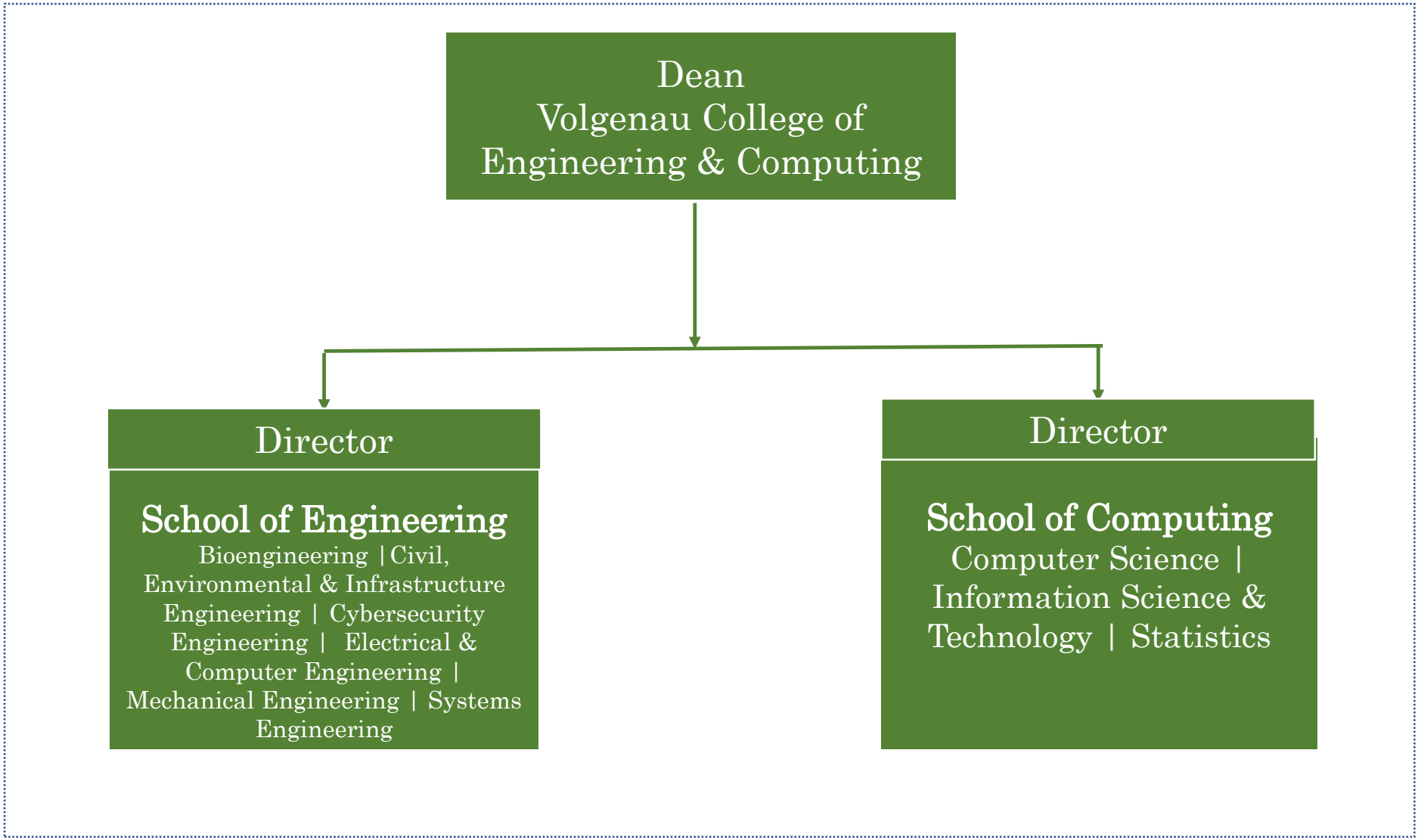
Our Computing Programs

13 Undergraduate Majors (enrolling 6,291 students, ~24% of all undergrads)
Applied Computer Science | Cloud Computing | Computational and Data Science | Computer Engineering | Computer Game Design | Computer Science | Cybersecurity Engineering | Cybersecurity | Information Systems and Operations Management | Information Technology | Mathematics | Statistics | Systems Engineering

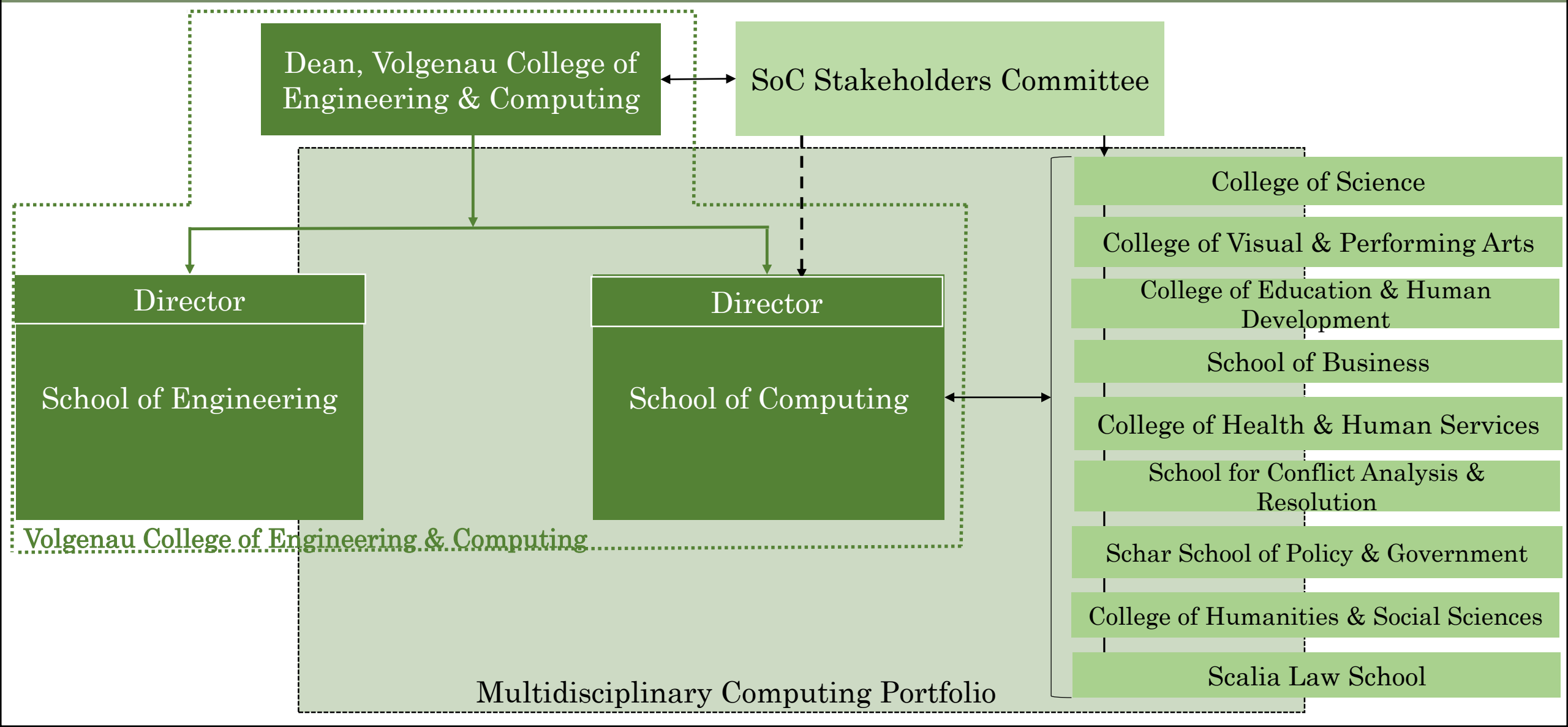
21 Masters Programs (enrolling 1,453 students, ~20% of all masters students)
Applied Information Technology | Bioinformatics & Computational Biology | Biostatistics | Computational Science | Computer Engineering | Computer Forensics | Computer Game Design | Computer Science | Cybersecurity | Data Analytics Engineering | Geoinformatics & Geospatial Intelligence | Health Informatics | Information Security & Assurance | Information Systems | Mathematics | Operations Research | Secure Information Systems | Software Engineering | Statistical Science | Systems Engineering | Telecommunications

10 PhD Programs (enrolling 566 students, ~26% of all PhD students)
Bioinformatics & Computational Biology | Computational Science & Informatics | Computational Social Science | Computer Science | Earth Systems and Geoinformation Science | Electrical & Computer Engineering | Information Technology | Mathematics | Statistical Sciences | Systems Engineering & Operations Research

A College and Two Schools



with a Multidisciplinary Mandate



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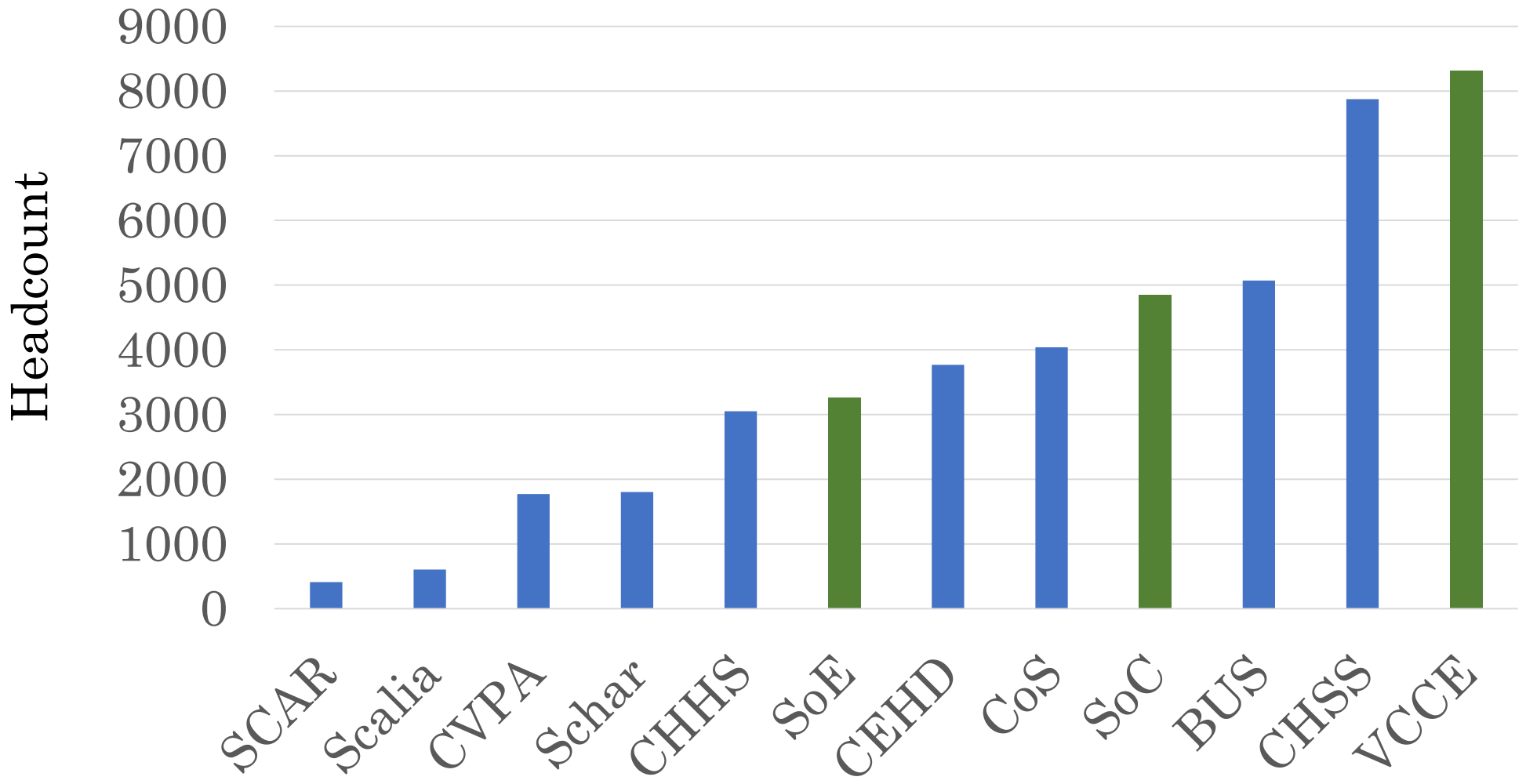
Bioinformatics & Computational Biology | Computational Science & Informatics | Computational Social Science | Computer Science | Earth Systems and Geoinformation Science | Electrical & Computer Engineering | Information Technology | Mathematics | Statistical Sciences | Systems Engineering & Operations

Student Enrollment by Unit

circa Fall 2019



Timeline


Complete Faculty Listening Sessions & Finalize Report Feb ’20
Launch SoC July ‘20
TTIP MOU Signed Oct ‘19
WG Draft Report Released for Stakeholder Input Dec ‘19
SoC Working Group (WG) Charged Jan ‘19
TTIP Projections Submitted May ‘19

Supporting Faculty Excellence

KIMBERLY K. EBY, PHD

ASSOCIATE PROVOST FOR FACULTY AFFAIRS AND DEVELOPMENT

GEORGE MASON UNIVERSITY

Faculty Affairs and Development

A systematic, intentional, and integrated approach to supporting faculty excellence

Appointment Types
- Tenure-track & tenured
- Term
- Adjunct

Career Stages
- Early career faculty
- Mid-career faculty
- Late career faculty

Roles
- Research & scholarship
  - Community-engaged research, entrepreneurship & commercialization, Scholarship of Teaching & Learning (SoTL)
- Teaching & mentoring
- Leadership & engagement
- Academic unit leadership

Inclusive, Thriving Community
- Build inclusive communities
- Recruit & retain faculty, including our diverse faculty
- Maintain life-work balance
- Create affinity groups

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Key Strategies for Faculty Support: Offer Excellent Onboarding & Professional Development

- New Faculty Orientation
- New Adjunct Faculty Success Workshop
- Faculty Mentoring Communities
- Stearns Center for Teaching and Learning
- Office of Research Development
- Robust Online Resources: faculty.gmu.edu

Key Strategies for Faculty Support: Proactively Identify Needs & Address Concerns

- Mason COACHE Faculty Engagement Initiative Goals
  - Better understand faculty satisfaction at Mason, identifying areas of strength and areas for growth
  - Create Mason-specific action plans that strengthen faculty well-being and success
- Term Faculty Committee
- Adjunct Faculty Committee
- Diversity, Inclusion, and Well-Being Strategy Group

Key Strategies for Faculty Support: Invest in Tools that Facilitate Faculty Work

- Mason FACTs Initiative (Faculty Activity and Collaboration Tools)
  - Leveraging faculty strengths
  - Facilitating faculty collaborations & partnerships
  - Showcasing and telling the stories of our faculty to a variety of stakeholders

SACSCOC Reaffirmation of Accreditation: Overview and Timeline

Janette Muir
Associate Provost for Academic Initiatives & Services

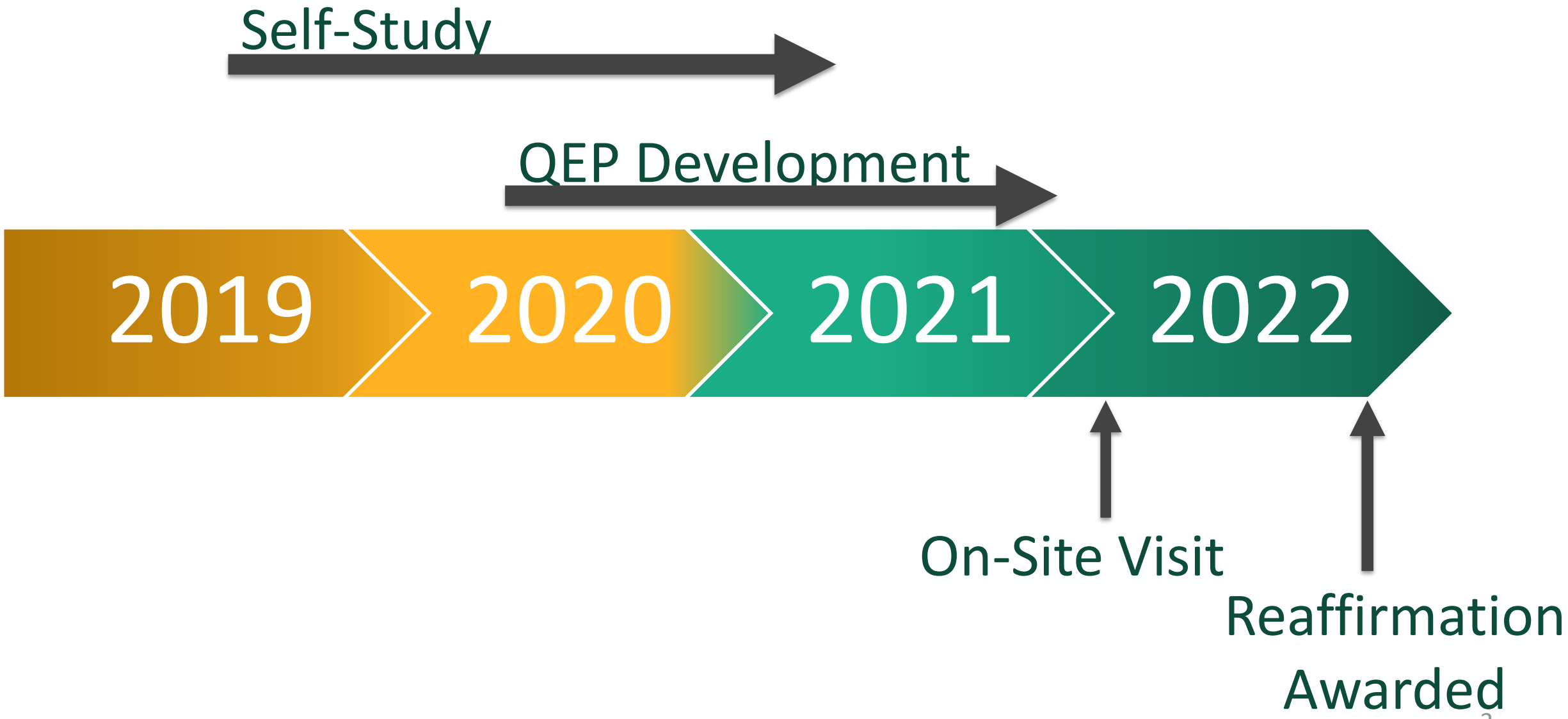
Matthew Smith
Director of Accreditation

December 12, 2019

Reaffirmation and the Role of the Board of Visitors

- *Be informed*
- *Be engaged*
- *Ensure compliance with Board-specific standards*
- *Ask questions*

SACSCOC Reaffirmation 2022



What have we accomplished thus far?

- Presentations to BOV, Academic Governance committees
- Appointment of the Reaffirmation Leadership Team
- Selection of Faculty Fellow to support the Reaffirmation process
- Launch of the Self-Study
- Launch of QEP Selection Process

QEP Topic Selection
What We've Communicated to Faculty, Staff, and Students

SACSCOC Quality Enhancement Plan (QEP) Topic Selection

- The QEP is 5-year initiative that focuses on improving student learning and/or success
- Developing and successfully executing a QEP is a required component of our reaffirmation of accreditation with SACSCOC

What is a QEP?

- Tied to Mason's Strategic Plan
- Identified through Mason's ongoing, comprehensive planning and evaluation processes
- Supported broadly across institutional stakeholders
- Focused on improving specific student learning outcomes and/or student success
- Driven by institutional data
- Makes appropriate use of institutional resources

What are the Requirements for a QEP?

- You are encouraged to submit your ideas!
- Topic proposals from teams are now being solicited.
- Please visit the QEP webpage (see below) for details on what to include in your proposal and how to submit that proposal

What if I have an idea for a topic?

GEORGE MASON UNIVERSITY

Selection Timeline

- **October**
  - Announcement of process
  - Solicit topic proposals
- **December**
  - Topic proposals due
  - Proposal review begins
- **January**
  - Identify top potential topics
  - Solicit teams to provide information
- **March**
  - Final proposals due for campus engagement
- **April/May**
  - Final input received
  - Announce QEP topic selection

- Proposals are due on December 16, 2019.
- Visit the QEP Webpage at: provost.gmu.edu/QEP
- Please contact Matt Smith (msmit55) if you have any questions!

How Do I Submit a Proposal?

Reaffirmation and the Board of Visitors

- Reaffirmation Dates to be finalized at the upcoming SACSCOC Meeting
- SACSCOC On-Site Review Committee will engage with a small group of Board members over lunch during the visit.

SACSCOC
Reaffirmation of Accreditation: Overview and Timeline

Janette Muir
Associate Provost for Academic Initiatives & Services

Matthew Smith
Director of Accreditation

December 12, 2019

Reaffirmation and the Role of the Board of Visitors

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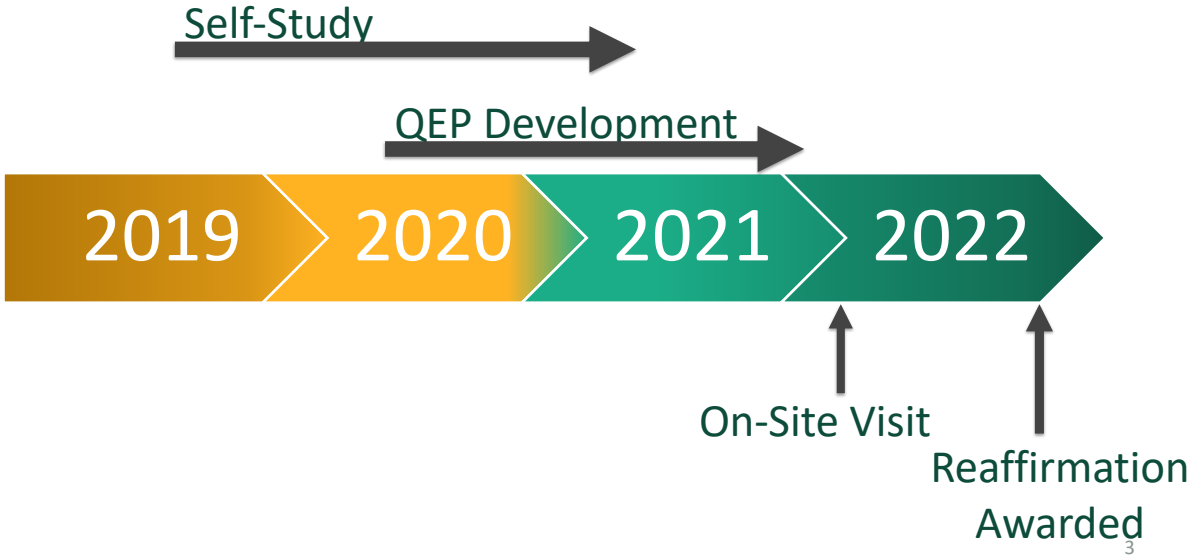
SACSCOC Reaffirmation 2022



SACSCOC Reaffirmation 2022

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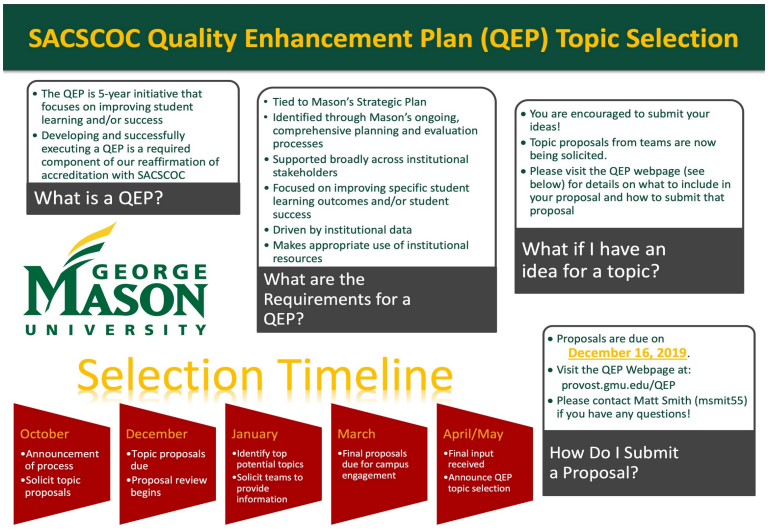
QEP Topic Selection
What We've Communicated to Faculty, Staff, and Students



SACSCOC Reaffirmation 2022

Reaffirmation and the Board of Visitors

- Reaffirmation Dates to be finalized at the upcoming SACSCOC Meeting
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ITEM NUMBER:
MS in Learning Design and Technology Degree Proposal

PURPOSE OF ITEM:
MS in Learning Design and Technology Degree Proposal has been prepared for submission to the State Council of Higher Education for Virginia for Fall 2020. Prior to SCHEV submission, Board action is required.

APPROPRIATE COMMITTEE:
Academic Programs, Diversity and University Community Committee

BRIEF NARRATIVE:
Learning Design and Technology is a field that traverses human resources, education, and organizational development. The field investigates how individuals acquire or enhance the knowledge and skills needed for workplace performance improvement as well as for growth toward future occupational roles. The proposed MS in Learning Design and Technology at Mason will train students to identify human performance deficiencies due to gaps in knowledge, skills, and abilities, then devise and implement learning solutions that address those gaps. What differentiates the proposed program from other traditional instructional design programs is the inclusion in the core curriculum of the advanced and managerial competencies set down by the International Board of Standards for Training, Performance and Instruction (IBSTPI) defining what the experienced learning designer must know and be able to do in the workplace. The program will prepare students for regional and national employment in industry, government, and the non-profit sector, as well as for doctoral studies at Mason and other national and international graduate programs. The proposed program elevates the current Masters of Education (MEd) Curriculum and Instruction with a Concentration in Instructional Design and Technology to a stand-alone Master of Science in Learning Design and Technology that stresses the focus on job performance-based goals grounded in the principles of adult learning and the learning sciences. Consequently, program graduates will possess the technical, organizational culture and people skills to better position themselves to compete for employment in non-school settings.

REVENUE IMPLICATIONS:
The program at launch will be revenue-neutral. Its required core courses overlap with most of those offered for the MEd concentration, and the program does not require new laboratory or other facilities. The program is expected to be revenue enhancing as it reaches maturity.

STAFF RECOMMENDATION:
Staff recommends Board approval.

Description of the Proposed Program

Program Background

George Mason University requests approval for a Master of Science (MS) in Learning Design and Technology degree program, to be implemented in the fall 2020 semester. The proposed program will be administered by the School of Education in the College of Education and Human Development.

The purpose of the proposed MS in Learning Design and Technology is to equip students working in various industry contexts to identify human performance deficiencies due to gaps in knowledge, skills, and/or abilities, and to design, implement, and regularly evaluate learning solutions that address those gaps. Students will be able to perform these functions individually and as part of interdisciplinary design teams using a variety of methodologies, learning technologies, and digital courseware development packages. Grounded in the internationally validated standards for competency set by the International Board of Standards for Training, Performance, and Instruction (IBSTPI),[1] the proposed program reflects the way in which the scope of work performed by traditional instructional systems designers has evolved to include learning opportunities beyond formal classroom instruction.

The proposed program responds to current needs in the Commonwealth of Virginia, in the DC-Virginia-Maryland (DMV) region, and the nation as a whole. A need exists for well-trained learning and development professionals due to the changing nature of work, the workforce, and the competition for talent among organizations in all industry sectors. Graduates will be knowledgeable about the principles and practices associated with learning and learning technology, and will be prepared to address the demand for professionals with learning design and learning technology expertise, particularly in industry, government, and non-profit organizations.

One of the greatest challenges for organizations is employee engagement, with learning and development critical to employee satisfaction and retention. In a survey of more than 3,000 U.S. full-time workers conducted from December 2018 to January 2019 by The Harris Poll on behalf of Career Builder, just 37 percent of all employees surveyed were satisfied with the training and learning opportunities at their current company. The majority, 58 percent, thought their company did not offer enough opportunities to learn new skills and help them move up in their career.[2] Similarly, the results of a 2016 Gallup survey reported that nearly six in 10 of working adults born between 1981 and 1996 (the so-called "Millennials") stated that opportunities to learn and grow were "extremely important" to them when applying for a job. However, only one in three "strongly agreed" that their most recent learning opportunity at work was "well worth their

[1] IBSTPI Instructional Designer Standards: Competencies and Performance Statements, http://ibstpi.org/instructional-design-competencies/

[2] Survey from CareerBuilder Reveals Half of Employees Feel They Have "Just a Job" Amid Heightened Career Expectations, http://press.careerbuilder.com/2019-07-23-Survey-from-CareerBuilder-Reveals-Half-of-Employees-Feel-They-Have-Just-a-Job-Amid-Heightened-Career-Expectations

time."[3] The proposed degree program will address these issues by preparing students to understand the role of learning in organizational contexts and develop appropriate engaging learning solutions.

The proposed degree program addresses the dramatic shift that has taken place in the profession over the past decades.[4] [5] Beginning in the 1940s and 1950s in the fields of education and military training, what was known as "instructional (systems) design"—with its focus on the Analysis, Design, Development, Implementation, Evaluation (ADDIE) model—was once an occupation dedicated to the design and development of formal, classroom-based training grounded in the theories and methods of social science scholars and educator-practitioners. With the rise of digital technologies as well as changes in the nature of work and the workforce, there has been a segmentation in the profession based on the contexts and audiences for learning. Specifically, school contexts (K-12, higher education) focus on broader learning goals than the job performance-based goals of industry and government.[6] Moreover, not only are technology-centered skills required, but business acumen is a requirement for learning designer jobs at all levels in industry and government. This skill set is not addressed in traditional university-based instructional design programs. As such, the proposed degree program provides the technical, organizational culture, and people skills that students need to thrive as 21st-century learning design and technology professionals.

Mission

The mission of George Mason University states, "A public, comprehensive research university established by the Commonwealth of Virginia in the National Capital region, we are an innovative and inclusive academic community committed to creating a more just, free, and prosperous world."

The proposed degree program aligns with the mission of the university by preparing students to apply new and emerging technologies to develop "innovative" solutions to learning and performance problems, providing a program that is grounded in professional standards, contexts, and ethical principles that enable students to create "inclusive" learning experiences, and providing a graduate course of study that enables students to apply their communication and collaboration skills to become agents of positive change for the advancement of the nation's workforce.

Online Delivery

The proposed MS program in Learning Design and Technology will be offered fully online. Consistent with George Mason University's commitment to inclusiveness and accessibility, the online delivery format will enable students regardless of their military or civilian employment

3 Millenials Want Jobs to be Development Opportunities, https://www.gallup.com/workplace/236438/millennials-jobs-development-opportunities.aspx?g_source=learning%0and%20development&g_medium=search&g_campaign=tiles

4 I *Instructional design history*, https://www.instructionaldesigncentral.com/instructional-design-history

5 van Rooij, S.W. (2018). *The business side of learning design and technologies.* New York: Routledge

6 Van Tiem, D.M., Moseley, J.L., & Dessinger, J.C. (2012). *Fundamentals of performance improvement.* 3rd edition. San Francisco: Pfeiffer.

status to complete the program while stationed abroad, while traveling, or while supporting families at home. The program will adhere to the standard George Mason University calendar for online programs, with courses offered in fall, spring, and summer respectively. Courses will be delivered using the university's Learning Management System (LMS), enabling both asynchronous ("not real time" interaction) and synchronous (“real time” but virtual) sessions. The LMS provides discussion boards, blogs, wikis and other digital communication and collaboration tools to support an engaging learning environment.

Program faculty have extensive online teaching experience. In addition, the George Mason University Stearns Center for Teaching and Learning offers resources to assist faculty at all stages of the teaching and learning process, including course design, online instructional strategy selection, online assessment tips and techniques, and adherence to the research-based quality standards for online courses established by the Online Learning Consortium[7] and Quality Matters.[8] Students in the proposed program will have full access to online learning resources provided by Mason Online in George Mason University’s Office of Digital Learning. These resources include videos that provide examples of what a Mason online course may look like, strategies and tips/techniques for online learning success, and hardware and software needed to participate in online courses.

Admission Criteria

All students will be required to meet the University requirements for graduate admission. Admission to the proposed MS in Learning Design and Technology will require the following:

- Bachelor’s degree from a regionally accredited institution of higher education, with a minimum GPA of 3.0 on a 4-point scale.
- Two letters of recommendation from faculty or employers.
- Resume/CV.
- Goal statement of 750-1,000 words describing (a) academic and career goals related to the intended program, (b) past experiences related to the intended program as well as personal and professional aspirations, and c) reasons for choosing Mason to attend graduate school.

Students from non-U.S. institutions will be required to report their English language proficiency test scores. Minimum scores include:

- TOEFL
    - IBT: 88 points total AND a minimum of 20 points in each section
    - PBT: 570 points
- IELTS-Academic
    - 6.5 total band score
- Pearson Test of English
    - 59 overall score

7 *OLC Quality Course Teaching and Instructional Practice*, https://onlinelearningconsortium.org/consult/olc-quality-course-teaching-instructional-practice/

8 *Specific Review Standards from the QM Higher Education Rubric*, 6th Edition, https://www.qualitymatters.org/sites/default/files/PDFs/StandardsfromtheQMHigherEducationRubric.pdf

- IELA-Graduate
    - 176 overall score

With program advisor approval, up to 12 credits of graduate-level coursework may be transferred from George Mason University non-degree status or from another accredited institution. Credits must be less than six years old from the time of admission, and graded B (3.0) or better. Credits applied to a degree previously earned at Mason or at another institution may not be transferred.

Target Population

According to industry research,[9] learning and design professionals come from a variety of educational backgrounds, with most holding "undergraduate degrees from the social and behavioral sciences and business studies."[10] Further, studies have shown the synergy between learning design and the information sciences, particularly in terms of "the dissemination of information and the exchange of knowledge."[11] Learning professionals are represented by a select number of professional associations. Consequently, marketing efforts for the proposed program will target members of the learning-related professional associations, namely the Association for Talent Management (ATD), the Association for Educational Communications & Technology (AECT), and the Academy of Human Resource Development (AHRD).

Curriculum

The proposed Master of Science in Learning Design and Technology is a 30 credit hour, non-thesis degree program.

The curriculum will provide a firm, educational foundation with which to address the challenges and opportunities associated with workplace performance using a variety of methodologies and technologies to create learning solutions. The curriculum includes all of the core competencies defined by the International Board of Standards for Training, Performance, and Instruction (IBSTPI, n.d.).[12] Required courses will train students in design sciences, development practices, and the features of a variety of new and emerging technologies that lend themselves to facilitating learning. Students will learn to demonstrate systemic thinking practices and choose sound learning design and development tools and technologies to support their own productivity and maintain high levels of effectiveness and quality in learning solutions. Coursework will educate students in effective communication with multiple types of stakeholders, along with analysis of their workplace environment, to determine the knowledge and skill gaps that may be resolved by one or more learning interventions. Coursework in adult learning theory, learning

9 *Working as a Training Specialist*, Zippia, the Career Expert, https://www.zippia.com/training-specialist-jobs/

10 Employee Training and Development Specialists, Campus Explorer, https://www.campusexplorer.com/careers/E05B8A14/employee-training-and-development-specialists/

11 Branch, R.M. (2017). *An instructional design model for information science. In Lei, F.Q. & Lehman, J. (eds.). Learning and knowledge analytics in open education*. Cham, CH: Springer.

12 International Board of Standards for Training, Performance and Instruction/IBSTPI (n.d.). 2012 IBSTPI Instructional Designer Standards: Competencies and Performance Statements. Retrieved from http://ibstpi.org/instructional-design-competencies/.

assessments, basic research, learning analytics, and business skills for the learning design function will allow students to apply what they have learned in the program to creating successful learning and development interventions that align with the needs of their organization.

What differentiates the proposed degree program from other traditional instructional design programs is the inclusion in the core curriculum of not only the essential or basic IBSTPI competencies but also the advanced and managerial competencies that define what the experienced designer and the manager of design functions and teams must know and be able to do in the workplace. Moreover, students will learn to employ current and emerging software packages and technologies that are used in the workplace to develop learning opportunities. This enables graduates of the proposed program to advance their careers and strengthen their employability.

Program Requirements

Core Courses: 23 credit hours
EDIT 601: Instructional Design and Technology Portfolio (1 credit)
EDIT 701: Advanced Instructional Design and Technology Portfolio (1 credit)
EDIT 704: Instructional Technology Foundations and Theories of Learning (3 credits)
EDIT 705: Instructional Design (3 credits)
EDIT 706: Business of Learning Design and Technology (3 credits)
EDIT 730: Advanced Instructional Design (3 credits)
EDIT 732: Analysis and Design of Technology-based Learning Environments (3 credits)
EDIT 751: Overview of Learning Analytics and Big Data (3 credits)
EDIT 752: Design and Development of Technology-based Learning Environments (3 credits)

Restricted Electives: 7 credit hours
Students select from the following courses.
EDIT 526: Web Accessibility and Design (1-3 credits)
EDIT 530: Scripting and Programming (1-3 credits)
EDIT 571: Visual Design and Applications (1-3 credits)
EDIT 572: Digital Audio/Video Design and applications (1-3 credits)
EDIT 573: Project Management (1-3 credits)
EDIT 574: Social Media and Digital Collaboration Applications (1-3 credits)
EDIT 575: e-Learning Design Applications (1-3 credits)
EDIT 576: Mobile Learning and Applications (1-3 credits)
EDIT 590: Educational Research in Technology (3 credits)
EDIT 611: Innovations in e-Learning (3 credits)
EDIT 710: Online Teaching Essentials (1 credit)
EDIT 750: Learning Technologies and Strategies for Innovation (3 credits)
EDIT 772: Virtual Worlds, Augmented Reality, and Gaming Applications (1-3 credits)
EDIT 773: Human-Computer Interface Design for Teaching and Learning (3 credits)

Total: 30 credit hours

Appendix A provides Sample Plans of Study for full-time and part-time students.

See Appendix B for Course Descriptions.
Appendix C provides the list of IBTSPI Competencies and Performance Statements.

Student Retention and Continuation Plan

All students will be required to adhere to the university graduate policy for advising stating that progress in the program of study is the shared responsibility of the student and the advisor. Upon admission to the program, all students will be assigned a faculty advisor to discuss their plan of study. Students may meet with advisors virtually via web conferencing, via phone, or they may come to campus for face-to-face advising. Advising sessions will take place at least once a semester to update study plans and review academic progress. Using the university student information system, faculty advisors will track student progress to program completion.

Program faculty will use the analytics data from the university's learning management system to note students who are meeting course requirements, meeting assignment due dates, working well with others in group projects, and displaying professional behavior in the online environment. A faculty member who is concerned about a student's performance will schedule a meeting with the student to discuss the issue. The student's advisor is also alerted and may meet with the student as well.

Faculty

Four full-time faculty members in the School of Education will teach the required courses for the proposed MS in Learning Design and Technology. All four faculty members have terminal degrees in Learning Design or a related discipline such as Instructional Systems or Instructional Technology and over 60 years of combined teaching and research experience in the field. All have published in peer-reviewed journals and serve as leaders in national, regional, and local organizations.

Four adjunct faculty will be used to teach the elective courses in the proposed program. All adjunct faculty have a minimum of five years of experience in teaching, online teaching, and research in learning design or a closely related discipline. All have terminal degrees in learning design or learning-related fields.

See Appendix D for abbreviated curriculum vitae of faculty.

Program Administration

The proposed MS program in Learning Design and Technology will have an Academic Program Coordinator (APC), who will also teach two of the required courses in the program. The APC will be responsible for (a) engaging in problem-solving and sharing of program-specific information with faculty and staff colleagues and administrators, (b) management of curriculum development efforts, (c) supervision of instruction, (d) oversight of student advising and student degree progress, (e) contributions to enrollment management, (f) communication as needed with external partners and constituencies, and (g) reporting related to accreditation, assessment, and program improvement efforts.

The Director of the Learning Technologies division will provide support for the proposed program and will also teach one of the required courses. An administrative support coordinator in the School of Education will provide support for the proposed program. The administrative support coordinator will provide daily support for the program, including the scheduling of courses, communicating with current and potential students about administrative procedures, generating admission and enrollment reports, scheduling faculty meetings, and performing routine office management.

Advisory Board

The proposed program will use the same advisory panel used by the current Instructional Design and Technology program, the program to be replaced with the proposed program. The existing panel consists of external experts who are corporate, government, non-profit, and other community leaders with experience or interest in the fields of learning technologies, instructional design, performance improvement, workforce education, e-learning, mobile learning, design-based research, and other related disciplines. Advisory panel members have guided and assisted the faculty in strengthening its program offerings to maintain alignment with market needs. The external advisory panel recommended that the faculty focus on the learning design and development hard and soft skill needs that would make program graduates meet the requirements that employers seek in job candidates.

See Appendix E for a list of advisory panel members.

Student Assessment

Every student who completes the proposed MS in Learning Design and Technology will have mastered a set of skills needed to serve as a learning design and technology practitioner and conduct applied research needed to make decisions about specific learning and development issues.

Students will be assessed in each course through various mechanisms that include (1) projects, (2) case studies and problem-solving exercises, (3) homework assignments, (4) research papers, and (5) presentations. In addition, the digital portfolio courses, Instructional Design and Technology Portfolio (EDIT 601) and Advanced Instructional Design and Technology Portfolio (EDIT 701), represent the culmination of students' effective and meaningful integration and synthesis of learning design and technology concepts, principles, and competencies learned across program courses and at end-degree program point. Consequently, the portfolio courses will be the dedicated courses for assessing the combined learned knowledge, skills, and abilities obtained throughout the program.

The learning outcomes for the proposed MS in Learning Design and Technology are specific to graduate-level knowledge, skills, and abilities that students should acquire in the proposed degree program in alignment with the competencies set by the International Board of Standards for Training, Performance and Instruction (IBSTPI). Faculty worked with staff members in Mason's Office of Institutional Research and Assessment, along with the College of Education

and Human Development's Accreditation and External Reporting Office to develop learning outcomes and appropriate measures in the five IBSTPI domains: (1) Professional Foundations; (2) Planning and Analysis; (3) Design and Development; (4) Evaluation and Implementation; and (5) Management.

Learning Outcomes

In relation to each of these five domains, students will be able to:

Professional Foundations

- Communicate effectively in written and oral form
- Apply, current research and theory to the discipline of instructional design
- Apply data collection and analysis skills to design projects

Planning and Analysis

- Conduct a needs assessment in order to recommend appropriate design solutions and strategies
- Identify and describe the target population and environmental characteristics
- Select and use analysis techniques for determining instructional content
- Analyze the characteristics of existing and emerging technologies and their potential use

Design and Development

- Use an instructional design and development process appropriate for a given project
- Organize instructional programs and/or products to be designed, developed, and evaluated
- Design instructional interventions
- Select or modify existing instructional materials

Evaluation and Implementation

- Evaluate instructional and non-instructional interventions
- Revise instructional and non-instructional solutions based on data
- Implement, disseminate and diffuse instructional and non-instructional interventions

Management

- Apply business skills to managing the instructional design function
- Manage partnerships and collaborative relationships
- Plan and manage instructional design projects

Assessment Methodology

All required courses in the proposed degree program will use performance-based assessments of student learning outcomes. As noted by the School Redesign Network at Stanford University, "performance-based assessment requires students to use high-level thinking to perform, create, or produce something with transferable real-world application."[13] This type of assessment uses a rubric that describes the criteria for determining the level of performance for a specific learning

13 Stanford SRN Information Booklet (2011). *What is performance-based assessment?* Retrieved from https://edpolicy.stanford.edu/sites/default/files/events/materials/2011-06-linked-learning-performance-based-assessment.pdf

outcome. For each of the required courses, student learning outcomes will be assessed on the following scale: Exceeds Standards, Meets Standards, and Does Not Meet Standards. Target expectations are that 100% of students will achieve a rating at or above "meets standards."

The School of Education, along with the Accreditation and External Reporting Office, has established a policy of tracking students' academic progress and provides an annual program yearbook containing aggregated data of student assessments in all courses across the program curriculum. Each calendar year, the proposed degree program will provide a report that synthesizes the performance-based assessment data and will document concrete steps to maintain successful student outcomes for the coming year. In addition, George Mason University has instituted a course evaluation that is distributed each semester. Results of course evaluations are posted online.

The assessment of student learning outcomes in the Instructional Design and Technology Portfolio (EDIT 601) and in the Advanced Instructional Design and Technology Portfolio (EDIT 701) will occur every fall and spring semester respectively and will be conducted by the School. The Association of American Colleges and Universities (2019)[14] defines the electronic or digital portfolio as "an ideal format for collecting evidence of student learning, especially for those outcomes not amenable or appropriate for standardized measurement. Additionally, ePortfolios can facilitate student reflection upon and engagement with their own learning across multi-year degree programs, across different institutions, and across diverse learning styles while helping students set and achieve personal learning goals."

Curriculum Map for MS in Learning Design and Technology

Learning Outcomes	**Key Courses**	**Assessment Measures**
Professional Foundations Communicate effectively in written and oral form	EDIT 704: Instructional Technology Foundations and Theories of Learning EDIT 705: Instructional Design EDIT 706: Business of Learning Design and Technology	Formative: All three courses use written & oral discussions, research papers, & journal writing, with grading rubrics for each assignment Summative: All three courses use a performance-based assessment or final assignment, with grading rubrics to determine whether students exceed, meet, or do not meet this learning outcome
Apply current research and theory to the discipline of instructional design	EDIT 704: Instructional Technology Foundations and Theories of Learning EDIT 705: Instructional Design	Formative: All four courses use research papers graded with rubrics

14 Association of American Colleges & Universities (2019). *e-Portfolios*. Retrieved from https://www.aacu.org/eportfolios

	EDIT 730: Advanced Instructional Design EDIT 732: Analysis and Design of Technology-based Learning Environments	Summative: All four courses complete a rubric-based final project demonstrating the use of research and theory, to determine whether students have achieved this learning outcome
Apply data collection and analysis skills to design projects	EDIT 730: Advanced Instructional Design EDIT 732: Analysis and Design of Technology-based Learning Environments EDIT 751: Overview of Learning Analytics and Big Data	Formative: All three courses require data collection plans and data analysis plans graded with rubrics Summative: All three courses require a rubric-based final project that implements data collection & analysis plans, to measure achievement of this learning outcome
Planning and Analysis Conduct a needs assessment in order to recommend appropriate design solutions and strategies	EDIT 706: Business of Learning Design and Technology EDIT 730: Advanced Instructional Design EDIT 732: Analysis and Design of Technology-based Learning Environments	Formative: All three courses use graded research papers supporting needs assessment analysis and alternative design solutions Summative: All three courses require rubric-based final project documents using needs assessment data to support selection of a specific design solution
Identify and describe the target population and environmental characteristics	EDIT 705: Instructional Design EDIT 730: Advanced Instructional Design EDIT 706: Business of Learning Design and Technology EDIT 732: Analysis and Design of Technology-based Learning Environments	Formative: All four courses use graded discussions, problem-solving exercises, & group activities Summative: All four courses require a final project document graded with rubrics that assess student achievement of this outcome
Select and uses analysis techniques for determining instructional content	EDIT 705: Instructional Design EDIT 730: Advanced Instructional Design EDIT 706: Business of Learning Design and Technology	Formative: All four courses use research papers, graded discussions & group activities Summative: The performance-based assessments of the final

	EDIT 732: Analysis and Design of Technology-based Learning Environments	project documents for each of these courses use a rubric for assessing the extent to which students have achieved this specific outcome
Analyze the characteristics of existing and emerging technologies and their potential use	EDIT 730: Advanced Instructional Design EDIT 732: Analysis and Design of Technology-based Learning Environments EDIT 751: Overview of Learning Analytics and Big Data	Formative: All three courses use written & oral discussions, & research papers, with grading rubrics for each assignment Summative: All three courses use a performance-based assessment or final project document, with grading rubrics to determine achievement of this learning outcome
Design and Development Use an instructional design and development process appropriate for a given project	EDIT 730: Advanced Instructional Design EDIT 732: Analysis and Design of Technology-based Learning Environments EDIT 752: Design and Development of Technology-based Learning Environments	Formative: All three courses use rubric-based graded presentations, group discussions, & problem-solving exercises Summative: All three courses require completion of a final project document that demonstrates the extent to which this outcome is achieved
Organize instructional programs and/or products to be designed, developed and evaluated	EDIT 730: Advanced Instructional Design EDIT 732: Analysis and Design of Technology-based Learning Environments EDIT 752: Design and Development of Technology-based Learning Environments EDIT 601: Instructional Design and Technology Portfolio	Formative: All four courses use rubric-based group discussions, papers & exercises Summative: All four courses require completion of a rubric-based final project document that includes demonstrating achievement of this outcome
Design instructional interventions	EDIT 730: Advanced Instructional Design EDIT 732: Analysis and Design of Technology-based Learning Environments EDIT 752: Design and Development of Technology-based Learning Environments	Formative: All three courses use rubric based design plans, storyboards, & group exercises Summative: All three courses require completion of a rubric-based final multimedia project

		demonstrating this learning outcome
Select or modify existing instructional materials	EDIT 730: Advanced Instructional Design EDIT 732: Analysis and Design of Technology-based Learning Environments EDIT 752: Design and Development of Technology-based Learning Environments	Formative: All three courses use change management plans, storyboards, & group exercises graded with rubrics Summative: Each course requires a rubric-based final project that includes a document explaining the rational for instructional material selection/modification
Evaluation and Implementation Evaluate instructional and non-instructional interventions	EDIT 730: Advanced Instructional Design EDIT 732: Analysis and Design of Technology-based Learning Environments EDIT 751: Overview of Learning Analytics and Big Data EDIT 752: Design and Development of Technology-based Learning Environments	Formative: All four courses include a research paper, discussion questions, & problem-solving exercises Summative: All four require a final project document that includes a rubric-based evaluation and implementation plan
Revise instructional and non-instructional solutions based on data	EDIT 730: Advanced Instructional Design EDIT 732: Analysis and Design of Technology-based Learning Environments EDIT 751: Overview of Learning Analytics and Big Data EDIT 752: Design and Development of Technology-based Learning Environments	Formative: All four courses utilize rubric based individual & group problem solving exercises, discussions Summative: Each course requires completion of a rubric-based project document that includes description of evidence-based revision decisions, to demonstrate achievement of this specific learning outcome
Implement, disseminate and diffuse instructional and non-instructional interventions	EDIT 752: Design and Development of Technology-based Learning Environments EDIT 601: Instructional Design and Technology Portfolio EDIT 701: Advanced Instructional Design Portfolio	Formative: All three courses use rubric-based group discussions & problem-solving exercises Summative: Each course requires a rubric-based final project document that includes

		a plan for the implementation, dissemination & diffusion of the intervention, to demonstrate achievement of this specific outcome
Management Apply business skills in managing the instructional design function	EDIT 706: Business of Learning Design and Technology EDIT 751: Overview of Learning Analytics and Big Data	Formative: Both courses use graded group exercises, discussions, & reflective writing activities Summative: Both courses require a rubric-based final project document that explains steps taken to manage the instructional design function
Manage partnerships and collaborative relationships	EDIT 706: Business of Learning Design and Technology EDIT 601: Instructional Design Portfolio EDIT 701: Advanced Instructional Design Portfolio	Formative: All three courses use rubric-based collaborative exercises, group discussions, & individual reflective writing assignments Summative: Each course requires completion of a rubric-based final project that documents approaches to stakeholder management, to measure achievement of this learning outcome
Plan and manage instructional design projects	EDIT 706: Business of Learning Design and Technology EDIT 751: Overview of Learning Analytics and Big Data EDIT 752: Design and Development of Technology-based Learning Environments	Formative: All three courses use graded discussions, problem-solving exercises, & group activities Summative: Each course requires completion of a final project document that explains student project planning and management approaches

Employment Skills/Workplace Competencies

Graduates of the proposed MS program in Learning Design and Technology program will be able to:

- Conduct analysis and make actionable recommendations related to learning needs.

- Design, develop, and implement learning solutions leveraging various adult learning methodologies.
- Work collaboratively with business leaders and subject matter experts to identify opportunities and recommend solutions to address learning needs.
- Manage project tasks and deliverables from requirements gathering through post-implementation and support planning.
- Monitor trends and research related to emerging technologies, techniques, and methodologies to ensure ongoing improvement of programs, materials and tools related to learning.
- Execute industry-accepted training models (e.g., ADDIE) to analyze, design, develop, and deliver learning solutions and curricula.
- Monitor and evaluate the effectiveness of learning interventions using metrics, measures and analytics that align with business objectives.
- Manage multiple projects to achieve project goals and meet deadlines.

Program Assessment

The Learning Technologies Division of the College of Education and Human Development will assess and evaluate the proposed program on an annual basis, commencing in 2021. The Division will conduct, report and analyze assessments of student learning in accordance with the college-wide reporting requirements of the Accreditation and External Reporting Office (AERO) covering student performance in key assessments and standards across the calendar year. AERO data sources include results of performance-based assessments for each of the core required courses in the proposed program, student retention data, along with the results of university-wide graduate exit surveys conducted by the university's Office of Institutional Effectiveness and Planning to determine student satisfaction and experiences with the proposed program. The Learning Technologies Division will use these data to identify opportunities for continuous improvement of the proposed program.

Each semester during the academic year, the Division will review faculty evaluations conducted by the university's Office of Institutional Effectiveness and Planning. The Division will also review annual employment needs for learning professionals, in consultation with the external Advisory panel members, to ensure the curriculum is meeting the education needs of industry. Faculty will also be given opportunities to attend industry events to ensure continual program assessment and evaluation to enhance the program's curriculum and students' skills and knowledge.

A more extensive review of the program's mission, goals, learning outcomes, and student successes will occur on a seven-year cycle, consistent with the university's Academic Program Review process. This review takes place under the guidance of the university's Office of Institutional Effectiveness and Planning and requires four semesters to complete. The outcomes of the process are a series of deliverables—a self-assessment report and academic plan written by program faculty and a report by a review team external to the program—and changes made to enhance the program. The Academic Program Review (APR) process for the MS Learning Design and Technology will be scheduled to commence in 2023. Finally, the Board of Visitors will conduct its initial review of the proposed program in 2025.

Benchmarks of Success

The benchmarks of success of the proposed MS program in Learning Design and Technology degree program include:

- The program will graduate 85% of its students within 2 years.
- 85% of all program graduates will report being satisfied or highly satisfied with the academic program at graduation.
- Graduates will find enhanced employment opportunities. Within one year of graduation, 75% will find employment within the field.
- Within one year of graduation, 25% will have received a promotion in their current job.
- 90% of part time students will complete the program in 2.5 years or less.

If these benchmarks are not met, the Learning Technologies Division will work with the College of Education and Human Development's Accreditation and External Reporting Office (AERO) as well as the program's external Advisory panel to determine which benchmarks were unsuccessful and why. For example, regarding enhanced employment opportunities, the Learning Technologies Division will work with the external Advisory panel and industry partners to examine the employment market and ensure that the right employment opportunities are being communicated to the graduates of the program. For student satisfaction, if students are not satisfied with the degree program, the program APC and faculty will review areas such as student services and support, course scheduling, and course content to determine areas that need adjustment or change and will use analytics data from the university's LMS to review student progress towards completion to determine what may have hindered program completion in a timely manner.

Expansion of Existing Programs

The proposed program will elevate the current Masters of Education (MEd) Curriculum and Instruction with a concentration in Instructional Design and Technology to a stand-alone Master of Science (MS) degree program in Learning Design and Technology. The rise of digital technologies and the changes in the nature of work and the workforce have resulted in a segmentation in the profession based on the contexts and audiences for learning. Curriculum and Instruction degrees focus on school contexts (K-12, higher education), while industry and government focus on job performance-based goals grounded in the principles of adult learning and the learning sciences. Consequently, graduates of the proposed program will be better positioned to compete for employment in non-school settings. Students currently enrolled in the Instructional Design and Technology concentration in the MEd program will have the option to complete their program or change into the proposed program. Students will be given credit for all coursework taken under the existing concentration. Students admitted as of fall 2020 will begin in the proposed MS program, if approved.

Relationship to Existing George Mason University Degree Programs

The proposed MS in Learning Design and Technology is not similar or related to any existing degree program at George Mason University.

Compromising Existing Degree Programs

The proposed MS in Learning Design and Technology can be initiated without compromising or negatively impacting any existing degree program in the College of Education and Human Development or any existing degree programs at George Mason University. No degree programs will be compromised or close as a result of the initiation and operation of the proposed degree program.

Collaboration or Standalone

This is a standalone program. No other organization was involved in its development, and no other organization will collaborate in its operation.

Justification for the Proposed Program

Response to Current Needs (Specific Demand)

The field of Learning Design and Technology addresses the knowledge, skills, and abilities of a varied and diverse workforce in a dynamic labor market in which employers have come to realize the relationship between learning and development opportunities and the ability to recruit, engage, and retain talent. This requires the learning designer to possess business skills as well as design and technology skills. Additionally, learning designers with real world, hands-on design projects as part of their training are in greater demand than those whose training focuses on instructional design theories and practices unrelated to specific workplace contexts.

The proposed MS program in Learning Design and Technology responds to current needs in the Commonwealth of Virginia, the DMV region, and the nation as a whole and prepares students to strengthen their employability in the field. The current needs include (a) a market demand for well-trained learning designers due to changes in the nature of work, the workforce, and the competition for employees, and (b) the special resources at Mason that make it particularly well-equipped to offer the proposed program.

Market Demand

The effects of the global economy, including the free movement of goods and services across borders, the expansion of transnational companies, the advances in technology shared across national boundaries, and multiple generations in the workplace, are continuing to shape the profile of the global workforce. In addition, rapid technological advances, an increasingly competitive business landscape, and a shorter shelf life for knowledge have placed a premium on employee reskilling and upskilling. All of these trends have strengthened the importance of the Learning and Development function as an employee recruitment and retention tool. As noted in the 2019 Hiring Outlook Report from workforce management solutions firm ExecuSearch, “for many employees, it is understood that building on your skillset is how you continue advancing in

your career. Without access to meaningful opportunities that make a real impact on the company, employees start to feel stagnant and undervalued."[15]

These same trends have also altered what the learning designer is expected to know and do. The most recent report on learning from the U.S. Government Publishing office states that traditional instructional design training is no longer sufficient:

> Learning designers will need to understand how to differently apply diverse technologies, blend disparate modalities into holistic experiences, build in and apply learning analytics, balance practical logistics against learning outcome criteria, incorporate learning and development into personnel and workforce systems, and perform all these actions within a heterogeneous system-of-systems, which they only partially control.[16]

The proposed MS program in Learning Design and Technology is designed to address current trends in the skills demanded of learning designers, particularly in terms of digital tools and technologies. In its 2019 review of job description data, the eLearning Guild revealed:

> Our 2019 review shows even more skills lumped into the ID category. In addition to the list shown at left, postings for jobs focused primarily on instructional design included a desire for expertise in:
>
> - Video production and editing
> - Audio production and editing
> - Web design/HTML5
> - Game design/badges
> - Dashboard creation
> - Digital products
> - Mobile app design
> - Social and collaboration tools
> - Support assorted learning platforms
> - Data analysis
> - Content curation
> - Augmented, virtual, and mixed realities
>
> Some advertisements indicated that a role would specialize in one phase of the design process, for instance needs assessment or program evaluation.[17]

[15] ExecuSearch Group (2019). 2019 Hiring outlook. https://www.execu-search.com/~/media/Resources/pdf/eBook-2019-hiring-outlook. See p. 13.

[16] Walcutt, J.J & Schatz, S. (eds.) (2019). *Modernizing learning: Building the future learning ecosystem*. Washington, DC: Government Publishing Office. See pp 12-13. Available free of charge at https://bookstore.gpo.gov/products/modernizing-learning-building-future-learning-ecosystem

[17] Bozarth, J. (2018-2019). eLearning salary & compensation: Advice for workers, recruiters, and hiring managers. Santa Rosa, CA: The eLearning Guild. See p. 13 https://www.elearningguild.com/insights/235/elearning-salary-compensation-advice-for-workers-recruiters-and-hiring-managers/?from=home?utm_campaign=research-sal19&utm_medium=link&utm_source=lspub&_ga=2.66787182.1995207947.1562004214-1787367034.1562004214, p. 13.

The proposed MS in Learning Design and Technology will prepare students to apply learning best practices to technology tools that create learning experiences that both employers and employees deem valuable.

A skill that is essential for the 21st-century designer is the ability to conduct research related to organizational needs, individual employee needs, along with industry trends. In its advice to hiring managers about what to look for when hiring a designer, eLearning Industry, the largest online community of eLearning professionals in the Learning and Development field, noted that designers must be able to "research the newest trends and incorporate them into the education. How do learners learn best? What activities have been known to increase retention or critical thinking? Being a good researcher can ensure that the education they create is consistent with what is going on in the Instructional Design world and can be the most effective for your audience."[18] Similarly, the Association for Talent Development (ATD), the largest professional association for Learning and Development professionals working in industry and government, affirms the importance of research when aligning learning to organizational needs in the area of talent development, stating a needs assessment is:

> The process of gathering data to determine what individual performers need in order for the organization to accomplish its stated goals. A needs assessment is the first step in developing any solution, including training. When a skills gap is detected, assessment serves as the foundation for determining instructional objectives, design, training method, and measurements of new skills gained by participants.[19]

The centrality of research aligns with what the National Center for Education Statistics (NCES) states is the focus of a Master of Science degree, namely "advanced scholarship in a subject field or discipline and demonstrated ability to perform scholarly research."[20] Moreover, the industry-agnostic nature of the Master of Science degree better aligns with the varied industries and contexts in which learning designers work. The proposed MS program in Learning Design and Technology will provide students with the research skills needed to identify the underlying causes of a performance problem, identify which causes are related to gaps in knowledge, skills, and abilities, recommend the optimal solution from a set of alternatives, design, develop and implement that solution, and recommend ways in which the business impact of that solution can be monitored and assessed.

Why George Mason University?
The following Mason assets make the university particularly well equipped to offer the proposed MS in Learning Design and Technology:

Center for Innovation and Entrepreneurship
An interdisciplinary hub in the School of Business that supports innovators and change makers from all Mason schools and programs, the Center enables the development of experiential

18 Oakes, T. (2017). 6 skills to look for in an instructional design. ELearning Market, eLearning Industry. https://elearningindustry.com/6-skills-to-look-for-in-an-instructional-designer.

19 Association for Talent Development (ATD) (2016). The ATD talent development framework. https://www.td.org/insights/the-atd-talent-development-framework-needs-assessment

20 https://nces.ed.gov/programs/coe/glossary.asp#masters

learning opportunities to complement and expand traditional academic offerings. The Center is ideal for developing cross-disciplinary projects, particularly for the proposed program's business-based course EDIT 706 Business of Learning Design and Technology, and the capstone courses EDIT 732 Analysis and Design of Technology-based Learning Environments and EDIT 752 Design and Implementation of Technology-based Learning Environments respectively.

Fenwick Library Media-Rich Seminar Room
Located in the newly re-designed Fenwick Library, the technology-rich Seminar Room provides flexible space to faculty for special class instruction, and at other times for large student collaborative group research-study projects. This venue is ideal for the proposed program's project-based courses, particularly the capstone courses EDIT 732 Analysis and Design of Technology-based Learning Environments and EDIT 752 Design and Implementation of Technology-based Learning Environments respectively.

Digital Initiatives Lab
Housed in the new Fenwick Library, the Digital Initiatives Lab is a combination experimentation, modeling, and production facility for a variety of digital library and publishing projects. This venue enables students in the proposed program to further explore tools and technologies that can support learning and development in the workplace.

University Career Services
Grounded in the National Association of Colleges and Employers (NACE) eight career readiness competencies, this office provides a variety of resources and services tailored to specific industries. The office is a valuable resource for students of the proposed program to refine and update their resumes as they advance their careers.

Web Development Services
Offered by the Enterprise Applications group of the university's Information Technology Services unit, this office provides students with server space, along with design and development resources, to set up their own personal web pages. Students in the proposed program can use these services to set up their digital portfolios and use those portfolios as a marketing tool for career development and the pursuit of employment opportunities.

ITLIST-L
A listserv dedicated to the field of Learning and Development in industry and government, regional employers post job opportunities that range from early-career positions to mid- and senior-level positions. Students in the proposed program can receive updates on job opportunities targeted to the profession.

Center for Digital Media, Innovation, and Diversity
Dedicated to enhancing digital literacy across the lifespan, the Center promotes learning and performance projects in a variety of settings, including the Federal sector. The site is a good medium for demonstrating the types of deliverables produced by students of the proposed program.

Office of Digital Learning
Part of the George Mason University Stearns Center for Teaching and Learning, the Office of Digital Learning (ODL) supports all students, faculty, and staff interested in the online teaching and learning experience at Mason.

See Appendix F for an excerpt from eLearning Guild Research.
See Appendix G for letters of support for specific demand.

Employment Demand

The Bureau of Labor Statistics (BLS) groups learning designers who work in non-educational settings (i.e., settings other than K-12, higher education) into two occupational groups: training and development specialists and training and development managers. Training and development specialists "help plan, conduct, and administer programs that train employees and improve their skills and knowledge,"[21] and have less than five years of work experience in the field. Training and development managers "oversee training programs, staff, and budgets. They are responsible for creating or selecting course content and materials for training programs"[22] and have five years or more of work experience in the field. Graduates of the proposed MS in Learning Design and Technology will be qualified for training and development specialist positions. Those who have worked in the field without a degree may qualify for training and development manager positions.

When it comes to job titles used by employers, the Learning and Development field represents an anomaly. In contrast with the BLS' two-category distinction, job titles used in employment ads vary widely. For example, a keyword search on Indeed.com, one of the largest electronic job sites, yields titles such as instructional (systems) designer, learning designer, learning experience designer, e-learning developer, and UX (User Experience) designer.[23] Further, although job ads state that a Bachelor's degree is the minimum educational requirement, there are only nine universities in the U.S. (Ashford University, Cal State Chico, Post University, Texas A&M Commerce, University of Arizona South, University of New Mexico, University of Southern Mississippi, Walden University, and Western Illinois University) that offer bachelor's degrees in instructional design/technology. Instructional Design Central (IDC), one of the largest online resource sites for early-career learning and development professionals and students interested in learning about the field, notes that "most institutions provide instructional design degrees at the graduate level (MS, MA, MEd, PhD) only."[24] That is probably why job ads state that candidates with a master's degree are preferred in addition to the bachelor's degree.

Despite the plethora of job titles, the employment skills and competencies described in the job announcements cover the same competencies as those of the proposed MS in Learning Design and Technology:

- Conduct analysis and make actionable recommendations related to learning needs.

[21] https://www.bls.gov/ooh/business-and-financial/training-and-development-specialists.htm
[22] https://www.bls.gov/ooh/management/training-and-development-managers.htm
[23] Based on results of keyword searches on Indeed.com, the largest online job board. https://www.indeed.com/jobs?q=instructional+designer&l=
[24] https://www.instructionaldesigncentral.com/instructionaldesigndegree, par. 1

- Design, develop, and implement learning solutions leveraging various adult learning methodologies.
- Work collaboratively with business leaders and subject matter experts to identify opportunities and recommend solutions to address learning needs.
- Manage project tasks and deliverables from requirements gathering through post-implementation and support planning.
- Monitor trends and research related to emerging technologies, techniques, and methodologies to ensure ongoing improvement of programs, materials and tools related to learning.
- Execute industry-accepted training models (e.g., ADDIE) to analyze, design, develop, and deliver learning solutions and curricula.
- Monitor and evaluate the effectiveness of learning interventions using metrics, measures and analytics that align with business objectives.
- Manage multiple projects to achieve project goals and meet deadlines.

Employment projections in the Bureau of Labor Statistics' Occupational Outlook Handbook and the Virginia Employment Commission (VEC) show the viability of employment for graduates of the proposed MS in Learning Design and Technology. According to the Bureau of Labor Statistics, "employment of training and development specialists is projected to grow 9 percent from 2018 to 2028, faster than the average for all occupations."[25] Graduates of the proposed program will be prepared to work in the very industries that are "the largest employers of training development specialists: namely professional, scientific and technical services (13%); healthcare and social assistance (12%); educational services (11%); finance and insurance (11%); and administrative and support services (7%)."[26]

Available data for Virginia show that demand for training and development specialists will be robust, with healthy growth projected between 2016 and 2026.

Long Term Employment Projections for Training and Development Specialists in Virginia.[27]

2016 Estimated Employment	2026 Projected Employment	Total Projected Difference	Annual Change	Total Percent Change
10.959	12,850	1,891	189 people per year	17.26%

Further, Virginia ranks fifth among "States with the highest employment level for Training and Development Specialists."[28] Washington, DC, just a few miles from George Mason University,

25 https://www.bls.gov/ooh/business-and-financial/training-and-development-specialists.htm#tab-6, par. 1
26 https://www.bls.gov/ooh/business-and-financial/training-and-development-specialists.htm#tab-3
27 https://virginiawlmi.com/occupational-projections/page79862/1/size79862/12/page80257/1/size80257/12?page80257=1&size80257=12&page81630=1&size81630=12&page79862=1&size79862=12&search79862=training%20and%20development
28 https://www.bls.gov/oes/current/oes131151.htm#st

also shows a healthy demand for training and development specialists, with a projected employment growth of 13% between 2016 and 2026.[29]

In addition to the BLS and VEC data, the O-Net database shows the Learning and Development occupations as a growing field for employment. The O-Net report categorizes Training and Development Specialists under "Job Zone Four: Considerable Preparation Needed. A considerable amount of work-related skill, knowledge, or experience is needed for these occupations. Employees in these occupations usually need several years of work-related experience, on-the-job training, and/or vocational training.[30]

See Appendix H for employment announcements.
See Appendix I for letters of support from prospective employers.

Student Demand

Evidence that sufficient student demand exists to support the projected enrollments comes from two sources: 1) a survey of demand among Mason undergraduate students, and 2) a survey of demand among Mason alumni. Survey samples were generated by the university's Office of Institutional Effectiveness and Planning. Both surveys were deployed using the university's Qualtrics online survey tool.

Student Survey
In September 2019, the Learning Technologies Division conducted a survey of undergraduate students at George Mason University. In consideration of the most common fields of study from which learning designers working in industry, government, and non-profits have been educated, the survey was sent to a random sampling of juniors and seniors majoring in the social sciences, business administration, the behavioral sciences, and the information sciences. A total of 92 juniors and seniors completed the survey. Of these, 47 expressed an interest in enrolling in the proposed program, with 9 stating that they were extremely likely, 11 very likely, and 27 somewhat likely to enroll. With just 59 indicating an interest in enrolling in any graduate degree program (33 definitely interested, 16 very interested, and 10 interested), those interested in enrolling in the proposed MS Learning Design and Technology program constitute a significant majority of survey respondents interested in pursuing a graduate degree (47 of 59).

Alumni Survey
In September 2019, a survey was sent to random sampling of Mason alumni who graduated between 2016-2019 and majored in the social sciences, business administration, the behavioral sciences, and the information sciences (the same disciplines selected for the student survey sample). A total of 75 alumni completed the survey, 37 of whom expressed an interest in enrolling the program (4 extremely likely, 6 very likely, and 27 somewhat likely). Moreover, with just 42 indicating an interest in enrolling in any graduate degree program (24 definitely interested, 10 very interested, and 11 interested), those alumni interested in enrolling in the MS

[29] https://www.careeronestop.org/Toolkit/Careers/Occupations/occupation-profile.aspx?keyword=Training%20and%20Development%20Specialists&onetcode=13115100&location=washington,%20dc

[30] https://www.onetonline.org/link/summary/11-3131.00

Learning Design and Technology program constitute a significant majority of alumni survey respondents interested in pursuing a graduate degree (37 of 42).

A copy of the original student survey is provided in Appendix J.
A copy of the original alumni survey is provided in Appendix K. Results are included behind each of the original surveys.

STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA
SUMMARY OF PROJECTED ENROLLMENTS IN PROPOSED PROGRAM

Projected enrollment:

Year 1		Year 2		Year 3		Year 4 **Target Year (2-year institutions)**			Year 5 **Target Year (4-year institutions)**		
2020- 2021		2021 - 2022		2022 - 2023		2023 - 2024			2024 - 2025		
HDCT 30	FTES 16	HDCT 63	FTES 33	HDCT 99	FTES 52	HDCT 139	FTES 73	GRAD ____	HDCT 156	FTES 82	GRAD 33

Assumptions:
Retention percentage: 90%
Percentage of full-time students: 10% Percentage of part-time students: 90%
Full-time students credit hours per semester: 9
Part-time students credit hours per semester: 6
Full-time students graduate in 2 years
Part-time students graduate in 3 years

Duplication

Five public universities in Virginia offer a similar or related degree program to the proposed MS program in Learning Design and Technology: James Madison University, Old Dominion University, Virginia Commonwealth University, University of Virginia, and Virginia Polytechnic Institute and State University (Virginia Tech). James Madison offers both an MSEd and an MEd, while Old Dominion offers an MSEd only. The other three institutions offer an MEd.

The proposed MS in Learning Design and Technology will be distinct from the instructional design and technology programs in Virginia because of its focus on performance-based standards for the design, development, execution and evaluation of learning solutions to performance problems in the workplace. The proposed program emphasizes the application of analytic methods to identify gaps in knowledge, skills and abilities, the impact of performance gaps on

individual, team, and organizational performance, and assessing the optimal solutions from a variety of alternatives. The proposed program is unique in requiring a course on the business issues underlying the selection, implementation, and evaluation of technology-based learning interventions, along with a required course on learning analytics and big data. Further, the proposed program requires two consecutive project-based courses in which students experience the full analysis, design and development process for a real-world client. Additionally, the proposed program is unique in offering hands-on courses in industry-standard courseware development software packages, so that graduates have a digital portfolio of work products as evidence of their employability. Lastly, the proposed program aligns with the market-driven demands on the learning design professional by elevating learning design and technology from a concentration to a major degree program. None of the other degree programs offers this combination of learning experiences.

The proposed MS in Learning Design and Technology is unique to the Commonwealth of Virginia in that its focus includes the advanced and managerial competencies that define what the experienced designer must know and be able to do in the workplace, along with hands-on use of current and emerging software packages and technologies. Further, the proposed program is the only such program in the Northern Virginia region. The closest MS degree programs related to Learning Design and Technology are found at Georgetown University, American University, George Washington University, and University of Maryland Global Campus.

James Madison University (JMU)
JMU offers an MSEd Adult Education and Human Resource Development with a concentration in Instructional Design and an MEd with a concentration in Educational Technology. The MSEd is targeted to persons entering or advancing in positions associated with learning in education, business, industry, government, and other public and private sector organizations."[31] The MEd is targeted to those "who work in, or who intend to pursue careers in, higher education, business, industry, government and consulting."[32]

MSEd in Adult Ed/Human Resource Development
JMU's MSEd program in Adult Ed/Human Resource Development requires 36 credit hours that include eight core courses (24 credit hours). For the remaining 12 credit hours, students may select either (a) the research paper option, consisting of one 3-credit research course plus three 3-credit elective courses, or (b) the thesis option, consisting of a 6-credit thesis course plus two three-credit electives. Students completing the MSEd program must take comprehensive written and oral exams. In the final semester, students submit an electronic portfolio of all core course assignments for evaluation by their respective academic advisers and thesis/reading and research chair.

Similarities
Both the JMU program and the proposed program require coursework in the fundamentals of instructional design (3 credit hours) and adult learning theory (3 credit hours).

[31] M.S. Ed in Adult/Human Resource Development, http://www.jmu.edu/gradcatalog/16/masters/education-ltle.shtml#AdultEducation/HumanResourceDevelopment

[32] M.Ed. with a concentration in Educational Technology, http://www.jmu.edu/gradcatalog/16/masters/education-ltle.shtml#EducationalTechnology

Differences
JMU's program has an additional six required courses in human resource development (18 credit hours). These courses are not required in the proposed program. The proposed program requires coursework in advanced instructional design (3 credit hours), learning analytics and big data (3 credit hours), business skills for the learning design practitioner (3 credit hours), and two project-based courses in the analysis, design and development of technology-based learning environments (6 credit hours). JMU's program does not require such courses. In lieu of writing a thesis or taking comprehensive exams, the proposed program requires students to complete a web-based multimedia portfolio (2 credit hours) of instructional products produced in the elective courses, along with reflections on coursework, professional growth, and self-assessment on occupational competencies. This type of portfolio is not required in the JMU program.

MEd in Education
This 33 credit program includes an education core (6 credit hours), an educational technology core (18 credit hours), and advanced courses on selected technology topics (9 credit hours). Neither a thesis nor a comprehensive exam is required.

Similarities
Both the JMU MEd and the proposed program require coursework in the fundamentals of instructional design (3 credit hours) and adult learning theory (3 credit hours).

Differences
JMU requires seven additional courses (21 credit hours) in K-12 curriculum issues and theories, and the development and maintenance of classroom-based technology applications. These courses are not required in the proposed program. The proposed program requires coursework in advanced instructional design (3 credit hours), learning analytics and big data (3 credit hours), business skills for the learning design practitioner (3 credit hours), and two project-based courses in the analysis, design and development of technology-based learning environments (6 credit hours). JMU does not require such courses. The proposed program requires students to complete a web-based multimedia portfolio (2 credit hours) of instructional products produced in the elective courses, along with reflections on coursework, professional growth, and self-assessment on occupational competencies. The JMU program does not require a digital portfolio.

Old Dominion University (ODU)
ODU offers an MSEd Secondary Education with a concentration in Instructional Design and Technology. Students may choose between a 30-credit hour program and a 36-credit hour program with a seminar option. Both programs require students to take two courses in instructional design (6 credit hours) and one course in learning theory (3 credit hours). Students select the remaining seven courses (21 credit hours) from courses in theory, design, technology or human performance technology. Students opting for the 36-credit hour program must take an additional two courses (6 credit hours) in research and writing. Students completing the MSEd program must take a written comprehensive exam. A thesis is not required.

Similarities
Both programs require 6 credit hours of instructional design coursework and 3 credit hours of learning theory.

Differences
ODU's program requires at least one course (3-credit hours) in human performance technology. The proposed program does not offer courses in human performance technology. The proposed program requires coursework in advanced instructional design (3 credit hours), learning analytics and big data (3 credit hours), business skills for the learning design practitioner (3 credit hours), and two project-based courses in the analysis, design and development of technology-based learning environments (6 credit hours). ODU's program does not require such courses. In lieu of taking a comprehensive exam, the proposed program requires students to complete a web-based multimedia portfolio (2 credit hours) of instructional products produced in the elective courses, along with reflections on coursework, professional growth, and self-assessment on occupational competencies. This type of portfolio is not required in the ODU program.

Virginia Commonwealth University (VCU)
VCU offers a 33-credit Master of Education (MEd) in Curriculum and Instruction (CIP code: 13.0301) with a concentration in Instructional Technology. VCU's program requires students to complete nine required courses (27 credit hours) and two elective courses (6 credit hours). The program does not require a thesis, comprehensive exams, or a culminating course.

Similarities
Both programs require courses in designing for technology-based learning (6 credit hours).

Differences
The VCU program requires one course in ethics and equity in schools (3 credit hours). The proposed program does not require such a course. The VCU program requires four courses (12 credit hours) on school-based computer applications, visual literacy, online instruction development, K-12 technology leadership and development based on the standards for K-12 educational technology published by the International Society for Technology in Education (ISTE).[33] The proposed program does not require courses aligned with K-12 education. The proposed program requires coursework in learning analytics and big data (3 credit hours), business skills for the learning design practitioner (3 credit hours), and two project-based courses in the analysis, design and development of technology-based learning environments (6 credit hours). The VCU program does not require such courses.

The proposed program requires students to complete a web-based multimedia portfolio (2 credit hours) of instructional products produced in the elective courses, along with reflections on coursework, professional growth, and self-assessment on occupational competencies. There is no such requirement in the VCU program.

University of Virginia (UVA)
UVA offers an MEd program in Curriculum and Instruction with a concentration in Instructional Technology. The program requires students to complete 5 courses (15 credit hours) within a suite of education courses covering curriculum, instruction, assessment and diversity in educational institutions. Students selecting the Instructional Technology concentration select an additional five courses (15 credit hours) in consultation with their academic advisor. All students must

[33] ISTE standards, https://www.iste.org/standards

complete a comprehensive exam in the final semester of their coursework or as an independent study course as their final course experience.

Similarities
Both programs offer courses in instructional design, adult learning theory, and designing for technology-based learning environments.

Differences
UVA's program does not require all students to take the same core courses within the Instructional Technology concentration. The proposed program requires that all students complete a fixed set of nine courses (23 credit hours) including courses in the principles of instructional design (3 credit hours), advanced instructional design (3 credit hours), learning analytics and big data (3 credit hours), business skills for the learning design practitioner (3 credit hours), and two project-based courses in the analysis, and the design and development of technology based learning environments (6 credit hours). In lieu of taking a comprehensive exam, the proposed program requires students to complete a web-based multimedia portfolio (2 credit hours) of instructional products produced in the elective courses, along with reflections on coursework, professional growth, and self-assessment on occupational competencies. This type of portfolio is not required in the UVA program.

Virginia Polytechnic Institute and State University (Virginia Tech)
Virginia Tech offers a Master of Arts, Education (MAEd) in Curriculum and Instruction with a concentration in Instructional Design and Technology that is similar to the proposed program. The Virginia Tech program requires students to complete 30 credit hours and pass a comprehensive exam. The program has five required courses (15 credit hours) in instructional design and technology, one course (3 credit hours) in research methods, and four courses (12 credit hours) from a list of restricted electives.

Similarities
Both programs include required courses in instructional design, learning theory, and the design of technology-based learning environments. Virginia Tech's program requires 15 credit hours in these areas (two courses in instructional design, one in learning theory, one portfolio design course, and one project course with a written report). The proposed program requires 17 credit hours on these same topics (two courses in instructional design, one in learning theory, and two portfolio design courses).

Differences
Virginia Tech's program has a required course on research methods for program and product evaluation (3 credit hours) and a required independent study project and report course (3 credit hours). The proposed program does not require coursework in these areas. The proposed program requires coursework in learning analytics and big data (3 credit hours), business skills for the learning design practitioner (3 credit hours), and two real-world client-driven project-based courses in the analysis, design and development of technology based learning environments (6 credit hours). Virginia Tech does not require such courses.

The following table displays enrollments and degrees conferred by comparable MSEd or MEd programs in the past five years.

Enrollments and Degrees Awarded at Comparable Programs*

Enrollments[34]	**Fall 2014**	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
JMU	373	367	362	408	439
Virginia Tech	237	224	199	184	162
ODU	118	106	125	140	130
UVA	94	86	143	224	199
JMU	37	26	21	23	21
VCU	6	4	5	4	7
Degrees Awarded[35]	**2014**	**2015**	**2016**	**2017**	**2018**
JMU	361	307	247	262	295
Virginia Tech	160	148	119	129	109
ODU	71	72	29	56	50
UVA	62	78	52	47	97
JMU	16	12	17	3	10
VCU	3	4	5	5	4

*Note: Enrollments and Degrees Awarded do not differentiate among the various concentrations within each major.

Projected Resource Needs for the Proposed Program

Resource Needs

George Mason University and the Learning Technologies Division have the resources needed to initiate and operate the proposed MS Learning Design and Technology degree program. The following categories detail the resources required to launch and sustain the proposed program from its initiation in the fall 2020 semester through the target year 2024-2025. Assessments of need for full-time faculty, part-time faculty, and adjunct faculty are based on the following ratio of student enrollment to faculty effort: 10 FTE of enrollment requires one FTE faculty for instruction. The proposed program will therefore require a total of 5.0 FTE to launch, increasing to 8.5 FTE by the target year 2024-2025.

Full-time Faculty

Four faculty in the Learning Technologies Division will devote more than 50% of their teaching load teaching required courses in the proposed program. One faculty member will dedicate 100%

[34] State Council of Higher Education for Virginia (SCHEV). *Fall Headcount Enrollment by Race/Ethnicity, Gender and Program Detail*. http://research.schev.edu/enrollment/E16_Report.asp. (Accessed 07/15/2019).
[35] State Council of Higher Education for Virginia (SCHEV). Completion, Program Detail C1.2. http://research.schev.edu//Completions/C1Level2_Report.asp. Accessed 07/15/2019).

(1.0 FTE) of the teaching load to the proposed program. Three faculty will dedicate 75% of their teaching load to the proposed program (2.25 FTE).

The Dean of the College of Education and Human Development has committed resources for two faculty members, who will teach in the proposed program beginning in fall 2024. One faculty member will dedicate 100% of their teaching load (1 FTE) and the other will dedicate 50% of their teaching load (.50 FTE) to the proposed degree program. The new faculty members will be hired at the rank of Assistant Professor with a salary of $70,000 and benefits of $23,730 for a total expense to the proposed program of $105,000 in salary and $35,595 in fringe, for a total of $140,595.

The proposed MS will require 3.25 FTE to initiate, rising to 4.75 FTE by the target enrollment year.

Part-time Faculty
No part-time faculty will be used to initiate or sustain the proposed program through the target enrollment year.

Adjunct Faculty
Seven adjunct faculty members will assist in teaching the required courses in the proposed program. In the initial year, the proposed program will require 1.75 FTE of adjunct effort, rising to 3.75 FTE in the target year enrollment year. Adjunct faculty in the College of Education and Human Development are paid $4,365 in salary per course with an additional $319 fringe for a total expense of $4,684 per course. In the initiation year, costs for adjunct salary will be $30,565 in salaries and $2,231 in fringe for a total of $32,786. By the target enrollment year, cost for adjunct faculty is expected to rise to $65,475 in salaries and $4,780 in fringe for a total expense of $70,255.

Graduate Assistants
No graduate assistants will be provided for the proposed program.

Classified Positions
An administrative assistant currently employed by the Learning Technologies Division will support the proposed program. The program will require 0.50 FTE of classified support to initiate and sustain the proposed program through the target year of 2024-25. Salary for the administrative assistant will be $27,300 and benefits $12,449 for a total cost of $39,749.

Targeted Financial Aid
No targeted financial aid will be available or is needed to launch or sustain the proposed program.

Equipment (including computers)
No new equipment (including computers) is required to launch or maintain the proposed program.

Library
No new library resources are needed to launch or sustain the proposed program. The library has an adequate collection to support the proposed degree program. Resources include journals and publications for learning design and technology. As a member of the Virtual Library of Virginia (VIVA), online access to journals is also available.

Telecommunications
The proposed program requires no new telecommunications to launch or sustain the proposed program. Telephone service for the new hire is available in the College's Learning Technologies Division.

Space
The proposed program will not require additional space to launch or sustain the proposed program. Office space is available in the Learning Technologies Division for the new hire.

Other Resources (specify)
No other resources will be required to launch or sustain the proposed program.

RESOURCE NEEDS

Part A: Answer the following questions about general budget information.

- Has the institution submitted or will it submit an addendum budget request to cover one-time costs? Yes ___ No ___
- Has the institution submitted or will it submit an addendum budget request to cover operating costs? Yes ___ No ___
- Will there be any operating budget requests for this program that would exceed normal operating budget guidelines (for example, unusual faculty mix, faculty salaries, or resources)? Yes ___ No ___
- Will each type of space for the proposed program be within projected guidelines? Yes ___ No ___
- Will a capital outlay request in support of this program be forthcoming? Yes ___ No ___

Part B: Fill in the number of FTE and other positions needed for the program

	Program Initiation Year 2020- 2021		Expected by Target Enrollment Year 2024- 2025	
	On-going and reallocated	**Added (New)**	**Added (New)*** **	**Total FTE positions**
Full-time faculty FTE*	3.25		1.50	4.75
Part-time faculty FTE**				0.00
Adjunct faculty	1.75		2.00	3.75
Graduate assistants (HDCT)				0.00
Classified positions	0.50			0.50
TOTAL	5.50	0.00	3.50	9.00

*Faculty dedicated to the program. **Faculty effort can be in the department or split with another unit.

*** Added **after** initiation year

Part C: Estimated resources to initiate and operate the program

	Program Initiation Year 2020- 2021		Expected by Target Enrollment Year 2024- 2025	
Full-time faculty	3.25	0.00	1.50	4.75
salaries	$344,449		$105,000	$449,449
fringe benefits	$116,768		$35,595	$152,363
Part-time faculty (faculty FTE split with unit(s))	0.00	0.00	0.00	0.00
salaries				$0
fringe benefits				$0
Adjunct faculty	1.75	0.00	2.00	3.75
salaries	$30,555		$34,920	$65,475
fringe benefits	$2,231		$2,549	$4,780
Graduate assistants	0.00	0.00	0.00	0.00
salaries				$0
fringe benefits				$0
Classified Positions	0.50	0.00	0.00	0.50
salaries	$27,300			$27,300
fringe benefits	$12,449			$12,449

Personnel cost				
salaries	$402,304	$0	$139,920	$542,224
fringe benefits	$131,448	$0	$38,144	$169,592
Total personnel cost	$533,752	$0	$178,064	$711,816
Equipment				$0
Library				$0
Telecommunication costs				$0
Other costs				$0
TOTAL	**$533,752**	**$0**	**$178,064**	**$711,816**

Part D: Certification Statement(s)

The institution will require additional state funding to initiate and sustain the proposed program.

_____ Yes _____
Signature of Chief Academic Officer

X____ No _____
Signature of Chief Academic Officer

Please complete Items 1, 2, and 3 below.

1. Estimated $$ and funding source to initiate and operate the proposed program.

Funding Source	Program initiation year 2020 - 2021	Target enrollment year 2024 - 2025
Reallocation within the department *(Note below the impact this will have within the department.)*		
Reallocation within the school or college *(Note below the impact this will have within the school or college.)*	$533,752	$533,752
Reallocation within the institution *(Note below the impact this will have within the institution.)*		
Other funding sources *(Specify and note if these are currently available or anticipated.)*		$178,064

2. Statement of Impact/Funding Source(s). A separate detailed explanation of funding is required for each source used and a statement of impact on existing resources.

Reallocation within the school or college
The College of Education and Human Development will reallocate resources to support the initiation of the proposed program. The costs for full-time faculty support, totaling $461,217, will be accommodated through reallocation of existing faculty teaching loads. The costs for adjunct faculty, totaling $32,786, will be accommodated through reallocation of the College's existing budget for adjunct faculty. The costs for classified support, totaling $39,749, will be accommodated through reallocation of time and responsibilities for existing personnel. It is estimated that a total of $533,752 will be needed to support the initiation of the proposed program. The reallocation of resources will have minimal impact on academic programs in the College or the College's resources.

Other funding sources
Funds from tuition revenue will be used support the proposed degree program. Because of the online delivery of the proposed program, student costs are based on credit hour enrollment. Both in-state per credit hour and out-of-state per credit hour costs are $806. The total program tuition costs will be $24,180. The reallocation of tuition is sufficient to support the proposed program. The reallocation will not negatively affect the budgets of any other program in the department or college.

3. Secondary Certification.
If resources are reallocated from another unit to support this program, the institution will **not** subsequently request additional state funding to restore those resources for their original purpose.

X _____ Agree _____
Signature of Chief Academic Officer

_____ Disagree _____
Signature of Chief Academic Officer

Appendices

Appendix A –Sample Plans of Study

Full-Time Students

Year	Fall Semester	Spring Semester
First Year	EDIT 704: Instructional Technology Foundations and Theories of Learning (3 credits)	EDIT 730: Advanced Instructional Design (3 credits)
	EDIT 705: Instructional Design (3 credits)	EDIT 751: Overview of Learning Analytics and Big Data (3 credits)
	EDIT 706: Business of Learning Design and Technology (3) credits	Elective (3 credits)
Second Year	EDIT 732: Analysis and Design of Technology-based Learning Environments (3 credits)	EDIT 752: Design and Development of Technology-based Learning Environments (3 credits)
	EDIT 601: Instructional Design and Technology Portfolio (1 credit)	EDIT 701: Advanced Instructional Design and Portfolio (1 credit)
	Elective (2 credits)	Elective (2 credits)

Credit Hours –First Year – Fall Term	9
Credit Hours – First Year – Spring Term	9
Credit Hours – Second Year – Fall Term	6
Credit Hours – Second Year – Spring Term	6
Total Credit Hours	**30**

Part-time Students

Year	Fall Semester	Spring Semester
First Year	EDIT 704: Instructional Technology Foundations and Theories of Learning (3 credits)	EDIT 730: Advanced Instructional Design (3 credits)
	EDIT 705: Instructional Design (3)	EDIT 706: Business of Learning Design and Technology (3 credits)
Second Year	EDIT 732: Analysis and Design of Technology-based Learning Environments (3 credits)	EDIT 752: Design and Development of Technology-based Learning Environments (3 credits)
	EDIT 601: Instructional Design and Technology Portfolio (1 credit)	EDIT 701: Advanced Instructional Design and Portfolio (1 credit)
	Elective (2 credits)	Elective (2 credits)
Third Year	EDIT 751: Overview of Learning Analytics and Big Data (3 credits)	
	Elective (3 credits)	

Credit Hours – First Year – Fall Term	6
Credit Hours – First Year – Spring Term	6
Credit Hours – Second Year – Fall Term	6
Credit Hours – Second Year – Spring Term	6
Credit Hours - Third Year - Fall Term	6
Total Credit Hours	**30**

Appendix B – Course Descriptions

Core Courses

EDIT 704: Instructional Technology Foundations and Theories of Learning (3 credits)
Reviews practical and pedagogical issues related to design and development of technological instruction. Emphasizes investigating instructional design as a field and community of practice, and reviewing core learning theory constructs applicable to design of instructional technology.

EDIT 705: Instructional Design (3 credits)
Helps students analyze, apply, and evaluate principles of instructional design to develop education and training materials spanning a wide range of knowledge domains and instructional technologies. Focuses on variety of instructional design models, with emphasis on recent contributions from cognitive science and related fields.

EDIT 706: Business of Learning Design and Technology (3 credits)
Explores the business issues underlying the selection, implementation and evaluation of technology-based learning interventions. Focuses on developing the skills necessary to improve performance and achieve measurable, positive change that supports an organization's strategic goals.

EDIT 730: Advanced Instructional Design (3 credits)
Provides students with the knowledge and skills for designing highly contextualized and engaging problem-solving learning environment using a grounded, theory-based design approach. Emphasizes the design of technology supported learning environments using a variety of pedagogical models.

EDIT 732: Analysis and Design of Technology-based Learning Environments (3 credits)
Enables design, implementation, and evaluation of technology-based education and training materials using advanced computer-based authoring tools.

EDIT 751: Overview of Learning Analytics and Big Data (3 credits)
Explores the tools, technologies and methods for capitalizing on data stored in enterprise-wide information systems to support executive-level learning and performance support decision-making. Focuses on demonstrating the bottom line business value of learning through evidence-based talent needs.

EDIT 752: Design and Implementation of Technology-based Learning Environments (3 credits)
Students design and produce multimedia/hypermedia applications based on current theory and research in instructional design and cognitive science. Examines user needs, information models, structure, and media selection and uses to inform design and production of final project.

EDIT 601: Instructional Design and Technology Portfolio (3 credits)
Enables students to create and publish digital portfolio that demonstrates effective and meaningful integration and syntheses of instructional design and technology concepts, principles, and competencies learned across program courses at mid-degree program point.

EDIT 701: Advanced Instructional Design and Technology Portfolio (3 credits)
Enables students to create and publish a digital portfolio that demonstrates effective and meaningful integration and syntheses of instructional design and technology concepts, principles, and competencies learned across program courses at end-degree program point.

Restricted Electives

EDIT 526: Web Accessibility and Design (1 - 3 credits)
Develops understanding of principles of universal web design. Students apply this understanding by designing and developing accessible web site using web authoring tools.

EDIT 530: Scripting and Programming (1 - 3 credits)
Enables development of computer-based educational materials using widely known educational scripting language. Students explore basic authoring capabilities, and learn to apply those capabilities by designing and producing materials using commands, procedures, and functions of scripting language.

EDIT 571: Visual Design and Applications (1 - 3 credits)
Provides basic knowledge of the range of capabilities of available graphic and visual design applications. Students learn to cultivate effective visual design practices for creating instructional products.

EDIT 572: Digital Audio/Video Design and Applications (1 - 3 credits)
Provides basic knowledge of the range of capabilities of available audio and video design applications. Students learn to cultivate effective audio and video design practices for creating instructional products.

EDIT 573: Project Management (1 - 3 credits)
Explores project management principles and applications used to manage, plan, and track large-scale, complex instructional design projects.

EDIT 574: Social Media and Digital Collaboration Applications (1 - 3 credits)
Provides basic knowledge of the range of capabilities of available social networking, teleconferencing, and collaboration applications. Students learn to integrate the latest information and communication technologies into the creation of instructional products.

EDIT 575: e-Learning Design Applications (1 - 3 credits)
Provides basic knowledge of available applications for creating, delivering, managing and tracking e-learning experiences. Students learn to create instructional products using the latest e-learning design applications.

EDIT 576: Mobile Learning and Applications (1 - 3 credits)
Explores current best practices and techniques required to deliver effective learning content through mobile devices. Students learn pedagogical approaches to mobile learning as well as investigate various mobile platforms and applications.

EDIT 590: Educational Research In Technology (3 credits)
Focuses on developing skills, insights, and understanding basics to performing research in the field of Instructional Design and Technology. Develops expertise in action research methodology, design, and implementation.

EDIT 611: Innovations in e-Learning (3 credits)
Explores leading-edge learning technologies and their integration into the e-learning design process. Hands-on activities focus on technology planning, selection, implementation, and evaluation utilizing instructional design best practices.

EDIT 710: Online Teaching Essentials (1 credit)
Explores the essential concepts and skills to effectively teach online courses. Introduces the topics of designing and managing online courses, assessing online students' knowledge and skills, facilitating online student collaboration and communication, and establishing a supportive online learning community.

EDIT 750: Learning Technologies and Strategies for Innovation (3 credits)
Explores formal and non-formal learning technologies, models, theories, and strategies that support enterprise learning and performance. Assesses the potential of learning technologies to innovate the practice of the organization.

EDIT 772: Virtual Worlds, Augmented Reality, and Gaming Applications (1 - 3 credits)
Provides basic knowledge of available applications and platforms for creating contextually-based learning environments such as immersive virtual worlds, simulated worlds, alternate reality games, and massive multiplayer online role playing games for e-learning.

EDIT 773: Human-Computer Interface Design for Teaching and Learning (3 credits)
Provides overview of human-computer interface issues related to instructional design of technology-centered learning environments. Examines continuum of human-computer feedback.

Appendix C -
Abbreviated IBSTPI Instructional Designer Standards, Competencies

Professional Foundations: (1) communicate effectively in visual, oral, and written form (essential); (2) apply research and theory to the discipline of instructional design (advanced); (3) update and improve knowledge, skills, and attitudes pertaining to the instructional design process and related fields (essential); (4) apply data collection and analysis skills in instructional design projects (advanced); (5) identify and respond to ethical, legal, and political implications of design in the workplace (essential).

Planning and Analysis*:* (6) conduct a needs assessment in order to recommend appropriate design solutions and strategies advanced); (7) identify and describe target population and environmental characteristics (essential); (8) select and use analysis techniques for determining instructional content (essential); (9) analyze the characteristics of existing and emerging technologies and their potential use (essential).

Design and Development: (10) use an instructional design and development process appropriate for a given project (essential); (11) organize instructional programs and/or products to be designed, developed, and evaluated (essential); (12) design instructional interventions (essential); (13) plan non-instructional interventions (advanced); (14) select or modify existing instructional materials (essential); (15) develop instructional materials (essential); (16) design learning assessment (advanced).

Evaluation and Implementation: (17) Evaluate instructional and non-instructional interventions (advanced); (18) revise instructional and non-instructional solutions based on data (essential); (19) implement, disseminate, and diffuse instructional and non-instructional interventions (advanced).

Management: (20) apply business skills to managing the instructional design function (managerial) (21) manage partnerships and collaborative relationships (managerial); (22) plan and manage instructional design projects (advanced).

Appendix D – Faculty Curriculum Vitae (abbreviated)

Brenda Bannan, PhD in Instructional Systems, 1995, Pennsylvania State University, Associate Professor of Learning Technologies. Specialization Area: Instructional Design and Technology, Learning Technologies Design Research.

Kevin Clark, PhD in Instructional Systems, 1994, Pennsylvania State University, Professor of Learning Technologies and Director of the Center for Digital Media, Innovation and Diversity. Specialization Area: Interactive and Digital Media in Education, Broadening Access to STEM Careers.

Nada Dabbagh, PhD in Instructional Systems, 1996, Pennsylvania State University, Professor of Learning Technologies and Director of the Learning Technologies Division. Specialization Area: Digital Pedagogy, Learning Systems Design, Technology-mediated Learning Environments.

Shahron Williams van Rooij, PhD in Instructional Technology, 2007, George Mason University, Associate Professor of Learning Technologies. Specialization Area: Workplace Learning and Development, Project Management, e-Learning.

Appendix E - External Advisory Panel

Darlene Brady-Christopher, Knowledge & Learning Officer
The World Bank
1818 H Street NW
Washington, DC 20433
dchristopher1@worldbank.org

Marco Rubin, Chairman, Advisory Board
Exoventure
400 N Washington #106
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David Versaw, Chief Financial Officer
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10000 Falls Road, Suite 305
Potomac, MD 20854
david@willinteractive.com

ITEM NUMBER:
BS in Nutrition Degree Proposal

PURPOSE OF ITEM:
The BS degree in Nutrition degree proposal has been prepared for submission to the State Council of Higher Education for Virginia for Fall 2020. Before SCHEV submission, George Mason University, Board of Visitor action is required.

APPROPRIATE COMMITTEE:
Academic Programs, Diversity and University Community Committee

BRIEF NARRATIVE:
The proposed Bachelor of Science (BS) degree program in Nutrition is the first program of its kind in Virginia that will prepare students for careers in the growing field of nutrition. The program offers three optional concentrations in Food Systems, Food Security and Global Nutrition, and Pre-Dietetics. The purpose of the proposed BS in Nutrition is to educate students in the fundamentals of nutrition science, the application of nutrition science to health among specific populations, and the influence of food, cooking, and food systems on diet and nutrition. The proposed program will provide students with an understanding of culture and behavior, life stage influences, health status, food ways and environmental influences. Students will learn to communicate with other health care professionals and help close the nutritional knowledge gap that exists with many adults and children. The program provides students with the skills necessary to improve nutritional status at the individual, community, and population levels. The proposed program also provides significant coursework in the basic sciences, a necessary foundation for the applied science of nutrition.

The proposed program responds to current needs in the Commonwealth of Virginia and the nation as a whole for highly trained nutritionists due to recent health policy changes, changes in the availability of cheap processed foods of low nutritional value, and increases in the prevalence of chronic diseases. The degree will prepare graduates to work for agencies, businesses, and organizations that seek to improve nutrition at local, national, and global levels.

REVENUE IMPLICATIONS:
The program at launch will be revenue-neutral. Most of the required core courses overlap with existing courses in the Nutrition and Food Studies program. The program does not require new laboratory or other facilities. New faculty positions to strengthen the program will be funded using existing resources in the College and tuition revenue as the program grows.

STAFF RECOMMENDATION:
Staff recommends Board approval.

Description of the Proposed Program

Program Background

George Mason University seeks approval for a Bachelor of Science (BS) degree program in Nutrition. The proposed program will be administered by the Department of Nutrition and Food Studies, which resides in the College of Health and Human Services. The target date of the program's initiation is fall 2020.

The purpose of the proposed BS in Nutrition is to educate students in the fundamentals of nutrition science, the application of nutrition science to health among specific populations, and the influence of food, cooking, and food systems on diet and nutrition. The proposed program will provide students with an understanding of culture and behavior, life stage influences, health status, food ways and environmental influences. Students will learn to communicate with other health care professionals and help close the nutritional knowledge gap that exists with many adults and children. The program provides students with the skills necessary to improve nutritional status at the individual, community, and population levels. The proposed program also provides significant coursework in the basic sciences, a necessary foundation for such an applied science as nutrition.

The proposed program responds to current needs in the Common Wealth of Virginia and the nation as a whole. A need exists for highly trained nutritionists due to recent health policy changes, demographic changes and increase in the prevalence of chronic diseases, and economic changes. The degree will prepare graduates to work for agencies, businesses, and organizations that seek to improve nutrition at the local, national, and global level. Due to George Mason University's location in the greater Washington, DC area, graduates of the proposed program will be positioned to enter a local work place which includes both governmental and non-governmental organizations. The proposed program will prepare students to pursue careers in local and global nutrition, food security, food policy, nutrition education, and other food system-related focus areas.

The proposed BS in Nutrition offers three optional concentrations. Students may select one of three concentrations: 1) Food Systems, 2) Food Security and Global Nutrition, and 3) Pre-Dietetics. The purpose of the concentrations is to prepare students in specific areas of nutrition education according to their career interests. The Food Systems concentration will provide students with the knowledge and skills to understand how components of the food system affect the health of a community (e.g., nutrition, food security, inequity, agriculture, food safety).

The Global Nutrition and Food Security concentration will provide students with the knowledge and tools to prepare them for careers in food security and safety, as well as a comprehensive skill set to evaluate nutritional status and determinants across various populations worldwide. While undernutrition is predominant in low-income nations, over nutrition is more common in high-income countries and populations. These are issues of growing concern to government agencies, multilateral organizations and non-governmental organizations. Despite longstanding efforts, it is estimated that up to one billion people across the globe are hungry and food insecure in both developing and industrialized countries, including the United States.

The Pre-Dietetics concentration will serve as preparation for students who wish to pursue the Registered Dietitian Nutritionist (RDN) credential to assure a smooth pathway towards an MS/RDN program and dietetic internship. This is in preparation for the transition by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) to require a Masters degree for all dieticians.

The proposed program draws on courses and skills outside traditional nutrition undergraduate programs. Such innovative courses as Food Systems, Experimental Foods, Fundamentals of Cooking and Nutrition Policy will allow students to apply their skills and knowledge to address the most current nutrition issues and problems.

One important skill threaded throughout the proposed program is research. The proposed BS in Nutrition degree program has been reviewed by George Mason University's Office of Student Scholarship, Creative Activities, and Research (OSCAR), which engages students and faculty in undergraduate research opportunities. A number of core courses in the proposed program have been designated by OSCAR as Inquiry and Research and Scholarship intensive courses. These courses (which include NUTR 422: Nutrition Across the Lifespan, NUTR451: Nutrition Assessment, and NUTR 312 and 313: Experimental Food and Lab), require additional assessment and review to ensure they contain appropriate and rigorous research and scholarship learning objectives. Students will engage in research and will be prepared to work in research settings.

The proposed program will also serve as preparation for students interested in pursuing graduate studies in Nutrition, as well as students who want to pursue the Registered Dietitian Nutritionist (RDN) credential.

Mission

The mission of George Mason University states, "A public, comprehensive research university established by the Commonwealth of Virginia in the National Capital region, we are an innovative and inclusive academic community committed to creating a more just, free, and prosperous world."[1]

The proposed degree program aligns with the mission of the university such that it will provide "innovative" courses of study that enable students to exercise analytical and imaginative thinking, and it will encourage students to become culturally competent and develop culturally appropriate nutrition interventions which foster an "inclusive" environment. Further, the proposed program contributes to a "just, free, and prosperous world" in its focus on improving the health and nutritional status of local, national, and global populations, as well-nourished populations thrive and are the basis of greater productivity.

[1] George Mason University, "Mission Statement," 2014-2014 Strategic Plan, 4. Retrieve from http://strategicplan.gmu.edu/wp-content/uploads/2013/07/GMU_Strategic_Plan_Web.pdf

Admission Criteria

The following factors are considered holistically when reviewing freshman applications for admission at George Mason University:

- Cumulative high school grade point average (GPA) for coursework completed in grades 9 through 12 along with level of difficulty of courses selected, particularly in core academic courses. An official transcript is required.
- Scores from SAT Reasoning Test or American College Test (ACT). No minimum score requirement. Eligible students may apply Score Optional.
- Personal statement.
- Two letters of recommendation, one from a guidance counselor and one from a teacher.
- Extracurricular activities and community service participation information.

Applicants who are non-native English speakers will be required to submit scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) exam. Minimum scores:

- TOEFL IBT: 88
- IELTS: 6.5

Completion of at least two English composition courses with grades of C or better in each course may be submitted in lieu of the TOEFL or IELTS exams.

Target Population

No specific target population of students will be recruited for this degree program.

Curriculum

The proposed BS degree program in Nutrition will require 120 credit hours. The core curriculum includes all the components to train students to assess, evaluate, and intervene in the most current and relevant nutrition issues. Although the proposed program will not directly lead to accreditation, the curriculum of the proposed program is guided by competency guidelines from the Accreditation Council for Education in Nutrition and Dietetics (ACEND), the accrediting agency for education programs preparing students for careers in nutrition, to ensure that enrolled students acquire a valuable set of knowledge and skills within the discipline of nutrition.

The curriculum includes three optional concentrations that may be taken in the place of the Nutrition Elective courses. The three concentrations are Food Systems, Food Security and Global Nutrition, and Pre-Dietetics. The Food Systems concentration includes a course in food systems and policy as well as a course in food security and global nutrition. Students will have to choose an additional 9 credits of elective courses which will allow them to give the concentration a focus in areas as sustainability, food safety, marketing and global policies. The Global Nutrition and Food Security concentration includes a course in food safety and defense as well as a course in food security and global nutrition. In addition, student will have to choose 9 credit hours of elective courses which will allow them to create a focus in global politics and policies,

geographical placement and cultural impacts of nutrition. The Pre-Dietetics concentration will serve as preparation for students who wish to pursue the Registered Dietitian Nutritionist (RDN) credential. To assure a smooth pathway towards an MS/RDN program and dietetic internship courses such as medical terminology, food management, and counseling are included. To produce career-ready students from this program, a course with the UNIV prefix is required to teach students how to successfully transition to the work environment.

Program Requirements

Mason Core (General Education) Requirements: 40 credits

BIOL 213: Cell Structure and Function (4 credits)
ENGH 100: Composition for Multilingual Writers or ENGH 101: Composition (3 credits)
ENGH 302: Advanced Composition (3 credits)
GCH 205: Global Health (3 credits)
NUTR 295: Introduction to Nutrition (3 credits)
NUTR 495: Nutrition and Food Studies Capstone (3 credits)
STAT 250: Introduction to Statistics I (3 credits)

Mason Core Information Technology Course (3 credits)
Mason Core Literature Course (3 credits)
Mason Core Arts Course (3 credits)
Mason Core Social Science Course (3 credits)
Mason Core Western Civilization Course (3 credits)

Core Courses (64 credits)
BIOL 425: Human Physiology I (3 credits)
BIOL 483: General Biochemistry (4 credits) or CHEM 463: General Biochemistry (4 credits)
CHEM 211: General Chemistry I (3 credits)
CHEM 212: General Chemistry II (3 credits)
CHEM 213: General Chemistry Lab I (1 credit)
CHEM 214: General Chemistry Lab II (1 credit)
CHEM 313: Organic Chemistry I (3 credits)
GCH 300: Introduction to Public Health (3 credits)
GCH 412: Fundamentals of Epidemiology (3 credits)
NUTR 312: Experimental Foods* (3 credits)
NUTR 313: Experimental Foods Lab* (1 credit)
NUTR 315: Fundamentals of Cooking (3 credits)
NUTR 326: Food Systems (3 credits)
NUTR 330: Food Composition* (3 credits)
NUTR 383: Taste and Place (3 credits)
NUTR 420: Nutrition Education (3 credits)
NUTR 421: Community Nutrition (3 credits)
NUTR 422: Nutrition Across the Lifespan (3 credits)
NUTR 423: Nutrition and Chronic Disease (3 credits)
NUTR 440: Nutrition Policy* (3 credits)

NUTR 442: Advanced Nutrition I* (3 credits)
NUTR 444: Advanced Nutrition II* (3 credits)
NUTR 451: Nutrition Assessment (3 credits)

Restricted Electives (1 credit)
Students select one of the following courses.
UNIV 320: Internship and Career Readiness (1 credit)
UNIV 370: Special Topics (1 credit)
UNIV 371: Dimensions of Well-Being (1 credit)
UNIV 420: College to Career (1 credit)
UNIV 421: College to Graduate School (1 credit)
UNIV 490: Critical Decisions in Postgraduate Transitions (1 credit)
UNIV 491: RS: Students as Scholars Individualized Scholarly Experience (1-9 credit)
UNIV 495: RS: Undergraduate Research Scholars Program Seminar (1 credit)

Nutrition Electives (15 credits)
Students select 15 credits of additional 300-400 level courses from the following prefixes.

- Anthropology (ANTH)
- Communication (COMM)
- Education (EDUC)
- Global and Community Health (GCH)
- Geography and Geoinformation Science (GGS)
- Health (HEAL)
- Health Administration and Policy (HAP)
- Integrative Studies (INTS)
- Kinesiology (KINE)
- Nutrition and Food Studies (NUTR)
- Psychology (PSYC)
- Rehabilitation Science (RHBS)
- Social Work (SOCW)
- Tourism and Events Management (TOUR)

Concentration Areas (15 credits)
In lieu of the Nutrition Electives, students may choose one of three concentration areas.

Food Systems Concentration (15 credits)
Coursework in the Food Systems concentration provides an overview of the interrelationships within national and global food systems and their influence on such outcomes as the obesity epidemic, food security, and the environmental impact of agriculture. Core courses examine the interconnections between agriculture, food production and the environment, food and beverage processing, food safety and labeling, food sales and marketing, dietary guidance, and federal food assistance programs both domestically and globally. Nine elective credits provide the students the opportunity to create a focus on one or more of the components of the food system covered in the core courses.

Core Courses (6 credits)
INTS 371: Food Systems and Policy (3 credits)
NUTR 318: Global Nutrition and Food Security* (3 credits)

Restricted Electives (9 credits)
Students select 9 credits from the following.
BIOL 385: Biotechnology and Genetic Engineering (3 credits)
EVPP 442: Urban Ecosystems and Processes (3 credits)
INTS 370: Sustainable Food Systems (6 credits)
MKTG 301: Principles of Marketing (3 credits)
NUTR 410: Food Safety and Defense* (3 credits)
NUTR 435: Urban Agriculture (3 credits)
PHIL 243: Global Environmental Ethics
PHIL 358: Ethics and Economics (3 credits)

Food Security and Global Nutrition (15 credits)
Coursework in the Food Security and Global Nutrition concentration will provide an overview of the major concepts and perspectives of food security at the local, regional, and global levels and the critical roles that food safety and food defense have on the food supply in the U.S. and globally. With the nine credits of electives students can deepen their global understanding of food security and the critical role nutrition sciences play in food security programs.

Core Courses (6 credits)
NUTR 318: Global Nutrition and Food Security* (3 credits)
NUTR 410: Food Safety and Defense* (3 credits)

Restricted Electives (9 credits)
Students select 9 credits from the following.
ANTH 366: Food and Human Evolution (3 credits)
ANTH 376: Food and Culture (3 credits)
CEIE 100: Environmental Engineering around the World (3 credits)
CONF 101: Conflict in our World (3 credits)
ECON 385: International Economic Policy (3 credits)
FRLN: Any foreign language course (3 credits)
GGS 110: Maps and Mapping (3 credits)
GGS 103: Human Geography (3 credits)
GGS 304: Population Geography (3 credits)
NUTR 435: Urban Agriculture (3 credits)

Pre-Dietetics Concentration (15 credits)
The Pre-Dietetics concentration will serve as preparation for students who wish to pursue the Registered Dietitian Nutritionist (RDN) credential, and includes medicine-oriented courses as well as food service courses, both competencies required by ACEND, to assure a smooth pathway towards an MS/RDN program and dietetic internship. The core courses cover the required competencies towards an RDN licensure that are not included in the main program core.

The elective courses provide an additional opportunity to minimize the required courses needed for the RDN licensure.

Core Courses (12 credits)
HAP 201: Introduction to Health Professions (3 credits)
NUTR 410: Food Safety and Defense (3 credits)
TOUR 230: Introduction to Hospitality (3 credits)
TOUR 310: Food and Beverage Management (3 credits)

Restricted Electives (3 credits)
Students select 1 of the following courses.
BIOL 246: Introductory Microbiology (3 credits)
COMM 301: Foundations of Interpersonal Communication (3 credits)
ECON 103: Contemporary Microeconomic Principles (3 credits)
HAP 202: Medical Terminology (3 credits)
PSYC 100: Basic Concepts in Psychology (3 credits)
SOCI 101: Introductory Sociology (3 credits)

Appendix A provides sample plans of study for full-time and part-time students.
Appendix B provides course descriptions.

Student Retention and Continuation Plan

George Mason University is committed not only to recruiting motivated students but to retaining and graduating these students. The program director of the proposed BS degree in Nutrition will meet annually with students to discuss progress in the program and advise on in-major elective choices that meet the student's interests and post-graduate career plans. All students in the College of Health and Human Services (CHHS) are assigned full-time, professional academic advisors to assist with proper registration choices. Both the university and the CHHS academic advising offices will provide support for transfer students who need curriculum support, particularly students who wish to transfer general education and major requirement courses into the curriculum. All George Mason University students have access to DegreeWorks, a portal designed for students to track their degree completion timeline progress. Through the Center for Academic Advising, Retention, and Transitions (CAART) unit, the university promotes student retention and success by connecting students to curricular and co-curricular resources.

Faculty

The Department of Nutrition and Food Science has seven full-time faculty members who will teach required courses in the proposed program. All full-time faculty have doctoral degrees in Nutrition or closely related disciplines such as a Medical Degree and a PhD in Sustainability Education. In addition, 3 full-time faculty are Registered Dieticians.

The department works with 7 adjunct faculty who will all be involved in the proposed degree. All adjunct faculty have degrees in nutrition, food science, or dietetics. Five have a doctoral degree and two have a master's degree. Adjunct faculty work in related nutrition fields within

government organizations, food industry, research organizations, and non-profit organizations, bringing career expertise to the classroom. Adjunct faculty teach introductory courses such as NUTR 295: Introduction to Nutrition and specialized courses such as Nutrition Policy and Food Safety.

Appendix C provides faculty abbreviated curriculum vitae.

Program Administration

The proposed BS degree program in Nutrition will be administered by the Department of Nutrition and Food Studies in the College of Health and Human Services. The Chair of the department, and the department's Academic Program Director will manage the strategic and day-to-day operations of the program. The Chair will provide programmatic and fiscal oversight to ensure the program is implemented effectively. The Chair will be responsible for supervising faculty, course staffing, and support system oversight. The Academic Program Director will be responsible for program coordination, and will keep abreast of current views and best practices in undergraduate education, while working closely with the College's Associate Dean for Student Affairs to implement marketing and recruitment initiatives to attract strong and diverse applicants. The Academic Program Director will be responsible for submitting to the Associate Dean for Academic Affairs an annual report on the program's strengths and the selected metrics needed to monitor program quality. The Academic Program Director will also provide initial student curriculum advisement and monitor student matriculation and progress toward degree completion. It is expected that a student advisor will be assigned to these tasks by the target enrollment year. The Academic Program Director will represent the program on university committees and workgroups related to undergraduate education and will work directly with the Associate Provost of Undergraduate Education to ensure conformance of requirements set by the University.

Student Assessment

Students who complete the proposed BS degree program in Nutrition will possess the appropriate knowledge, skills, and abilities need to apply the fundamentals and theories of nutritional assessment and behavior change analysis to improve the health of individuals, communities, and populations. Student learning will be assessed throughout the program through a variety of formative and summative measures. Along with the completion of standard university-wide assessment of learning through exams, papers, and projects, students in courses selected for curriculum evaluation will be asked to indicate how well the learning objectives have been addressed by the course.

The Department of Nutrition and Food Studies, along with the Office of Student Academic Affairs, has established a policy of tracking students' academic progress and alumni activities, and George Mason University mandates a course evaluation that is distributed each semester. Results of course evaluations are posted online.

Learning Outcomes

Upon completion of the proposed BS degree program in Nutrition, students will be able to:

- Describe the fundamentals of human nutrition.
- Describe the basic chemical composition and physical properties of food, the principles of cooking techniques, and the influence of cooking on foods.
- Explain the impact of social, cultural, and environmental factors that influence food selection, choice, availability, and access.
- Discuss the macro- and micronutrients and their role in digestion, metabolism, under- and over-nutrition.
- Apply the fundamentals of human nutrition to promote healthy lifestyles across the lifespan and to prevent and manage chronic diseases.
- Apply the fundamentals and theories of nutritional assessment and behavior change analysis to improve the health of individuals, communities and population groups.

Each concentration has additional learning outcomes or competencies that students who select the concentration area should acquire.

Food Systems Concentration

Students in this concentration will be able to meet the following learning outcomes:

- Summarize key factors that have shaped US food systems
- Explain how food systems relate to environmental and public health
- Identify opportunities and challenges to encourage dietary behavior change, support sustainable agriculture, improve food security and lessen the environmental and public health impact of food production and consumption.
- Apply systems approaches to investigating issues in food systems

Food Security and Global Nutrition Concentration

Students in this concentration will be able to meet the following learning outcomes:

- Discuss the definition and determinants of malnutrition and food security from a multidisciplinary approach
- Review the ethical considerations of conducting global nutrition and food security research and programs.
- Compare the nutrition and food security situation of various populations and cultures. Determine appropriate methods of nutritional and food security assessment in a global setting.
- Explore nutrition and food security policies and interventions.

Pre-Dietetics Concentration

Students in this concentration will be able to meet the following learning outcomes:

- Identify and describe the roles of others with whom the registered dietitian collaborates in the delivery of food and nutrition services.
- Apply safety principles related to food, personnel and consumers. Apply management theories to the development of programs or services.
- Apply management theories to the development of programs or services

Curriculum map for BS in Nutrition

Learning Objectives	Courses	Assessment Methods
Describe the fundamental basics of human biology and physiology	BIOL 425: Human Physiology I BIOL 483: General Biochemistry or CHEM 463: General Biochemistry	Formative: Assignments Summative: Quizzes, Mid-term exams, Final exam
Discuss the principles and foundations of public health through the exploration of health research methods.	GCH 300: Introduction to Public Health GCH 412: Fundamentals of Epidemiology	Formative: Assignments Summative: Quizzes, Mid-term exams, Final exam
Describe the fundamentals of human nutrition.	NUTR 295: Introduction to Nutrition	Formative: Assignments Summative: Quizzes, Mid-term exam, Final exam
Describe the basic chemical composition and physical properties of food, the principles of cooking techniques, and the influence of cooking on foods.	NUTR 315: Fundamentals of Cooking NUTR 312/313: Experimental Foods NUTR 330: Food Composition	Formative: Assignments, lab exercises Summative: Mid-term exam, Final exam
Discuss the social, cultural, and environmental factors that impact food selection, choice, availability, and access.	NUTR 326: Food Systems NUTR 383: Taste and Place	Formative: Assignments Summative: Quizzes, Mid-term exam, Final exam
Discuss the macro- and micronutrients and their role in digestion, metabolism, under- and over-nutrition.	NUTR 442: Advanced Nutrition I NUTR 444: Advanced Nutrition II	Formative: Assignments Summative: Quizzes, Mid-term exam, Final exam
Apply the fundamentals of human nutrition to promote healthy lifestyles across the lifespan and to prevent and manage chronic diseases.	NUTR 422: Nutrition Across the Lifespan NUTR 423: Nutrition and Chronic Disease NUTR 495-Nutrition and Food Studies Capstone	Formative: Assignments Summative: Quizzes, Mid-term exam, Final exam
Apply the fundamentals and theories of nutritional assessment and behavior change analysis to improve the health of individuals, communities and population groups.	NUTR 420: Nutrition Education NUTR 421: Community Nutrition NUTR 440: Nutrition Policy NUTR 451: Nutrition Assessment NUTR 495-Nutrition and Food Studies Capstone	Formative: Assignments, outreach activities Summative: Quizzes, Mid-term exam, Final exam

Employment Skills/Workplace Competencies

Graduates of the proposed BS degree program in Nutrition will be able to:

- Describe the basic principles of nutrition.
- Apply basic science principles to the discipline of nutrition science.
- Write and critique current nutrition-related literature reviews.
- Conduct nutrition assessments at the individual and community level.
- Develop nutrition recommendations based on assessment information.
- Evaluate the success of a nutrition intervention program at the community or population level.
- Work with research teams in conducting food and nutrition-related research.

Graduates in each concentration will demonstrate the following additional workplace competencies.

Food Systems Concentration

Graduates in this concentration will be able to:

- Design and implement strategies and policies to reduce health and nutrition disparities.
- Manage employees, purchase and prepare quantity foods, and market and sell food.
- Promote sustainability.

Food Security and Global Nutrition Concentration

Graduates in this concentration will be able to:

- Implement food security and nutrition programs and policies within a national and global context.

Pre-Dietetics Concentration

Graduates in this concentration will be able to:

- Enter the Master's degree program to become a Registered Dietitian and Nutritionist (RDN).

Program Assessment

Program assessment for the proposed BS degree program in nutrition will undergo a university standard Academic Program Review (APR). The APR is a multi-year process in which an academic unit analyzes the mission, goals, and learning outcomes of its degree programs. Our program, with help from the George Mason University Office of Institutional Assessment, will use a variety of data sources to measure whether program goals and learning outcomes are being achieved. These results are used to create action plans for the ultimate purpose of improving student learning and student success. At the end of the process, the unit submits an APR report, which is reviewed by a group of peer reviewers as well as the Provost and Office of Institutional Assessment (OIA).

Internal departmental review of the program will be conducted at the end of every academic year (annually). The Department chair, undergraduate program director, and departmental faculty will meet to analyze and discuss measured student learning outcomes as indicated within the program

curriculum map. Strengths and weaknesses will be identified and a plan of action to address weaknesses will be established. In addition, student course evaluations will be used to identify the strengths and weaknesses in specific courses; trends will be identified and a plan to improve the learning experience will be implemented.

The proposed BS degree in Nutrition will be reviewed on a seven-year cycle typical of programs within the College of Health and Human Services. Program review takes place under the guidance of the OIA and requires four semesters to complete. The outcomes of the process are two deliverables—a self-assessment report and academic plan written by program faculty and a report by a review team external to the program—and the changes recommended to enhance the program. The Department of Nutrition and Food Studies is scheduled for review of its programs beginning in 2026. The Board of Visitors will conduct its initial review of the program in 2024.

Benchmarks of Success

The following benchmarks will be used to gauge the growth and success of the proposed BS in Nutrition degree program:

- Program will meet student enrollment targets documented in this proposal.
- 80% of graduates will report program satisfaction.
- 20% of graduates will participate in directed research with a faculty mentor.
- 65% of full-time students will complete the program in four years.
- 70% of graduates who choose to enter the workforce will find employment within the field
- 75% of graduates who intend to pursue additional academic preparation before entering the job market will have been accepted to graduate school or Registered Dietitian Nutritionist (RDN) internships within two years of graduation.

If these benchmarks are not met, the Department of Nutrition and Food Studies program evaluation committee, as well as the external advisory committee, will determine which benchmarks were unsuccessful and determine the reason(s) for the failure to meet the performance threshold(s). If curriculum changes are needed, the faculty of the Department will implement changes in curriculum or course instructional methods needed to improve program outcomes. Further, regarding enrollment issues, the Department will work with the College of Health and Human Services marketing team and the Office of Student Affairs to assist with marketing the program.

Expansion of Existing Programs

The proposed BS degree program in Nutrition is not an expansion of an existing concentration, focus area, emphasis area, major, minor or track.

Relationship to Existing George Mason University Degree Programs

George Mason University offers a minor and a concentration that are related to the proposed BS degree program in Nutrition. The Department of Nutrition and Food Studies offers a minor in

Nutrition that is related to the proposed degree program. In addition, the Bachelor of Science (BS) degree program in Community Health, housed in the Department of Global and Community is related to the proposed degree program. Both of these departments are located in the College of Health and Human Services.

Both the minor and the concentration focus on community nutrition and education. The proposed BS degree program in Nutrition has a strong basic science, social science, and nutritional science core which will provide students with the optimal foundation for courses in advanced nutrition and food science. In addition, students who choose the Food Systems Concentration or the Food Security and Global Nutrition concentration will acquire deeper knowledge about the food systems and nutrition policies both in the U.S. and globally.

Compromising Existing Degree Programs

The proposed BS degree program in Nutrition will not threaten existing degree programs in the College of Health and Human Services or programs at George Mason University. The proposed program has a different scope from other programs and will attract students specifically interested in gaining the science-focused curriculum offered by the proposed program. No degree programs will be negatively impacted or close as the result of the initiation and operation of the proposed degree program. No degree programs will be compromised or closed as a result of the initiation and operation of the proposed degree program.

Collaboration or Standalone

This is a standalone program. No other organization was involved in its development, and no other organization will collaborate in its operation.

Justification for the Proposed Program

Response to Current Needs (Specific Demand)

Good nutrition is essential for health and well-being, but notable deficiencies exist in terms of inadequate nutritional quality and quantity among populations in the U.S. and worldwide. The proposed BS degree program in Nutrition is needed to respond to the high rates of obesity, rising household food insecurity, and a rapidly changing food environment in which consumers are increasingly interested in an expanding variety of healthy food options that goes beyond nutritional quality to include culture and food industry awareness. The proposed program is also needed to address the shortage of health professionals trained to deal with critical nutrition issues such as obesity and chronic diseases.

Rise in Obesity and Chronic Disease, and the Need for Obesity-related Education and Intervention Programs

Rates of overweight and obese people in the U.S. have reached an epidemic level, with more

than 32 percent of U.S. adults classified as "overweight" and percent classified as "obese."[2] In 2018, adult obesity rates exceeded 35 percent in nine states, 30 percent in 22 states and Puerto Rico, and 25 percent in 17 states. Just 8 years prior, in 2000, there were no states reporting an obesity rate above 25 percent.[3] Obesity can lead to long-term medical needs and contributes rising healthcare costs. The medical costs associated with obesity among U.S. adults have reached an estimated $147 billion.[4]

Virginia is experiencing large increases in the rates of chronic disease and obesity. The CDC estimates that obesity rates in Virginia rose from 19 percent in 2000 to more than 30 percent in 2017, while an estimated 36 percent of the population were categorized as overweight.[5] More than 15 percent of adolescents in Virginia are overweight and 12 percent are obese. Among children 2-4 years old participating in the Women, Infants, and Children (WIC) program, 20 percent are overweight and an additional 20 percent are obese. In fact, the obesity rate among Virginia's WIC participants aged 2-4 years is the highest in the nation.[6] In the Northern Virginia region, adult obesity rates range from 16.7 percent in Arlington County to 31.7 percent in Frederick County as of 2017.[7] Twenty-eight percent of 14-19 year olds in Fairfax County are classified as overweight or obese.[8] In Virginia, annual obesity-attributable expenditures in Virginia have been estimated to be $4 billion.[9]

The connection between obesity and the risk of chronic illnesses is clear. Obesity has been shown to increase the risk of developing chronic diseases, including cancer, heart disease, and diabetes. For example, a 5 kg/m^2 increase in body mass index (BMI) among men is associated with a 52 percent increased risk of developing esophageal cancer and 24 percent risk of colon and liver cancers.[10] Among women, a 5 kg/m^2 increase in body mass index (BMI) is associated with a 59 percent increased risk of developing endometrial and gall bladder cancers. Thus, a focus on obesity prevention and reduction is critical to addressing the rise in chronic diseases. Reducing obesity could save billions of dollars. It was reported by the Trust for America's Health (TFAH), sponsored by the Robert Wood Johnson Foundation (RWJ), "If BMIs were lowered by 5 percent, Virginia could save 7.4 percent in health care costs, which would equate to savings of $18,114,000,000 by 2030."[11]

[2] Obesity and overweight statistics https://www.niddk.nih.gov/health-information/health-statistics/overweight-obesity
[3] Adult Obesity Prevalence Maps https://www.cdc.gov/obesity/data/prevalence-maps.html
[4] Finkelstein EA1, Trogdon JG, Cohen JW, Dietz W. Annual medical spending attributable to obesity: payer-and service-specific estimates. https://www.healthaffairs.org/doi/10.1377/hlthaff.28.5.w822
[5] Virginia State Nutrition, Physical Activity, and Obesity Profile https://www.cdc.gov/nccdphp/dnpao/state-local-programs/profiles/pdfs/virginia-state-profile.pdf
[6] The State of Obesity https://stateofobesity.org/wic/
[7] County Data Indicators https://www.cdc.gov/diabetes/data/countydata/countydataindicators.html
[8] Fairfax County Food Council Community Food Assessment https://www.fairfaxcounty.gov/food-council/sites/food-council/files/assets/documents/pdf/community-food-assessment-report-2015.pdf
[9] Trogdon et al, "State- and payer-specific estimates of annual medical expenditures attributable to obesity", *Obesity*, 20, no. 1 (2012): 214-220.
[10] Long E & Beales ILP, "The role of obesity in esophageal cancer development", *Therapeutic Advances in Gastroenterology*, 7, no. 6 (2014): 247-268
[11] http://healthyamericans.org/reports/obesity2012/?stateid=VA

As obesity and chronic disease are both critical to the discipline of nutrition, one of the primary learning objectives in the proposed BS degree program in Nutrition addresses these concerns by preparing students to apply the fundamentals of human nutrition to promote healthy lifestyles across the lifespan and to prevent and manage chronic diseases. The proposed BS in Nutrition program will equip students with the knowledge and skills needed to assess food and nutritional issues and design and implement interventions aimed at improving food choices and nutritional and health outcomes for individuals and communities in Virginia.

The Commonwealth has noted that the issue of obesity and chronic disease is critical. The Virginia Department of Health has launched a number of initiatives to fight the current trends. Established by the Virginia General Assembly, the Virginia Foundation for Healthy Youth (VFHY) works to encourage children and adolescents to make healthy choices by promoting active, nutritious and tobacco-free living. The Department of Nutrition and Food Studies faculty have received funding from VFHY to conduct collaborative childhood obesity-related research with the Fairfax County Department of Health WIC program. The Department's graduate students have successfully completed internships with various WIC offices in the Northern Virginia region, all of which enhance the curriculum for the proposed program.

Demographic and Economic Factors

Significant population changes are occurring within the U.S. and across Virginia. At the forefront of these changes is the aging population whose care requires a specific knowledge and skillset in nutrition and nutrition intervention. Recent literature notes that "the use of services provided by… dietetics practitioners by the population greater or equal to 65 years is approximately three times higher than that of the rest of the population…. and it is estimated that the number of dietetics-related services demanded by the age cohort of 65 to 74 years in inpatient and outpatient settings is expected to rise approximately 50% by 2020."[12] The proposed program requires students to examine nutritional issues in life-stages, in order to develop the most appropriate programs and policies for each demographic.

In addition to growth among the aging population, demographic shifts are occurring in the growth of minority and immigrant populations. The American Immigration Council states that nearly one in seven Virginians is either Hispanic or Asian.[13] By 2050, it is estimated that Hispanics will make-up one-third of the U.S. population.[14] Such demographic shifts create challenges to developing nutrition programs and interventions which are culturally sound and appropriate. The proposed BS degree program in Nutrition provides coursework and skills aimed at issues related to life stage nutrition, food and culture, food systems, and global nutrition, which are all necessary as such population shifts occur. The Department of Nutrition and Food Studies has had notable success in actively-engaging immigrant communities in Northern Virginia through research, internships, and ongoing collaborations with organizations that work with these communities, all of which enhance the curriculum and skills required for a successful BS in Nutrition program.

[12] Hooker et al., Dietetics Supply and Demand: 2010-2020. https://doi.org/10.1016/j.jand.2011.12.024
[13] https://www.americanimmigrationcouncil.org/research/new-americans-virginia
[14] http://articles.latimes.com/2011/mar/24/nation/la-na-census-hispanic-20110325

An additional driver for the workplace demand of highly qualified nutritionists is the rise in food insecurity in Virginia. Approximately 10 percent of households in the Commonwealth were identified as food insecure in 2014-2016.[15] These changes have led to an increased demand in food supplement programs, increasing the need for nutritionists available to fill positions in programs such as Women, Infants, and Children (WIC), Meals on Wheels, and Supplemental Nutrition Assistance Program (SNAP, formerly Food Stamps). With the growth in rates of food insecurity, obesity, and chronic diseases in poor communities in the Virginia and nationally, these organizations are faced with providing nutrient-dense food, nutrition education, and interventions that allow for sustained healthy diets for individuals and communities.

Two specific government organizations with which the Department of Nutrition and Food Studies has close connections are the Women, Infants, and Children (WIC) program and the Child Nutrition Programs (CNP), both within the Food and Nutrition Service (FNS) of the United States Department of Agriculture (USDA). The USDA requires advanced nutrition education so that its employees are adequately prepared to tackle the complex food and nutritional issues embedded in their mandate. Coursework in the proposed program prepares students to work in such settings.

Food Market and the Broadening Definition of Healthy Eating

Over the years, the nutrition field has seen a broadening definition of healthy eating that goes beyond just nutritional quality. Healthy eating now encompasses environmental and agricultural considerations and an increased understanding of the food system. Consumers want to understand more about how the foods in the market are produced and about sustainable "clean eating." Thus, there has been a strong growth in the organic foods market and farm-to-table initiatives. Organic food sales in the United States rose for approximately $17 billion in 2006 to $36 billion in 2015. [16] A 2017 survey conducted by the International Food Information Council Foundation showed that 50 percent of Americans believe that it is important for food to be produced in a sustainable way and consider how food is produced, where food comes from, and corporate values when making food purchase decisions[17] There are increasing number of initiatives. Therefore, it is projected that there will be significant growth within the food industry and particularly within specialty foods with a focus on sustainability[18]. The proposed BS degree program in Nutrition includes curriculum and an optional concentration in Food Systems to prepare students for more food-focused and related careers within the food industry. Additionally, the curriculum threads both research and practice skills necessary for the greater demand for sustainability and food systems-related research and practice.

Along with changing and increasing demand within the food industry, two major food companies, Nestle and Mars, Inc., have recently moved to the Northern Virginia area, making George Mason University an ideal location for the development of the proposed program. Nestle and Mars, Inc. are leading food and beverage companies and are potential sites for internship and

[15] https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx
[16] https://www.statista.com/statistics/244394/organic-sales-in-the-united-states/
[17] 2017 Food and Health Survey: "A Healthy Perspective: Understanding American Food Values," http://www.foodinsight.org/2017-food-and-health-survey
[18] https://rsmus.com/what-we-do/industries/consumer-products/restaurant/top-trends-in-the-restaurant-industry-to-watch-in-2019.html

job opportunities for the proposed program graduates.[19] In fact, a career ready workforce is now a leading factor that businesses consider in selecting their locations. Other potential employers for the proposed program's career-ready students also include the National Farm to School Network and the food service industry.

Global Nutrition

Overweight and obesity rates continue to rise with the highest rates of obesity recorded in the World Health Organization (WHO) regions: Americas, Pacific Islands, Eastern Mediterranean and Europe. According to the WHO, global obesity rates tripled between 1975 and 2016, and the rates are expected to rise unless effective obesity prevention programs are implemented.[20] Despite the rise in obesity, undernutrition continues to be a public health problem in many countries, especially the middle and low-income countries. These countries experience what has been referred to as the double burden of malnutrition, which is characterized by persistently high rates of infectious disease and undernutrition as well as rising rates of overweight and obesity. The growing global clinical nutrition market reflects rising global nutrition needs. A recent report in businesswire.com showed dramatic projected growth in the global clinical nutrition market. According to the report, the global clinical nutrition market grew from $33.3 billion in 2011 to $37.6 billion in 2014 and is expected to reach $50.9 billion by 2020.[21]

The proposed BS in Nutrition program will provide a curriculum and an optional concentration in Global Nutrition and Food Security to prepare students for more global nutrition-focused careers.

Filling a Gap in Health Workforce

Critical among these needs are health professionals who have the skills to meet the workplace demands concerning nutrition issues such as obesity and chronic diseases, and have the knowledge to make an impact at a local, community, or global level. Most health professionals, community health workers, and health educators and counselors only receive basic nutrition training, and are therefore lacking comprehensive nutrition and food-related knowledge that is needed to develop, implement, and evaluate community and population-based nutrition interventions and nutrition policy. Physicians, nurses, and public health professionals are on the forefront of many nutrition-related problems but unfortunately have limited training in how to create and implement nutritional interventions. They do not receive the specific nutritional training offered in this program.[22,23] The proposed BS degree program in Nutrition, therefore, can complement the training of other health professionals (i.e., nurses, social workers, and rehabilitation scientists) in nutrition as well as in multidisciplinary team management of patient health care.

[19] https://www.washingtonpost.com/business/capitalbusiness/nestle-to-move-us-headquarters-to-arlington-bringing-750-jobs-to-the-region/2017/02/01/0ff6ec34-e40c-11e6-a547-5fb9411d332c_story.html?utm_term=.23c3b018289e

[20] http://www.who.int/mediacentre/factsheets/fs311/en/

[21] Clinical Nutrition Market - Growth and Demand Forecast to 2020 - Key Vendors are Abbott Laboratories, B. Braun Melsungen AG & Nestl SA - Research and Markets
http://www.businesswire.com/news/home/20160303006365/en/Clinical-Nutrition-Market--

[22] http://www.ceph.org/pg_accreditation_criteria.htm

[23] DiMaria-Ghalili et al., Challenges and opportunities for nutrition education and training in the health care professions: intraprofessional and interprofessional call to action. Am J Clin Nutr 2014;99(suppl):1184S–93S

The proposed BS degree program in Nutrition responds to current needs in Virginia. The demand for dietitians and nutritionists in the Commonwealth outweighs the supply, with only 0.4 candidates per job opening.[24] There is significant need in Virginia for an undergraduate program in nutrition that provides students with skills to understand nutrition problems, assess the problems, and develop appropriate interventions that are tailored to community needs, including cultural needs, food environment needs, and life stage needs, and values. Such a program is needed at the undergraduate level for several reasons. First, no undergraduate nutrition degree program is available for prospective students in Northern Virginia. There is also considerable need to improve the nutritional status of individuals and communities in Virginia and in the Northern Virginia region. The proposed BS in Nutrition would provide a means for students to gain knowledge and skills with STEM-based coursework while providing an applied approach that will directly serve the Commonwealth. The proposed program also provides research-intensive coursework supported by George Mason University's Students as Scholars program, allowing students to learn and apply evidence-based research within the local community and the Commonwealth. Lastly, the proposed program provides an option for students to choose from one of three innovative concentrations—Food Systems, Pre-Dietetics, or Food Security and Global Nutrition—all of which will prepare students for professional careers in food and nutrition, and a clear pathway to graduate educational programs for food and nutrition professionals.

Why George Mason University?
George Mason University's state-of-the-art Peterson Family Health Sciences Hall on the main campus in Fairfax will house the proposed degree program's faculty offices, classrooms, and laboratory space. This building includes a showcase nutrition teaching kitchen with capabilities for cooking/food preparation demonstrations and student-focused experiential learning at 12 fully equipped cooking stations. The new building also houses a public health clinic containing equipment for teaching and learning human nutrition assessment techniques. This includes a whole-body, dual energy, x-ray absorptiometry (DXA) machine for body composition analyses, a stationary (Quark RMR) and a portable (Fitmate Pro) metabolic cart for energy expenditure analyses, blood chemistry equipment (Hemocue, Cholestech, Afinion), anthropometric equipment (i.e., bioelectrical impedance), and computers equipped with advanced diet analysis software (Nutrition Data System for Research and Nutritionist Pro). This facility offers students in the proposed degree program a cutting-edge academic and experiential environment.

Employment Demand

Evidence of employment demand comes from three sources: 1) shortage of nutrition-related healthcare workers, 2) analysis of Bureau of Labor Statistics and Commonwealth employment projections, and 3) a sample of advertisements for jobs requiring BS degrees in Nutrition.

[24] https://www.vawc.virginia.gov/vosnet/lmi/profiles/profileSummary.aspx?enc=e7AKr7bjUGRBEdrMte14Ue6r0dcXfMh/ryKFK6i2M7JRojGrOTw1Jri9yNvyh/XllbLZRWh3r5tEccZ9iPpIrw== , Job Source: Online advertised jobs data; Candidate Source: Individuals with active résumés in the workforce system. Accessed 08/19/2019

Only 75% of the demand for the dietetics workforce will be met by the 2020 supply of the Commission on Dietetic Registration (CDR)-credentialed dietetics practitioners. Employment projections in the Bureau of Labor Statistics' Occupational Outlook Handbook (BLS) and the Virginia's Workforce Connection's (VAWC) databases were analyzed as a measure of the viability of the proposed BS program. The Bureau of Labor Statistics (BLS) handbook groups "dietitians" and "nutritionists" into one category.

Bureau of Labor Statistics[25]

Occupation	2018 Estimated Employment	2028 Projected Employment	Total 2018-28 Projected Change	Percent Change
Dietitians and Nutritionists	70,900	78,900	8,000	11%

According to the BLS handbook, 2018-2028 the employment of dietitians and nutritionists is expected to grow "much faster than the average for all occupations."

In the VAWC database, one specific category includes dietitians and nutritionists. The VAWC projects a 1.6% annual average percent growth in demand for dietitians and nutritionists, a rate that is higher than average projected growth for all occupations with the Commonwealth of Virginia. The following shows the long term employment projections for dietitians and nutritionists in the Commonwealth of Virginia:

Virginia Workforce Connection: Occupational Employment & Future Employment Outlook[26]

Occupation	2016 Estimated Employment	2026 Projected Employment	Total Projected Difference	Annual Change
Dietitians and Nutritionists	1,331	1,530	199 people	20 people per year

Furthermore, according to the VAWC, the demand for dietitians and nutritionists in the Commonwealth of Virginia outweighs the supply, with only 0.4 candidates per job opening.[27]

See Appendix D for employment announcements.

Student Demand

[25] https://www.bls.gov/ooh/healthcare/dietitians-and-nutritionists.htm#tab-6

[26] https://virginiaworks.com/occupational-projections?page79862=1&size79862=12&page80257=1&size80257=12&page81630=1&size81630=12&search79862=dietitian%20and%20nutritionist#Long-Term-Occupational-Virginia-2016-2026-Projections-2536

[27] https://www.vawc.virginia.gov/vosnet/lmi/profiles/profileSummary.aspx?enc=e7AKr7bjUGRBEdrMte14Ue6r0dcXfMh/ryKFK6i2M7JRojGrOTw1Jri9yNvyh/XllbLZRWh3r5tEccZ9iPpIrw== , Job Source: Online advertised jobs data; Candidate Source: Individuals with active résumés in the workforce system. Accessed 08/27/2019

George Mason University evaluated student demand for the proposed BS degree program in Nutrition from two student surveys.

See Appendices E and F for original surveys. Results are included as a separate document behind the survey.

STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA
SUMMARY OF PROJECTED ENROLLMENTS IN PROPOSED PROGRAM

Projected enrollment:

Year 1		Year 2		Year 3		Year 4 **Target Year (2-year institutions)**			Year 5 **Target Year (4-year institutions)**		
2020 - 2021		2021 - 2022		2022- 2023		2023 - 2024			2024 - 2025		
HDCT 30	FTES 29	HDCT 56	FTES 54	HDCT 81	FTES 79	HDCT 86	FTES 84	GRAD ____	HDCT 91	FTES 89	GRAD 20

Assumptions:
65% Retention
80% Full-time students 20% Part-time students
Full-time students taking 16 credit hours
Part-time students taking 9 credit hours
Full-time students graduating in 4 years
Part-time students graduating in 6 years

Duplication

The proposed program will be unique in the Commonwealth in its focus on the basic principles of nutrition and its inclusion of concentrations that link with the growing market demand in food- and nutrition-related disciplines. No similar undergraduate program exists within the Northern Virginia region. Additionally, the program will provide skills and knowledge in the research process which are threaded throughout the curriculum. Other academic programs or departments at Virginia institutions offering undergraduate degrees or concentrations related to nutrition focus on dietetics and do not embrace the broader food related aspects, nor do these programs address the research and community skills now needed for those who are not able to pursue a clinical practice route.

The proposed program is also the only BS degree program in Nutrition that is specific to improving nutrition within the community and incorporates food systems, food ways, global nutrition, and undergraduate research within the curriculum. No institutions in Virginia provide a similar BS in Nutrition degree incorporating all of these components.

All of the related degrees in Virginia do offer a dietetics curriculum which is included in the proposed program as added value. Including the dietetics competencies as prescribed by ACEND within the nutrition major and nutrition science major science cores of the proposed degree program ensures that students will receive the accepted and necessary courses approved by the major professional oversight organization in nutrition. Students who select to complete the Pre-Dietetics concentration will have the option to pursue post-graduate Registered Dietitian Nutritionist (RDN) opportunities leading to a Registered Dietitian Nutritionist credential.

Five public institutions in Virginia offer bachelor's degrees with related content. However, no bachelor's nutrition degree program is available for prospective students in Northern Virginia. The following universities offer programs or concentrations in the field of nutrition: James Madison University (JMU), Norfolk State University (NSU), Radford University, Virginia Polytechnic Institute and State University (Virginia Tech), and Virginia State University (VSU).

James Madison University (JMU)
James Madison University offers a 112-credit Bachelor of Science (BS) degree program in Dietetics. The program will prepare graduates for supervised practice to become a Registered Dietitian Nutritionist in clinical, community, and foodservice areas.

Similarities
Both the proposed program and the JMU program offer the science and nutrition science courses required by the Academy of Nutrition and Dietetics in their core.

Differences
The JMU program offers no concentrations. The proposed program offers three concentrations. The JMU program requires professional courses such as two courses in Clinical Nutrition, a course in Mass Food production, a course in Management in Nutrition, a counseling course, a course in medical terminology, and a field experience in dietetics. In the proposed program the management courses are a requirement in the Pre-Dietetics concentration, and students have the option to take a counseling course as an elective. The proposed program requires a broader range of nutrition courses such as Food Systems, Nutrition Education, a Food and Culture course, Food Chemistry, and Epidemiology. Students in the proposed program have the option to customize their program with a wide range of electives.

Norfolk State University (NSU)
Norfolk State University offers a 123-credit Bachelor of Science (BS) degree program in Health Services Management with a Food Science & Nutrition concentration. The program prepares students to compete nationally for an ACEND accredited supervised practice program, and ultimately sit for the Commission for Dietetics Registration (CDR) credentialing examination to become a registered dietitian nutritionist.

Similarities
Both the proposed program and the NSU program offer science and nutrition science courses in their core.

Differences
The NSU program only offers the didactic program preparing students for the RDN internship. The proposed program does not offer the full didactic program but offers three concentrations. The NSU program includes courses such as two courses in Clinical Nutrition, a course in Mass Food production, a course in Nutrition Management , a counseling course, a course in medical terminology, and a practical experience in dietetics. In the proposed program the management courses are a requirement in the Pre-Dietetics concentration, and students have the option to take a counseling course as an elective. The proposed program requires a broader range of nutrition courses such as Food Systems, Nutrition Education, a Food and Culture course, Food Chemistry, and Epidemiology. Students in the proposed program who have no interest to become an RDN have the option to customize their program with a wide range of electives.

Radford University
Radford University offers a 123-credit Bachelor of Science (BS) degree program in Foods and Nutrition. The Didactic Program in Nutrition and Dietetics (DPD) is designed to prepare students for supervised practice leading to eligibility for the Commission on Dietetic Registration (CDR) credentialing exam to become Registered Dietitian Nutritionists (RDN).

Similarities
Both the proposed program and the Radford program offer science and nutrition science courses in their core. Both programs offer courses in Food Composition.

Differences
The Radford University program offers no concentrations while the proposed program offers 3 concentration. The Radford University program requires a larger number of professional courses in the core such as two courses in food service management and two courses in medical nutrition, two courses in nutrition counseling, a course in nutrition career development and a course in medical terminology as well as a field experience in dietetics. In the proposed program the management courses are part of the pre-dietetics concentration and students can chose a counseling course as an elective. The proposed program provides a range of nutrition courses that cover Food Systems, Nutrition Policy and Experimental Nutrition. Students in the proposed program have more flexibility to customize their program with a broad range of elective courses.

Virginia Polytechnic Institute and State University (Virginia Tech)
Virginia Tech offers a 120-credit Bachelor of Science (BS) degree program in Human Nutrition, Foods and Exercise with two options: 1) A dietetics program which prepares graduates for a dietetics supervised practice program, graduate study, and employment through academic training in an interdisciplinary environment of human nutrition, foods, exercise, and extension; and 2) a Science of Food, Nutrition and Exercise (SFNE) program, which prepares students for graduate work in nutrition, exercise physiology, or related sciences. The SFNE option also serves as an entry degree for medical, dental, physician assistant, and physical therapy programs.

Similarities
Both the Virginia Tech program and the proposed program offer students offer science and nutrition science courses in their core. Both programs require and introduction to food science

course. Both the Virginia Tech SFNE program and the proposed program include basic sciences courses in chemistry and biology.

Differences
The Virginia Tech program requires three courses in psychology, two courses in medical nutrition therapy, a course in nutrition and exercise and three management courses. The proposed program does not offer courses in nutrition and exercise or medical nutrition therapy. The management courses are part of the pre-dietetics concentration and students will have the option of taking psychology courses as electives. To prepare students for graduate studies and preparation for medical, dental and physical therapy programs, Virginia Tech's SFNE option has a stronger focus on basic sciences such as physics, genetics and molecular biology, immunology. There is no specific focus on nutrition and only a fundamental nutrition course is required. The program requires several scientific writing courses. The proposed program does not require scientific writing courses.

Virginia State University (VSU)
VSU offers a 121-Bachelor of Science (BS) degree program in Family and Consumer Sciences with a concentration in Dietetics. The focus of the VSU program is to prepare students for the dietetics internship that is required to be eligible to become a Registered Dietitian Nutritionist (RDN).

Similarities
Both the VSU program and the proposed program offer students science and nutrition science courses in their core.

Differences
The VSU program requires a course in business and meal management as well as two courses in medical nutrition therapy, human resources management and a course in counseling. The program does not provide concentrations. In the proposed program the management courses are included in the pre-dietetics concentration and students can select a counseling course as an elective. The proposed program provides a broader range in nutrition courses and includes food studies courses such as experimental nutrition, food systems, taste and place, fundamentals of cooking which can be expanded by a broad range of choices as elective courses.

Enrollments and Degrees Awarded at Comparable Programs

Enrollments	**Fall 2014**	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
James Madison University	134	118	138	144	128
Norfolk State University	146	150	165	192	164
Radford University	80	78	72	60	55
Virginia State University	111	86	91	81	85
Virginia Tech	966	1,009	946	904	966
Degrees Awarded	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
James Madison University	25	21	20	27	27
Norfolk State University	30	44	43	38	38
Radford University	12	12	9	14	16

Virginia State University	28	22	20	18	17
Virginia Tech	247	252	276	277	269

Projected Resource Needs for the Proposed Program

Resource Needs

George Mason University and the Department of Nutrition and Food Studies have the resources necessary to launch and sustain the proposed BS in Nutrition program. The Department currently has seven full-time faculty, and it will have the faculty, staff, equipment, space, and library resources to launch and maintain the proposed program. The following categories detail the resources required to operate the program from its initiation in the Fall 2020 semester through the target year 2024-2025. Assessments of need for full-time faculty, part-time faculty, and adjunct faculty are based on the following ratio of student enrollment to faculty effort: 18.0 FTE of student enrollment requires 1.0 FTE faculty for instruction. The proposed program will, therefore, require 1.50 FTE of instructional effort to launch increasing to 3.25 FTE by the target year of 2024-2025.

Full-time Faculty
The proposed program will require 1.0 FTE of full-time instructional effort to launch, increasing to 2.0 FTE by the target year. The Dean of the College of Health and Human Services has committed resources for one additional full-time faculty member, who will be available to teach in the proposed program in Fall 2020. The new faculty member will be hired at the rank of Assistant Professor with a salary of $80,000 and benefits of $27,120 for a total cost of $107,120. One additional faculty member will be hired before the target enrollment year to devote full-time to the proposed program. The full-time faculty will be hired at $80,000 per faculty member plus $27,120 benefits for a total cost of $107,120. The total cost for full-time faculty will be $214,240 by target year 2024-2025.

Adjunct Faculty
One adjunct faculty member (0.25 FTE) currently teaching in the Department of Nutrition and Food Studies will be required to initiate the proposed program. Adjunct faculty effort will increase to 1.00 FTE by the target year 2024-2025. Adjunct faculty in the College of Health and Human Services are paid from $1,111 to $1309 per credit hour. The cost for adjunct salary in the initial year will be $8712 plus $636 fringe rising to $34,848 in adjunct salary and $2,544 fringe for a total expense of $37,392 by the target year, 2024-2025.

Graduate Assistants
No graduate assistants are required to initiate or sustain the proposed program.

Classified Positions
An existing classified staff member in the Department of Nutrition and Food Studies will devote .20 FTE to the proposed program. Salary for this effort will be $10,123 with an additional $4,616 in benefits for a total expense of $14,739 for classified staff.

Targeted Financial Aid
No targeted financial aid will be offered for the proposed program.

Equipment
A new computer with an estimated cost of $2,000 will be required to support each new faculty member.

Library
The proposed program will not require any additional library resources.

Telecommunications
No new telecommunication costs are projected.

Space
No additional space is required to initiate or sustain the proposed program.

Other Resources
No additional resources are required to initiate or sustain the proposed program.

Resources Needs: Part A – D

Part A: Answer the following questions about general budget information.

- Has the institution submitted or will it submit an addendum budget request to cover one-time costs? Yes ___ No ___
- Has the institution submitted or will it submit an addendum budget request to cover operating costs? Yes ___ No ___
- Will there be any operating budget requests for this program that would exceed normal operating budget guidelines (for example, unusual faculty mix, faculty salaries, or resources)? Yes ___ No ___
- Will each type of space for the proposed program be within projected guidelines? Yes ___ No ___
- Will a capital outlay request in support of this program be forthcoming? Yes ___ No ___

Part B: Fill in the number of FTE and other positions needed for the program

	Program Initiation Year		Expected by Target Enrollment Year	
	2020- 2021		2024- 2025	
	On-going and reallocated	Added (New)	Added (New)***	Total FTE positions
Full-time faculty FTE*		1.00	1.00	2.00
Part-time faculty FTE**	0.25	0.00		0.25
Adjunct faculty	0.25		0.75	1.00
Graduate assistants (HDCT)				0.00
Classified positions	0.20			0.20
TOTAL	0.70	1.00	1.75	3.45

*Faculty dedicated to the program. **Faculty effort can be in the department or split with another unit.

*** Added **after** initiation year

Part C: Estimated resources to initiate and operate the program				
	Program Initiation Year		Expected by Target Enrollment Year	
	2020- 2021		2024- 2025	
Full-time faculty	0.00	1.00	1.00	2.00
salaries		$80,000	$80,000	$160,000
fringe benefits		$27,120	$27,120	$54,240
Part-time faculty (faculty FTE split with unit(s))	0.25	0.00	0.00	0.25
salaries	$24,500			$24,500
fringe benefits	$8,305			$8,305
Adjunct faculty	0.25	0.00	0.75	1.00
salaries	$8,712		$26,136	$34,848
fringe benefits	$636		$1,908	$2,544
Graduate assistants	0.00	0.00	0.00	0.00
salaries				$0
fringe benefits				$0
Classified Positions	0.20	0.00	0.00	0.20
salaries	$10,123			$10,123
fringe benefits	$4,616			$4,616
Personnel cost				
salaries	$43,335	$80,000	$106,136	$229,471
fringe benefits	$13,557	$27,120	$29,028	$69,705
Total personnel cost	$56,892	$107,120	$135,164	$299,176
Equipment		$2,000	$2,000	$4,000
Library				$0
Telecommunication costs				$0
Other costs				$0
TOTAL	**$56,892**	**$109,120**	**$137,164**	**$303,176**

Part D: Certification Statement(s)

The institution will require additional state funding to initiate and sustain the proposed program.

____ Yes _____
Signature of Chief Academic Officer

_X___ No _____
Signature of Chief Academic Officer

Please complete Items 1, 2, and 3 below.

1. Estimated $$ and funding source to initiate and operate the proposed program.

Funding Source	Program initiation year 2020 - 2021	Target enrollment year 2024 - 2025
Reallocation within the department *(Note below the impact this will have within the department.)*		
Reallocation within the school or college *(Note below the impact this will have within the school or college.)*	$166,012	
Reallocation within the institution *(Note below the impact this will have within the institution.)*		
Other funding sources *(Specify and note if these are currently available or anticipated.)*	$	$137,164

2. Statement of Impact/Funding Source(s). A separate detailed explanation of funding is required for each source used and a statement of impact on existing resources.

Reallocation within the school or college
The College of Health and Human Services (CHHS) will reallocate resources to support the initiation of the proposed program. The costs for the new hire, the part-time faculty support, and equipment costs to initiate the proposed program, totaling $139,925, will be accommodated through reallocation of the CHHS budget. The costs for adjunct faculty, totaling $9,348, will be accommodated through reallocation of CHHS' budget for adjunct faculty. The costs for classified support, totaling $14,739, will be accommodated through reallocation of time and responsibilities for existing personnel. It is estimated that a total of $166,012 will be needed to initiate the proposed program. The reallocation of resources will have minimal impact on academic programs in CHHS or the College's resources.

Other funding sources
Funds from tuition revenue will be used support the growth of the proposed degree program. Student costs are based on credit hour enrollment and residency status. In-state per credit hour costs are $677.50 and out-of-state per credit hour costs are $1,655. The total program tuition costs will be $81,300 to $198,600. The reallocation of tuition is sufficient to support the proposed program. The reallocation will not negatively affect the budgets of any other program in the department or college.

3. Secondary Certification.
If resources are reallocated from another unit to support this proposal, the institution will **not** subsequently request additional state funding to restore those resources for their original purpose.

__X__ Agree _____
Signature of Chief Academic Officer

_____ Disagree _____
Signature of Chief Academic Officer

Appendices

Appendix A –Sample Plan of Study

Full-Time Students

Year	Fall Semester	Spring Semester
Freshman	ENGH 101: Composition (3 credits) BIOL 213: Cell Structure and Function (4 credits) CHEM 211: General Chemistry I (3 credits) CHEM 213: General Chemistry Lab I (1 credit) Mason Core Arts Course (3 credits)	CHEM 212: General Chemistry II (3 credits) CHEM 214: General Chemistry Lab II (1 credit) NUTR 295: Introduction to Nutrition (3 credits) STAT 250: Introduction to Statistics (3 credits) Mason Core Literature Course (3 credits) GCH 205: Global Health (3 credits)
Sophomore	Mason Core Information Technology(3 credits) BIOL 425: Human Physiology I (3 credits) CHEM 313: Organic Chemistry I (3 credits) Mason Western Civilization Core Course (3 credits) BIOL 483: General Biochemistry (4 credits)	Mason Social Science Core Course (3 credits) NUTR 312: Experimental Foods (3 credits) NUTR 313: Experimental Foods Lab (1 credit) ENGH 302: Advanced Composition (3 credits) GCH 300: Introduction to Public Health (3 credits) NUTR 315: Fundamentals of Cooking (3 credits)
Junior	NUTR 383: Taste and Place (3 credits) NUTR 423: Nutrition and Chronic Disease (3 credits) NUTR 440: Nutrition Policy (3 credits NUTR 442: Advanced Nutrition I (3 credits Elective (3 credits)	GCH 412: Fundamentals of Epidemiology (3 credits) NUTR 330: Food Composition (3 credits) NUTR 421: Community Nutrition (3 credits) NUTR 422: Nutrition Throughout the Life Cycle (3 credits)
Senior	NUTR 326: Food Systems (3 credits) NUTR 420: Nutrition Education (3 credits) NUTR 444: Advanced Nutrition II (3 credits) NUTR 451: Nutrition Assessment (3 credits) Elective (3 credits)	NUTR 495: Nutrition and Food Studies Capstone (3 credits) Restricted Elective (1 credit) Elective (3 credits) Elective (3 credits) Elective (3 credits)

Credit Hours – Freshman – Fall Term	___14__
Credit Hours – Freshman – Spring Term	___16__
Credit Hours – Sophomore – Fall Term	___16__
Credit Hours – Sophomore – Spring Term	___16__
Credit Hours – Junior – Fall Term	___15__
Credit Hours – Junior – Spring Term	___12__
Credit Hours – Senior – Fall Term	___15__
Credit Hours – Senior – Spring Term	___13__
TOTAL CREDIT HOURS	__120___

Part-Time Students

Year	Fall Semester	Spring Semester
Freshman	ENGH 101: Composition (3 credits) CHEM 211: General Chemistry I (3 credits) CHEM 213: General Chemistry Lab I (1 credit)	CHEM 212: General Chemistry II (3 credits) CHEM 214: General Chemistry Lab II (1 credit) BIOL 213: Cell Structure and Function (4 credits)
	NUTR 295: Introduction to Nutrition (3 credits) Mason Core Arts Course Elective (3 credits) STAT 250: Introduction to Statistics (3 credits)	Mason Core Literature Course Elective (3 credits) GCH 205: Global Health (3 credits) CHEM 313: Organic Chemistry I (3 credits)
Sophomore	BIOL 425: Human Physiology I (3 credits) BIOL 483: General Biochemistry (4 credits)	Mason Social Science Core Course Elective (3 credits) NUTR 312: Experimental Foods (3 credits) NUTR 313: Experimental Foods Lab (1 credit)
	Mason Western Civilization Core Course Elective (3 credits) ENGH 302: Advanced Composition (3 credits) NUTR 315: Fundamentals of Cooking (3 credits)	Mason Core Information Technology Elective (3 credits) Elective (3 credits) NUTR 421: Community Nutrition (3 credits)
Junior	NUTR 383: Taste and Place (3 credits) NUTR 423: Nutrition and Chronic Disease (3 credits) NUTR 420: Nutrition Education (3 credits)	GCH 412: Fundamentals of Epidemiology (3 credits) NUTR 422: Nutrition Throughout the Life Cycle (3 credits) GCH 300: Introduction to Public Health (3 credits)
	NUTR 442: Advanced Nutrition I (3 credits) NUTR 440: Nutrition Policy Elective (3 credits)	NUTR 330: Food Composition (3 credits) Elective (3 credits) Restricted Elective (1 credit)
Senior	NUTR 326: Food Systems (3 credits) NUTR 444: Advanced Nutrition II (3 credits) NUTR 451: Nutrition Assessment (3 credits)	NUTR 495: Nutrition and Food Studies Capstone (3 credits) Elective (3 credits) Elective (3 credits)

Credit Hours – Freshman – Fall Term ___7__

Credit Hours – Freshman – Spring Term	___8__
Credit Hours – Freshman – Fall Term II	___9__
Credit Hours – Freshman – Spring Term II	___9__
Credit Hours – Sophomore – Fall Term	___7__
Credit Hours – Sophomore – Spring Term	___7__
Credit Hours – Sophomore – Fall Term II	___9__
Credit Hours – Sophomore – Spring Term II	___9__
Credit Hours – Junior – Fall Term	___9__
Credit Hours – Junior – Spring Term	___9__
Credit Hours – Junior – Fall Term II	___9__
Credit Hours – Junior – Spring Term II	___7__
Credit Hours – Senior – Fall Term	___9__
Credit Hours – Senior – Spring Term	___9__
TOTAL CREDIT HOURS	__120___

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Appendix B – Course Descriptions

New courses are denoted with an asterisk.

Core Courses

Mason Core (General Education) Requirements
BIOL 213: Cell Structure and Function (4 credits)
Introduction to cell chemistry, metabolism, and genetics.

COMM 100: Public Speaking (3 credits)
Presents principles to develop effective presentations for public and professional settings while integrating appropriate technologies. Emphasizes analyzing audience; composing meaningful, coherent messages; conducting responsible research; developing effective arguments; and improving delivery skills to strengthen confidence and credibility.

COMM 101: Interpersonal and Group Interaction (3 credits)
Presents principles to develop appropriate and effective communication strategies in one-to-one and small group communication settings. Emphasizes analyzing and assessing communication skills to create and sustain effective communication in personal and professional relationships.

ENGH 101: Composition (3 credits)
Intensive practice in drafting, revising, and editing expository essays of some length and complexity. Studies logical, rhetorical, and linguistic structure of expository prose. Methods and conventions of preparing research papers.

ENGH 302: Advanced Composition (3 credits)
Intensive practice in writing and analyzing expository forms such as essay, article, proposal, and technical or scientific reports with emphasis on research related to student's major field.

GCH 205: Global Health (3 credits)
This course examines the biological and social aspects of major international health issues, especially in the areas of infectious disease, nutrition, and environmental health. Other topics include population groups with special risks, policies and programs designed to reduce health inequalities, and basic methods used to study global health.

NUTR 295: Introduction to Nutrition (3 credits)
Introduces students to nutrition as a scientific discipline, providing a working knowledge of basic nutrition including the sources and functions of the nutrients, the components of a healthy diet, and the relationship between diet and overall health. Students will learn about the processes of digestion, absorption, and metabolism of nutrients, and several hot topics in the field of nutrition.

NUTR 495: Nutrition and Food Studies Capstone (3 credits)
Students will integrate and apply skills and knowledge learned across the curriculum to conduct research on current food and nutrition-related issues, in order to develop new food and nutrition knowledge.

STAT 250: Introduction to Statistics (3 credits)
Elementary introduction to statistics. Topics include descriptive statistics, probability, and estimation and hypothesis testing for means and proportions. Statistical software used for assignments.

Program Core

BIOL 425: Human Physiology I (3 credits)
Organ system approach to study of homeostasis, including cardiovascular, respiratory, renal, digestive, endocrine, and nervous system functions.

BIOL 483: General Biochemistry (4 credits)
Structure and function of proteins, carbohydrates, and lipids. Enzymology, and metabolism and its control.

CHEM 463: General Biochemistry (4 credits)
Brief introduction to biochemistry, followed by in-depth look at amino acids and proteins, 3-D structure, folding and dynamics, their specialized function, and primary metabolism. Emphasizes enzymes and their chemical mechanisms, and metabolism.

CHEM 211: General Chemistry I (3 credits)
Fundamental principles of atomic and molecular structure; chemical bonding; basic concepts of chemical reactions and thermochemistry; properties of gases, liquids, and solids.

CHEM 212: General Chemistry II (3 credits)
Fundamentals of colligative properties, reaction rates and equilibrium. Topics Include kinetics, properties of solutions, ionic equilibrium, chemical thermodynamics, electrochemistry, and nuclear chemistry.

CHEM 213: General Chemistry Lab I (1 credit)
General Chemistry laboratory course for students majoring in science, engineering, or mathematics. Laboratory experience will demonstrate general chemistry principles and applications.

CHEM 214: General Chemistry Lab II (1 credit)
General Chemistry laboratory course for students majoring in science, engineering, or mathematics. Laboratory experience will demonstrate general chemistry principles and applications.

CHEM 313: Organic Chemistry I (3 credits)
Theoretical, synthetic, industrial, and biological aspects of the chemistry of carbon compounds.

GCH 300: Introduction to Public Health (3 credits)
Explores the principles and foundations of public health and its practice in the United States. Emphasizes the public health system's contributions to improving individual, community, and population health.

GCH 412: Fundamentals of Epidemiology (3 credits)
Explores health research methods for measuring population health, designing and implementing observational and experimental studies, reading health science publications, and applying research findings to global and community health.

NUTR 312: Experimental Foods* (3 credits)
Introduces the composition and structure of food through exploration of chemical, physical, nutritional, sensory and safety aspects, with emphasis on how these aspects relate to food preparation methods.

NUTR 313: Experimental Foods Lab* (1 credit)
Explores the chemical, physical, nutritional, sensory, and safety aspects of food through hands-on food preparation labs.

NUTR 315: Fundamentals of Cooking (3 credits)
Exposes students to the fundamental concepts of food and its preparation. Students will learn and experience culinary basics, including knife skills, mother sauces, basic cooking techniques, function of ingredients, food safety, and chemical and physical transformation of food during cooking and storage.

NUTR 326: Food Systems (3 credits)
Taking a systems approach, this course provides an overview of the food system from production through consumption and waste. Students will consider the complexity of issues confronting the creation of just and sustainable food systems and access to healthy food for all.

NUTR 330: Food Composition* (3 credits)
Explores the nutritional, functional, structural, and undesirable components in food, with a primary focus on the selection and use of food composition tables to obtain this data. Factors impacting food composition will be discussed, including agricultural, manufacturing, and biotechnologies.

NUTR 383: Taste and Place (3 credits)
Examines how dietary patterns have developed and evolved in specific geographic locations. Students will analyze the role of geography, history, politics, culture and taste as essential elements in distinctive local, regional, and national foodways.

NUTR 420: Nutrition Education (3 credits)
Examines methods and techniques for educating individuals about nutrition. Addresses nutrition education issues from variety of populations with respect to culture, age, religion, and specific disease states.

NUTR 421: Community Nutrition (3 credits)
Focuses on nutrition and health problems of specific community settings, and examines practices of nutrition services in various communities.

NUTR 422: Nutrition Throughout the Life Cycle (3 credits)
Focuses on nutrient needs and food habits throughout life cycle. Emphasizes nutrient needs prior, during, and after pregnancy, and nutritional requirements of infants, children, adolescents, adults, and elderly.

NUTR 423: Nutrition and Chronic Disease (3 credits)
Examines nutrient needs related to specific chronic illnesses, including cardiovascular disease, cancer, obesity, and diabetes. Focuses on principles of nutritional therapy and prevention

NUTR 440: Nutrition Policy* (3 credits)
Explores U.S. and international food and nutrition policies and programs. It is intended for undergraduate students who are interested in an in-depth analysis of policy related approaches to improving nutritional status within populations in the U.S. and around the world.

NUTR 442: Advanced Nutrition I* (3 credits)
Explores the biological roles of the macronutrients through application of advanced nutritional concepts relating to digestion, absorption and metabolism of carbohydrates, proteins and lipids. Practical implications in the diet are emphasized.

NUTR 444: Advanced Nutrition II* (3 credits)
Examines the biological roles of the micronutrients through application of advanced nutritional concepts relating to digestion, absorption, transport and metabolism of vitamins and minerals. Practical implications in the diet are emphasized.

NUTR 451: Nutrition Assessment (3 credits)
Introduces students to methods and tools used in assessing individuals' nutritional status. Methods of interpretation of nutrition-related information will be examined.

Restricted Electives

UNIV 320: Internship and Career Readiness (1 credit)
This course helps students confirm major/career choices and actively pursue internships, research assistantships, and other career-related experiences. With a focus on career readiness, students prepare a resume and cover letter, practice interviewing techniques, and conduct career research.

UNIV 370: Special Topics (1 credit)
Notes: May be repeated when topic is different.

UNIV 371: Dimensions of Well-Being (1 credit)
Introduces students to the terminology and basic science of well-being. Students will learn about evidence-based practices to cultivate resilience, optimism, mindfulness, and happiness. Practical application assignments will give students a chance to experiment with building a lifestyle to promote greater well-being. The course also addresses community and national well-being and the shared responsibilities of enhancing well-being in our society.

UNIV 420: College to Career (1 credit)
This course supports second semester juniors and seniors with transitioning into the professional workplace. Students develop a tailored resume and cover letter, refine their interviewing skills, and discuss important workforce issues, such as compensation packages and workplace dynamics.

UNIV 421: College to Graduate School (1 credit)
This course supports second semester juniors and seniors. The academic emphasis is on transition readiness for graduate or professional school. Students learn about application and testing options and strategies, interviewing skills, budgeting, and career development.

UNIV 490: Critical Decisions in Postgraduate Transitions (1 credit)
This course guides and supports students through the postgraduate fellowship application process and postgraduate decisions. Students create a resume, complete a fellowship application, prepare for a scholarship interview, and refine their educational and career goals.

UNIV 491: Students as Scholars Individualized Scholarly Experience. 0-9 credits.
Students actively participate in the process of scholarship and make a significant contribution to the creation of scholarly, research, or creative project. Students meet regularly with their project mentor, make satisfactory progress towards the completion of the project, and create a disciplinary product for evaluation.

UNIV 495: Undergraduate Research Scholars Program Seminar. 0-1 credits.
Students accepted into Undergraduate Research Scholars Program participate in a weekly seminar, hold regular meetings with their project mentor, and make satisfactory progress on their research or creative project. At the end of the semester, students either complete their project and present the results in a professional context, or apply for continuation through UNIV 496.

Concentration Areas

Food Systems Concentration
Core Courses
NUTR 318: Global Nutrition and Food Security* (3 credits)
An overview of the major concepts and perspectives of food security at the local, regional, and global levels. Explore and apply the definitions, means of measurement, and policy implications of food security from a multidisciplinary approach.

INTS 371: Food Systems and Policy (3 credits)
Examines the roles of individuals, corporations, and government in creating and communicating food policy. Students explore the rationale and rhetoric of U.S. agriculture, food production and the environment, food and beverage processing, food safety and labeling, food sales and marketing, dietary guidance, and federal food assistance programs.

Restricted Electives
BIOL 385: Biotechnology and Genetic Engineering (3 credits)

Emphasizes theory and applications, including significance and societal implications of biotechnology applied to medicine, agriculture, and environment.

EVPP 442: Urban Ecosystems and Processes (3 credits)
Provides an overview of the challenges and opportunities that urban environments present to the plants and animals inhabiting cities and the ways that those organisms and entire ecosystems respond. Includes ecosystem ecology for engineered ecosystems, along with reviews of urban metabolism, energy budgets, water cycles, and soil ecology. Students design and conduct a small-scale green infrastructure experiment/project on campus.

INTS 370: Sustainable Food Systems (6 credits)
Examines the evolution of U.S. food systems with particular emphasis on the national capital region. Students place conventional agriculture and food systems in historical context; examine changing representations of food systems in film, literature, and other media; and research alternative systems that emphasize sustainability. Through a combination of classroom work and experiential learning, this course asks students to contemplate how capitalism, industrialization, and environmental ethics shape our land, culture, and society.

MKTG 303: Principles of Marketing (3 credits)
Examines marketing principles and practices for analyzing, creating, delivering, capturing, and communicating value to customers. Focuses on managing customer relationships using market-driven strategies, particularly segmentation, targeting, and positioning. The role of customer satisfaction in achieving organizational objectives and ethical decision making in a global economy are also emphasized.

NUTR 410*: Food Safety and Defense* (3 credits)
Examines the critical roles that food safety and food defense have on the food supply in the U.S. and globally. Students will explore common foodborne illnesses, their causes and their means of control from both a scientific and policy perspective. Students also will gain an understanding of basic food safety practices in both commercial food production and in home food preparation.

NUTR 435: Urban Agriculture (3 credits)
Introduces students to the opportunities, limits, and barriers of growing food in cities. Utilizing case studies from the area and around the globe, students will study the social, historical, political, environmental, and practical aspects urban agriculture.

PHIL 243: Global Environmental Ethics
Examines the global dimensions of environmental problems. Although environmental problems are global in reach, because different societies make different philosophical and ethical assumptions, they are understood in different ways. Examines several environmental problems, including climate change, population growth, and resource depletion, from a variety of scientific, policy, and cross-cultural perspectives.

PHIL 358: Ethics and Economics (3 credits)
Examines issues at the intersection of ethics and economics. Looks at the different ways in which ethics and economics impact each other.

Food Security and Global Nutrition Concentration

Core Courses

NUTR 318: Global Nutrition and Food Security* (3 credits)
An overview of the major concepts and perspectives of food security at the local, regional, and global levels. Explore and apply the definitions, means of measurement, and policy implications of food security from a multidisciplinary approach.

NUTR 410*: Food Safety and Defense* (3 credits)
Examines the critical roles that food safety and food defense have on the food supply in the U.S. and globally. Students will explore common foodborne illnesses, their causes and their means of control from both a scientific and policy perspective. Students also will gain an understanding of basic food safety practices in both commercial food production and in home food preparation.

Restricted Electives

ANTH 366: Food and Human Evolution (3 credits)
Explores the relationship between diet and human adaptation from biological, archaeological, cultural, and evolutionary perspectives. Examines how humans are unique in our ability to find and process a wide range of foods. Introduces agriculture as a co-evolutionary strategy between humans and other species.

ANTH 376: Food and Culture (3 credits)
Examines a variety of experiences through foods, which bring not only nutritional but also sociocultural debates to our table (e.g. identity, memory, senses, ethnicity, gender, geopolitics, climate change, and globalization). Focuses on both Western and non-Western cultures.

CEIE 100: Environmental Engineering around the World (3 credits)
Society's relationship with the environment is: (1) fundamental to its success; (2) complex, involving economics, finance, law, culture, religion, politics, education, science, technology, and engineering; (3) widespread, often with impacts not just locally but regionally, nationally or globally; and (4) constantly changing with potentially enormous short-term and long-term benefits and costs that may be in conflict. This relationship can drive a society to thrive or decline. Humans today have unprecedented ability to affect the environment both locally and globally, and to be affected by it. Technology and engineering are key drivers in society's efforts to manage our environment. This course will examine the history of various societies' interactions—including our own—with the environment; explore our ability to affect the environment—in small and enormous ways—through modern science, technology and engineering; and foster debate on today's critical environmental issues.

CONF 101: Conflict in our World (3 credits)
Brief history of field, survey of key conflict resolution themes and theories, and intervention methods. Overview includes general factors of conflict and its resolution; and nature of conflict in interpersonal, group, organizational, and international situations.

ECON 385: International Economic Policy (3 credits)
Introduces economic way of thinking on trade and international finance. Presents historical and current information on consequences of trade and protectionism. Notes: May not be applied toward the elective course requirement needed for a major or minor in economics.

GGS 110: Introduction to Geoinformation Technologies.
This course introduces students to basic geoinformation technology concepts and applications. Students learn about and apply spatial data collection analytic tools and methods, including geographic information systems, and web-based map developments. Lectures examine social trends, ethical issues including privacy state of the art technological research and developments of geoinformation technologies in industry, government, education, and everyday life.

GGS 103: Human Geography (3 credits)
Overview of major ideas and approaches to studying spatial aspects of human social and behavioral systems. Surveys distribution and movement of human populations, characteristics and distribution of cultural mosaics, patterns of economic interdependence, and study of forces of cooperation and conflict among people from global perspective.

GGS 304: Population Geography (3 credits)
Spatial distribution of population, its causes and effects, and changing patterns resulting from population mobility. Emphasizes spatial characteristics of variables such as age, sex, race, education, and income.

NUTR 435: Urban Agriculture (3 credits)
Introduces students to the opportunities, limits, and barriers of growing food in cities. Utilizing case studies from the area and around the globe, students will study the social, historical, political, environmental, and practical aspects urban agriculture

Pre-Dietetics Concentration
Core Courses
HAP 201: Health Professions and Careers (3 credits)
Acquaints students early in their college education with a variety of health professions careers. Provides overview of the health care system, and identifies the current supply and demand for health care professionals. Presents information about educational and licensing requirements as well as expected salaries. Defines professionalism and outlines the principal rights and responsibilities of being a health care professional.

NUTR 410: Food Safety and Defense (3 credits)
Examines the critical roles that food safety and food defense have on the food supply in the U.S. and globally. Students will explore common foodborne illnesses, their causes and their means of control from both a scientific and policy perspective. Students also will gain an understanding of basic food safety practices in both commercial food production and in home food preparation.

TOUR 230: Introduction to Hospitality (3 credits)
This course is an introduction to hospitality management, including an overview of management in the hospitality industry and professional opportunities. The concepts and practices of

hospitality management are examined and discussed. The scope and forms of hospitality organizations are reviewed, as well as trends within these organizations.

TOUR 310: Food and Beverage Management (3 credits)
Explores the principles of foodservice management regarding production and selling of food and beverage products. Categorizes various types of food, wine, beer and spirits. Reviews foodservice buying, pricing, menu planning, production, storage, service, controls and quality assurance.

Restricted Electives
BIOL 246: Introductory microbiology (3 credits)
Introduction to microbial cell structure, physiology, and pathogenicity. Emphasizes control of microorganisms, host-parasite interactions including immunology, and viral and bacterial pathogens.

COMM 301: Relational Communication Theory (3 credits)
Theories and principles of interpersonal communication emphasizing models of communication, verbal and nonverbal message systems, and analysis of communicative relationships.

ECON 103: Contemporary Microeconomic Principles (3 credits)
Introduces microeconomics in the context of current problems. Explores how market mechanism allocates scarce resources among competing uses; uses supply, demand, production, and distribution theory to analyze problems.

HAP 202: Medical Terminology (3 credits)
Prepares students with a basic understanding of medical terminology needed to work in a wide variety of healthcare environments.

PSYC 100: Basic Concepts in Psychology (3 credits)
Introduces psychology as scientific discipline. Examines concepts and methods in learning, motivation, development, personality, and measurement.

SOCI 101: Introductory Sociology (3 credits)
Introduction to basic sociological concepts. Examines aspects of human behavior in cultural framework, including individual and group interaction, social mobility and stratification, status and class, race and gender relations, urbanism, crime and criminology, and social change and reform.

Appendix C – Faculty Curriculum Vitae (abbreviated)

Cheskin, Lawrence, MD, FACP, FTOS, 1980, Dartmouth Medical School, Chair and Professor. Specialization Area: Obesity and weight management, clinical practice, clinical trials research, gastroenterology, health disparities.

de Jonge, Lilian, PhD in Nutrition, 1996, Université de Montréal, Assistant Professor. Specialization Area: Adaptation and long term changes in diet composition and energy balance, role of circadian rhythm on body weight and energy balance, School nutrition programs.

Gallo, Sina, RD, PhD in Human Nutrition, 2013, McGill University, Assistant Professor. Specialization Area: breastfeeding, infant vitamin D supplementation, pediatric bone and obesity interventions among ethnic minority populations

Gewa, Constance, MPH, PhD in Public Health, 2007, University of California Los Angeles, Associate Professor. Outgoing Acting Chair. Specialization Area: Maternal and child nutrition in sub-Saharan Africa: sustainable food-based approaches to improving health and developmental outcomes, dietary practices and dietary assessment methodology.

LaCharite, Kerri, PhD in Sustainability Education, 2014, Prescott College, Assistant Professor. Specialization Area: sustainable food systems, agriculture-based learning on eating and sustainability behaviors, local food policy and agriculture zoning on food security.

Slavin, Margaret, RD, PhD in Nutrition and Food Science, 2011, University of Maryland College Park, Associate Professor. Specialization Area: food science, food composition and analysis, clinical and mechanistic connections between diet and migraine, bioactive food compounds, campus nutrition

Wagner, Tammy, RD, PhD in Nutrition, 1994, Ohio State University, Assistant Professor. Specialization Area: Child and adult obesity and weight management, sports nutritio

ITEM NUMBER:
PhD in Mechanical Engineering Degree Proposal

PURPOSE OF ITEM:
The PhD in Mechanical Engineering degree proposal has been prepared for submission to the State Council of Higher Education for Virginia (SCHEV) for Fall 2020. Prior to SCHEV submission, Board action is required.

APPROPRIATE COMMITTEE:
Academic Programs, Diversity and University Community Committee

BRIEF NARRATIVE:
The purpose of the proposed program is to graduate students capable of performing original research in a number of disciplines associated with Mechanical Engineering. These disciplines include the fluid-thermal sciences, theoretical and applied mechanics, and materials science. Graduates will provide critically needed knowledge and skills to government agencies, private industry, and academia. Graduates will be qualified for employment in positions at the leading edge of engineering, science, and education. Examples include leading the design of the next generation of commercial and military aircraft, interplanetary spacecraft, drug delivery systems, fission and fusion nuclear reactors, and new solar-based energy systems. The proposed program will prepare students for these positions by providing the broad, deep knowledge needed for success in these cutting-edge fields. The proposed program will provide a course of study which will include advanced learning in the fluid and thermal sciences, solid and continuum mechanics, electro-mechanical system design, and aspects of materials science. Students in the program will choose a research emphasis in areas as broad as continuum mechanics, or more specific areas such as solid mechanics, fluid mechanics, thermodynamics, heat transfer, or nanotechnology. Graduates of the program will also be qualified to teach in colleges and universities, where they will educate the next generation of engineering talent.

REVENUE IMPLICATIONS:
The program at launch will be revenue-neutral. The program does not require new laboratory or other facilities. It is expected that that the program will be revenue enhancing as it reaches maturity.

STAFF RECOMMENDATION:
Staff recommends Board approval.

Description of the Proposed Program

Program Background

George Mason University requests approval to initiate a Doctor of Philosophy degree (PhD) program in Mechanical Engineering. The proposed program will be administered by the Department of Mechanical Engineering in the Volgenau School of Engineering. The anticipated initiation date is fall 2020.

The purpose of the proposed program is to graduate students capable of performing original research in a number of disciplines associated with Mechanical Engineering. These disciplines include the fluid-thermal sciences, theoretical and applied mechanics, and materials science. Graduates will provide critically needed knowledge and skills to government agencies, private industry, and academia. Graduates will be qualified for employment in positions at the leading edge of engineering, science, and education. Examples include leading the design of the next generation of commercial and military aircraft, interplanetary spacecraft, drug delivery systems, fission and fusion nuclear reactors, and new solar-based energy systems. The proposed program will prepare students for these positions by providing the broad, deep knowledge needed for success in these cutting-edge fields. The proposed program will provide a course of study which will include advanced learning in the fluid and thermal sciences, solid and continuum mechanics, electro-mechanical system design, and aspects of materials science. Students in the program will choose a research emphasis in areas as broad as continuum mechanics, or more specific areas such as solid mechanics, fluid mechanics, thermodynamics, heat transfer, or nanotechnology. Graduates of the program will also be qualified to teach in colleges and universities, where they will educate the next generation of engineering talent.

The attainment of the PhD degree in engineering, and specifically Mechanical Engineering, is universally viewed today as a requirement for success in cutting-edge research and development positions. The broadest engineering discipline, mechanical engineering is also the oldest, since the laws of mechanics were laid down by Galileo Galilei and Isaac Newton in the 16th and 17th centuries. In the U.S., the first schools of engineering established in the early 19th century had curricula based on the principles of mechanical engineering. At that time, training was of a practical nature, similar to today's curricula in engineering technology. However, from that time period onward, the evolution of general engineering education has been inextricably intertwined with mechanical engineering education.

The passage of the Morrill Land Grant Act in 1862 marked the beginning of the establishment of schools of engineering (e.g., Stevens Institute of Technology, Massachusetts Institute of Technology, and the Sibley College of Engineering at Cornell University) whose mechanical engineering curricula were based on sound scientific and principles established from the physical (i.e., theoretical mechanics, thermodynamics) and mathematical sciences.[1] In the aftermath of World War II, the weaknesses of U.S. engineering education were exposed, which further drove engineering education toward the fundamental scientific principles that undergird technology.

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[1] Grayson, L.P., A Brief History of Engineering Education in the Unites States, IEEE Transactions on Aerospace and Electronic Systems, Vol. AES-16, 1980, p.380.

Since that time, mechanical engineers at the PhD-level have extended significantly the general theory of mechanics, and have made great progress in advancing the theory and application of thermodynamics, heat transfer, and fluid mechanics.

Today, mechanical engineers at the PhD level are involved in a wide variety of research and development efforts, many of which are highly interdisciplinary. These kinds of research efforts include: (1) the development of nano-materials, nano-machines, bio-inspired systems, and micro-fluidic devices; (2) the design of solar, and other renewable energy systems; (3) the design of new drug delivery systems used to fight cancer, diabetes, and other major diseases; and (4) the design and optimization of complex electro-mechanical systems.

The demand for PhD programs in Mechanical Engineering is evidenced by the fact that of all engineering PhD degrees awarded in the year 2018 at universities in the U.S., the number of Mechanical Engineering PhD degrees ranked first with 1,681 graduates.[2]

Mechanical engineers with PhD degree credentials can be found in almost every field of science and technology, and the demand for their skills and knowledge is ever increasing. The globally impactful and highly interdisciplinary nature of the contributions of mechanical engineers at the PhD level can be illustrated by considering three specific areas of research and development where mechanical engineering contributions are significant: new energy systems (e.g., solar and wind, nuclear fusion); new materials (e.g., carbon composites, biomaterials); and new design paradigms (e.g., bio-inspired engineering). A brief description of each of these areas of research and the role played by mechanical engineers is given below.

New Energy Systems

In the field of new energy systems, the development of fusion reactors has the potential to provide a virtually unlimited energy supply. Due to the limited supply of oil and gas on Earth, and because of the deleterious environment effects of burning these fuels, humans face the imminent challenge to replace fossil fuels with alternate forms of energy. The two main alternatives to fossil fuels are nuclear energy and solar energy. Solar energy is in use today, but fusion energy may not be a reality for many decades. Obtaining energy from fission (splitting the uranium or plutonium atom), upon which all current nuclear plants are based, entails serious drawbacks which include the limited supply of nuclear fuel, and major environmental issues such the proper storage of nuclear waste, and the possibility of reactor meltdowns. Nuclear fusion-based reactors, on the other hand, promise to overcome the drawbacks of fission-based reactors, in addition to providing an abundant supply of energy for centuries to come. In fact, an experimental version of such a reactor (ITER) is now being built in France.

There are at least two areas where PhD level mechanical engineers contribute to the generation of fusion energy: in the development of efficient heat transfer systems (i.e., systems that can transport thermal energy from the reactor to fluids that will drive turbines, which in turn generate electrical power), and in the development of materials that can contain the nuclear reactions (i.e., materials that can withstand the massive radiation emanating from fusion reactions). In fact, one of the 14 grand challenge problems as established by the National Academy of Engineering

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[2] *Profiles of Engineering and Engineering Technology*, American Society for Engineering Education, 2019.

(NAE) is "Provide Energy from Fusion." Mechanical engineers with PhD-level expertise will be essential to reaching this goal.

New Materials

Advances in materials science and engineering are leading to the development of new materials. One prominent example is the development and utilization of carbon composites. Carbon composite materials, which were originally developed for military applications, are now in use in modern commercial aircraft such as the Boeing 787 Dreamliner and the Airbus A350. These materials, which are essentially carbon fibers embedded in a plastic matrix, are stronger and lighter than materials used in older aircraft. Carbon fibers reduce the weight of aircraft by about 20%, which significantly reduces fuel costs, thus benefitting society as a whole. PhD-level mechanical engineers continue to contribute to the design and development of these ultra-strong materials.

New Design Paradigms

The new design paradigm is exemplified in the field called "bioinspired design." Through millions of years of evolution, living organisms have evolved in optimal ways in order to adapt to changing environments. They have developed remarkably efficient means of locomotion, and highly sensitive senses of vision, hearing, and smell. Inspired by these naturally occurring adaptations, engineers have recently attempted to design devices based upon the evolutionary driven designs of natural organisms. This new design idea is now referred to as *bio-inspired design*. An example of how PhD-level mechanical engineers have contributed to the field of bio-inspired design is the "sticky-bot," a robot that climbs based on the structure of the toes of the gecko, developed by a professor of mechanical engineering at Stanford University.

The potential impact that graduates of the proposed PhD program in Mechanical Engineering can have at the leading edge of technology is made clear in the examples discussed above. In addition, a major goal of the proposed program is to address diversity, equity, and inclusion. The proposed program will strive to increase the number of PhD degrees in mechanical engineering awarded to members of underrepresented groups (URG) to levels above national norms. It will also seek to increase the number of underrepresented faculty members within the George Mason Department of Mechanical Engineering, an important element to enhance student efficacy.

The motivation for these diversity objectives is well documented in a recent comprehensive study on diversity in U.S. engineering education which states as one of its major conclusions:

> As this report has documented, the overall number of engineering degrees conferred from 2011 to 2016 at each degree level continues to increase, with major increases for Hispanic and Black students. However, the increases in engineering degrees among underrepresented minority (URM) groups is not enough to close the gap in nearly every state between the share of engineering degrees and their representation in the college-age population of the state. What once was primarily an issue of equity and equal opportunity is now an issue of economic vitality and national security. Broadening diversity in engineering is necessary to meet the demands by employers for more workers in the U.S.

with the scientific and innovation skills necessary for the tech-sectors driving economic growth.[3]

The study notes that that URM representation at both the undergraduate and graduate level in engineering needs to be addressed: Despite large numerical increases for Hispanic and Black students, these two groups along with American Indian/Alaska Native (AIAN) and Native Hawaiian/Pacific Islander (NHPI) students remain significantly underrepresented in engineering at the undergraduate and graduate level.[4] Specifically, Hispanic students, who compose 19 percent of college undergraduates, comprise only 11 percent of all engineering bachelor's degrees in 2016, an 8-percentage point gap. A similar gap exists for black students. More significantly for the proposed program, diversity at the graduate level is even worse that at the undergraduate level. Though the number of engineering master's and doctoral degrees increased among underrepresented groups (URG) from 2011 to 2016, these groups earned only 6.3 percent of master's degrees and 4.9 percent of doctoral degrees.[5]

The representation of women at the graduate level in engineering was also found to lag behind their percentages in the general college age population: "The gender disparity transcends URG and majority groups in similar ways with women earning fewer degrees than men, even though in 2015-2016, the majority of degree earners in all fields of study combined are female.[6]" Though women earned the majority of all bachelor's degrees in all racial groups, in engineering women earned 26.8 percent among multi-racial graduates and 19.4 percent for white graduates. The graduate level shows a similar trend. For U.S. residents, women earn the majority of all master's degrees, but earn fewer than 30 percent of engineering master's degrees.[7]

Lastly, the report identifies several states, including Virginia, which have lagged behind national trends in addressing diversity in engineering education: States with majority-minority or emerging majority-minority college age populations are failing to educate a large enough share of their URG students in engineering.[8] Seven states were identified in which more than half of college age students were URGs, and 17 states were found to have a third to under half in this age group. Virginia, which has a 35 percent college age URG population, was listed among these 17 states. It was found that in the states identified, only 12 percent of engineering graduates in 2015-2016 were URGs, and the gap between the URG college age population and URG graduates in engineering ranged from 21-24 percent.

To address the issue of diversity, the proposed program will commit to a general plan to increase the student and faculty diversity in the PhD program. The plan will consist of four parts: (1) direct engagement with the leadership and faculty at historically black colleges and universities (HBCU) within Virginia; (2) alignment and engagement with the leadership of professional societies such as the American Society of Engineering Education (ASEE), the Society of Women

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[3] Anderson, E.L., Ponjuan, L., Frierson, H.T., The 2018 Status Report on Engineering Education: *A Snapshot of Diversity in Degrees Conferred in Engineering, Association of Public and Land-Grant Universities*, 2018, p. 94.
[4] Ibid., v.
[5] Ibid., v.
[6] Ibid., vi.
[7] Ibid., vi.
[8] Ibid., vii.

Engineers (SWE), and the National Society of Black Engineers (NSBE); (3) target marketing to underrepresented applicants by establishing a well-defined pathway from the bachelor of science (BS) degree program in Mechanical Engineering to the proposed PhD program; and (4) a commitment to increase diversity among the graduate faculty of the program.

There are five HBCU's within the Commonwealth of Virginia: Norfolk State University, Virginia State University, Virginia Union University, Virginia University of Lynchburg, and Hampton University. Of the five, Norfolk State and Virginia State Universities are the only public institutions. At these universities, the opportunities for students to pursue advanced degrees in engineering are quite limited and non-existent for graduate education in mechanical engineering. Only two of the institutions offer advanced degrees at the master's level: Norfolk State and Hampton University. In fact, only one institution, Norfolk State University, offers the terminal PhD degree and this is in the area of materials science. With its location in Northern Virginia, George Mason University's proximity to funding agencies, Navy laboratories, and major corporations offers attractive opportunities for students in pursuit of graduate studies. The proposed PhD program provides a mechanism to impact the number of women and URM pursuing the PhD by building collaborations with the two public HBCUs. To establish these relationships, the Associate Chair for Graduate Studies within the Department of Mechanical Engineering will be tasked to visit and engage with the leadership and faculty of each of these institutions within the first year of the establishment of the proposed program. This will be accomplished through faculty exchanges, faculty colloquia, and faculty seminars.

The American Society of Engineering Education (ASEE), the Society of Women Engineers (SWE), and the National Society of Black Engineers (NSBE) have been actively engaged in promoting diversity at the graduate level in engineering. The ASEE declared the year 2014-2015 as the Year of Action in Diversity, and published a letter signed by engineering deans across the U.S., including George Mason University's Dean of the Volgenau School of Engineering, committing these institutions to specific actions to increase diversity. SWE offers scholarships to support women pursuing ABET-accredited bachelor or graduate student programs in preparation for careers in engineering in the United States. In 2019, SWE granted nearly 260 new and renewed scholarships valued at more than $810,000. To leverage the work of these societies in increasing diversity, the Associate Chair will work with the recently hired Chief Diversity Officer for VSE to engage with leadership from these organizations within the first year of the establishment of the proposed program.

The proposed program will also be committed to increasing the diversity among the graduate faculty of the program. One means of achieving this will be to ensure that faculty search committees in the Department of Mechanical Engineering are fully aware of the proposed program's commitment to diversity. Faculty in the department will also be encouraged to reach out to women and minority graduates of doctoral programs in mechanical engineering whom they know personally, encouraging them to apply for faculty openings.

Finally, students from underrepresented groups will be strongly encouraged to take advantage of scholarships at George Mason University such as the Graduate Inclusion and Access Scholarship. This scholarship supports the growth and development of an inclusive graduate community at George Mason University. This scholarship, awarded on a competitive basis, is

available to doctoral students from disadvantaged and/or underrepresented groups in their respective fields of graduate study.

The importance of establishing a stand-alone PhD program in Mechanical Engineering can be understood in the context of the Research 1 University (R1) status of George Mason University. Mason first obtained the R1 designation in 2017, and was named again in 2018. Mason is only one of four universities in the Commonwealth, along with the University of Virginia (UVA), Virginia Polytechnic Institute and State University (VT), and Virginia Commonwealth University (VCU), to have achieved this status. All of these R1 Universities that have a bachelor of science (BS) program in Mechanical Engineering also have a corresponding, stand-alone PhD program. The existing PhD program in Information Technology at George Mason University has a concentration in Mechanical Engineering. The proposed PhD in Mechanical Engineering will be an expansion of this concentration. In order to maintain the high research activity within the proposed program, successful recruitment of graduate students of the highest caliber is essential. For example, to perform at a high level in the area of computational fluid dynamics, a major component of research in the current program, graduate students need to be capable of rapidly learning complex mathematical and physical concepts. The current concentration under the umbrella of the Information Technology program does not lend itself well to the recruitment of students needed for a program at the PhD-level in Mechanical Engineering. Furthermore, the success of Mason's proposed program will contribute to the continued status of George Mason University as an R1 University.

Mission

The mission of George Mason University states, "A public, comprehensive research university established by the Commonwealth of Virginia in the National Capital region, we are an innovative and inclusive academic community committed to creating a more just, free, and prosperous world."

The proposed degree supports the mission of the university in two ways. First, the program will prepare graduates to improve upon existing or create completely new energy systems, materials, and design paradigms. Enhancing knowledge in these areas addresses immediate human needs, thereby "creating a more just, free and prosperous world." Second, the proposed program will participate in the Volgenau School of Engineering's outreach efforts designed to support underrepresented groups entering the field of engineering, including pathways to increase the participation of non-traditional students, expanding on the university's mission to make graduate-level education more "inclusive" and broadly accessible to a diverse population of students.

Admission Criteria

The following admission requirements apply to all graduate program applicants across the university. All applicants must:

- Submit a completed online application for graduate study.
- Submit a nonrefundable application fee.

- Submit one unofficial transcript from all institutions previously attended. Upon enrollment, students must submit official transcripts.
- Have earned a baccalaureate degree from a regionally accredited institution of higher education, or international equivalent.
- Have earned a minimum 3.00 GPA on a 4.00 scale in baccalaureate study.

In addition, applicants who have not earned a baccalaureate degree in the U.S. must submit:

- Official English translations of all diplomas, certificates, and transcripts that are not already in English. Also, documents from foreign institutions must meet the university's guidelines for international transcript submission.
- Proof of English proficiency: either TOEFL, IELTS academic exam, or Pearson Test of English meeting the minimum requirements:
    - TOEFL: 88 points total and a minimum of 20 points in each section (IBT) or 570 (PBT)
    - IELTS: 6.5 total band score
    - Pearson: 59 overall score

In addition, for admission into the proposed PhD degree program in Mechanical Engineering, applicants must meet the following admission requirements to ensure that admitted students have a strong scientific or engineering background and a high potential to successfully complete the proposed PhD program.

- Bachelor's degree in a field related to mechanical engineering (e.g., engineering, mathematics, computer science, or physics) with a cumulative GPA of at least 3.2 on a 4.0 scale.
- A master's degree in mechanical engineering or related field with a minimum graduate GPA of 3.5 on a 4.0 scale.
- Goal statement demonstrating interest in mechanical engineering and in the advancement of knowledge in engineering and its applications.
- Three recommendation letters from references who are familiar with the applicant's academic and professional accomplishments, indicating likely success in studies for a PhD in mechanical engineering.

Applicants will be required to submit GRE scores. Successful applicants will typically score at the 75th percentile in the quantitative section.

Target Population

The proposed program is targeted toward students who have obtained a master's degree in mechanical engineering or related fields such as aerospace engineering, applied mathematics, or physics. The Volgenau School of Engineering will make particular efforts to recruit women and members of historically underrepresented ethnic and racial groups.

Curriculum

The proposed PhD program in Mechanical Engineering will require a minimum of 72 credit hours. The 72-credit requirement may be reduced by a maximum of 24 credits from a completed

Master of Science (MS) degree in Mechanical Engineering or related field such as physics or mathematics. The 24 credits must be a combination of 500 and 600 level courses, or their equivalent. Reduction of credit requires the approval of the Program Director of the proposed program or designee and the Dean of the Volgenau School of Engineering or designee. The proposed program requires 24 credits of dissertation research.

The focus of the curriculum is to provide students with the breadth and depth of knowledge in mechanical engineering that will prepare them for teaching or research careers in areas such as the fluid/thermal sciences, mechanics, and materials. Two required core courses will prepare students in the program for all other courses within the PhD program. Other than these two courses, the mechanical engineering PhD curriculum consists of courses in three focus areas: fluid/thermal sciences, mechanics, and materials.

The two required core courses are foundational, and will prepare students for all other mechanical engineering courses in the curriculum. MATH 678: Partial Differential Equations will prepare students in advanced mathematical methods. This knowledge will be needed to succeed in advanced courses in fluid and solid mechanics, as well as in courses covering advanced numerical methods. A second required course, ME 620: Mechanical Engineering Decision Making, will lay the foundation for students to gain knowledge of how to efficiently, effectively, and ethically apply their theoretical knowledge to solve real-word engineering problems.

Courses that constitute the remainder of the curriculum focus on three areas of mechanical engineering: Fluid/Thermal Sciences, Mechanics, and Materials. Students will select one of these focus areas in consultation with an advisor and/or dissertation committee. Coursework will include 6 credits of coursework within the Department of Mechanical Engineering in subjects within the student's focus area; 6 credits within the Department of Mechanical Engineering outside the student's focus area; and 6 credits outside the Department of Mechanical Engineering, in the Departments of Physics, Mathematics, or Computer Science.

Courses required within the Department of Mechanical Engineering focus on the student's chosen focus area. The purpose of the courses taken in departments outside the Department of Mechanical Engineering is to add greater depth of knowledge needed in more specialized courses within the proposed curriculum. For example, students may learn to translate advanced mathematical methods into computer programs, which will be used to simulate the flow of fluids and to compute the stresses and strains in complex solid structures. These courses will also give the student a deeper understanding of the molecular basis for the macroscopic properties of materials.

The Department of Mechanical Engineering has developed 18 new courses for the proposed program. New courses are indicated with an asterisk.

Program Requirements

Core Courses (6 credits)
All students will take the following core courses.

MATH 678: Partial Differential Equations (3 credits)
ME 620: Mechanical Engineering Decision Making* (3 credits)

Focus Area Courses (12 credits)
Students will work with their advisors to select one of three focus areas of the proposed degree program. Students choose 6 credits of courses within their focus area and 6 credits of courses outside their focus area. All focus area coursework will come from courses offered in the Department of Mechanical Engineering.

Focus Area: Fluid-Thermal Sciences
ME 698: Research Study in Selected Mechanical Engineering*
ME 699: Advanced Special Topics in Mechanical Engineering*
ME 621: Foundations of Fluid Mechanics*
ME 721: Advanced Fluid Mechanics*
ME 722: Introduction to Turbulence*
ME 723: Compressible Flow*
ME 724: Viscoelastic Flow*
ME 728: Foundations of Heat Transfer*
ME 755: Optofluidics*

Focus Area: Mechanics
ME 698: Research Study in Selected Mechanical Engineering*
ME 699: Advanced Special Topics in Mechanical Engineering*
ME 714: Fracture Mechanics*
ME 715: Impact Dynamics*
ME 741: Theory of Elasticity*

Focus Area: Materials
ME 698: Research Study in Selected Mechanical Engineering*
ME 699: Advanced Special Topics in Mechanical Engineering*
ME 750: Nanomaterials Enabled Renewable Energy*
ME 751: Advanced Materials for Water Treatment*
ME 753: Tribology*
ME 754: Introduction to Nano-Materials*
ME 762: Biosensors*

Restricted Electives (6 credit hours)
Students choose 6 credits from the Departments of Physics, Mathematics, and Computer Science.
CSI 721: Computational Fluid Dynamics (3 credits)
MATH 686: Numerical Solution to Partial Differential Equations (3 credits)
PHYS 640: Finite Element Analysis of Solids and Fluids (3 credits)
PHYS 690: Engineering Thermodynamics (3 credits)
PHYS 694: Applied Mechanics of Solids (3 credits)
PHYS 711: Statistical Mechanics (3 credits)

Dissertation Research (24 credit hours)
Students must complete a minimum of 24 dissertation research credits to include 1 credit of ME 990, a maximum of 12 credits of ME 998, and a maximum of 12 credits of ME 999.
ME 990: Dissertation Topic Presentation (1 credit)*
ME 998: Doctoral Dissertation Proposal Credits (1 credit; may be repeated for 12 credits)*
ME 999: Doctoral Dissertation (1 credit; may be repeated for 12 credits)*

Credit Hours for the MS Degree: (24 credit hours)
Incoming students to this program must have a Master of Science (MS) degree in Mechanical Engineering or a related field. A maximum of 24 credits can be transferred from the M.S. to the PhD program.

Total credit hours: 72

Focus Areas Coursework

Fluid-Thermal Sciences
Courses offered in this focus area are intended to give students an advanced, in-depth understanding of fluid and thermal physics. The origin of the basic equations of fluid mechanics are derived, and the assumptions made in developing them are described. Knowledge gained can be applied to the design of flow over solid bodies (e.g., cars, aircraft, spacecraft, ships). Students will learn the origins of lift forces on aircraft, and the role played by fluid viscosity in the generation of drag forces. The equations governing turbulent motion in flow over bodies will be derived, and the importance of turbulence in applications will be illustrated. These courses will also offer an advanced treatment of heat transfer and thermodynamics, which will allow students to contribute to many leading-edge fields such as the design of solar energy systems, and high-speed aircraft.

Mechanics
Courses offered in this focus area are intended to provide students an advanced, in-depth understanding of the behavior of solid materials (e.g., metals, composite materials, plastics). The current theories necessary to describe the motion and deformation of solid materials such as metals, composite materials, and viscoelastic substances will be derived. Knowledge gained can be applied to the design of the mechanical stresses and strains within vehicles and can provide an understanding of the behavior of new stronger, lighter materials such as the carbon composites used in modern aircraft.

Materials
Courses offered in this focus area are intended to provide students an advanced, in-depth understanding of the properties and uses of advanced materials (e.g., nanomaterials, biomaterials). These new materials, many of which are now being developed by scientists and engineers worldwide, are currently considered for applications such as renewable energy, water treatment, and biosensors. Students will learn the molecular basis for these materials, and how they may be used in current and future applications.

Doctoral Requirements and Procedures

Qualifying Exam

To satisfy the breadth requirement of the PhD degree, students must pass a set of written qualifying exams designed to test fundamental knowledge. The qualifying exams are not associated with specific courses, although some courses may help students prepare for these exams. Each exam is based on an established reading list. The qualifying exams are offered twice a year just before the fall and spring semesters. Each exam is allocated two hours and graded on a pass or fail basis. Students must attempt a set of four exams no later than the first opportunity following the completion of 18 credits at Mason. Each student must pass all four exams in two consecutive offerings. Four exams must be attempted in the first offering. The exams attempted on the second offering need not be the same as in the first. A student who fails to pass four qualifying exams in two consecutive semesters is subject to termination from the program.

Doctoral Supervisory Committee

After the student passes the qualifying exam, the student proposes and the chair of the Department of Mechanical Engineering appoints a dissertation director. The dissertation director must be a Mason graduate faculty member with a full-time appointment. The dissertation director becomes the student's academic advisor.

A dissertation supervisory committee should be formed within a year after the student has passed the qualifying exam. The doctoral supervisory committee includes the dissertation director, who acts as chair and at least three other people from the Mason graduate faculty. The dissertation director must have at least a 50 percent appointment in the Volgenau School of Engineering (VSE). At least three committee members must be from VSE, and at least two departments of VSE must be represented on this committee.

In addition, industrial representatives and faculty members from departments outside the school are highly desirable, but not required. The doctoral supervisory committee administers the dissertation proposal presentation, the dissertation pre-defense, and defense. Permission for dissertation defense is requested from the VSE senior associate dean on the basis of a written request and plan that has been approved by the supervisory committee. All committee members must have a doctoral-level degree.

Dissertation Proposal

Near the end of coursework, doctoral students prepare a written dissertation proposal to present to the doctoral supervisory committee. The proposal must be delivered by hard copy to the doctoral supervisory committee at least two weeks before the presentation. Students should enroll in ME 998: Doctoral Dissertation Proposal to complete this effort. Students must pass the qualifying exams before enrolling in ME 998: Doctoral Dissertation Proposal. During the term the student expects to present the dissertation proposal to the committee (or perhaps the prior term), the student should enroll in ME 990: Dissertation Topic Presentation. After successfully completing the dissertation-proposal requirement, the student is formally admitted as a candidate for the PhD degree. The application for candidacy is submitted to the senior associate dean on a standard form.

Dissertation and Final Defense
With the concurrence of the dissertation supervisory committee, students proceed with doctoral research, during which time they must be continuously enrolled in ME 999: Doctoral Dissertation. When the central portions of the research have been completed to the point that students are able to describe the original contributions of the dissertation effort, they submit the written dissertation to the committee and schedule an oral pre-defense to the committee. The pre-defense is to be held no sooner than one month after members of the committee have copies of the dissertation. Once the committee believes the student is ready, a final public oral defense may be scheduled no sooner than one month after the conclusion of the pre-defense so that the announcement is posted for at least two weeks. The entire dissertation committee and the senior associate dean must be present at the defense, unless an exception is approved by the senior associate dean in advance of the defense.

Following satisfactory evaluation of the oral defense of the dissertation by the committee, the student must prepare, with supervision from the dissertation director, a final publishable dissertation that represents a definitive contribution to knowledge in mechanical engineering. If the candidate successfully defends the dissertation, the dissertation committee recommends that the final form of the dissertation be completed and the Volgenau School of Engineering faculty and the graduate faculty of Mason accept the candidate for the PhD degree.

If the student fails to successfully defend the dissertation, the student may request a second defense, following the same procedures as for the initial defense. There is no time limit for this request other than general time limits for the doctoral degree. An additional pre-defense is not required, but students are strongly advised to consult with the committee before scheduling a second defense. If the student fails on the second attempt to defend the dissertation, the student will be terminated from the program.

Appendix A provides Sample Plans of Study for full-time and part-time students.
Appendix B provides Course Descriptions.

Student Retention and Continuation Plan

To ensure students are supported throughout the program, faculty have developed requirements and milestones specific to the proposed PhD degree program. The requirements and milestones are designed to maintain student engagement, enrollment, and retention and to help students successfully and satisfactorily progress to degree completion. The following mechanisms will be used to achieve this goal:

Advising: Upon admission to the degree program, each student will be assigned a faculty academic advisor who will serve as a mentor to the student and help guide the student in developing the appropriate research questions. Students will be required to consult with their advisor to develop a plan of study during their first semester in the degree program. Students will also be directed to meet with their advisor every semester to ensure that their progress is closely monitored.

Annual performance review: Each year, the faculty will conduct a formal review of all PhD students. Each faculty advisor will report on his/her advisees' progress assessment, which will

then be followed by input from core faculty members who have had experience with the student through coursework or research. The faculty as a whole will formulate feedback to enhance the student's academic and professional progress as well as encourage retention.

Students found to be struggling will be referred to appropriate campus support functions (e.g., the Writing Center, Counseling and Psychological Services or the Student Support and Advocacy Center) as appropriate. Ad hoc plans may be developed with individual students (e.g., more frequent meetings with the academic advisor) as appropriate.

Time to Degree

Students may attend the proposed degree PhD program on a full or part-time basis. It is anticipated that full-time students taking 9 credits per semester will graduate in 4 years. It is anticipated that part-time students taking 4-5 credits per semester will graduate in 8 years. In compliance with University policy, all requirements for the PhD degree must be completed within 9 years from the date of admission to the degree program.

Faculty

In the Department of Mechanical Engineering, nine faculty members will deliver the core and required courses for the proposed PhD degree program in Mechanical Engineering. These faculty members all hold a PhD degree in Mechanical Engineering or in related fields such as Computational Science or Naval Architecture. The faculty range from full professors with over 35 years of experience conducting research in mechanical Engineering to assistant professors beginning their independent research careers. Two faculty are full professors, one is an associate professor, and six faculty are assistant professors. In total, the faculty possesses more than 100 years of combined research experience in areas related to mechanical engineering.

All faculty have published in peer-reviewed journals. Two faculty members have an extensive publishing history with over 50 journal articles. Faculty have authored or co-authored journal articles, books, and papers with emphasis on mechanical engineering or related fields. Two faculty have funded research totaling more than $250,000.

To initiate the proposed program, one adjunct faculty member will teach one required course. Adjunct faculty teaching in the proposed program will hold PhD degrees in Mechanical Engineering or a related field such as Civil Engineering, Computational Science, or Aerospace Engineering.

See Appendix C for faculty abbreviated curriculum vitae.
See Appendix D for faculty funded research projects.

Program Administration

The program will be administered by the Associate Chair for Graduate Studies in the Department of Mechanical Engineering who will be appointed by the Chair of the Department of Mechanical Engineering Department Chair. The Associate Chair will be an existing faculty member within

the department and will teach required courses in the program. The Associate Chair will hold a PhD in Mechanical Engineering or a related field such as Aerospace Engineering, Applied Mathematics, or Physics) and will have significant research experience as indicated by publications in scientific journals, and citations. The duties of the Associate Chair will be carried out in consultation with the Department Chair and department faculty. These will include: overseeing the proposed program's admissions committee and faculty advisors; assisting students in acquiring adequate financial support in the form of research assistantships, teaching assistantships, and fellowships; developing an effective campaign to advertise the proposed program; and monitoring current research trends in mechanical engineering to determine whether new subject areas and corresponding courses should be included in the proposed program. An administrative assistant will be assigned to the Associate Chair and will devote 10 percent of his/her time to the proposed program.

Student Assessment

The proposed PhD degree program in Mechanical Engineering has four student learning outcomes. Independent of whether a student selects one of the three focus areas of fluids-thermal sciences, materials, or mechanics, attainment of these outcomes prepares graduates to enter the government, private industry, or academia, and to address problems such as understanding the lack of blood flow in the brain at the onset of a stroke, modelling process parameters during 3-d printing of metallic components leading to the predictions of their mechanical properties, or understanding how fluid turbulence can be modified to reduce drag on vehicles.

Learning Outcomes

Students will be able to:

- Demonstrate a breadth of knowledge in the discipline of mechanical engineering.
- Conduct a comprehensive and critical literature survey of a contemporary topic in their field.
- Frame an original research question, justify the necessity and interest in this question, and propose initial avenues for research.
- Conduct independent research resulting in an original contribution to knowledge in the focus area.

Each focus area has added learning outcomes that students who select the concentration area should acquire.

Fluid-Thermal Sciences Focus

Students in this focus area will be able to meet the following learning outcome:

- Demonstrate advanced knowledge in fluid-thermal sciences consistent with this focus area of study.

Materials Focus

Students in this concentration will be able to meet the following learning outcome:

- Demonstrate advanced knowledge in materials consistent with this focus area of study.

Mechanics Focus

Students in this focus area will be able to meet the following learning outcome:

- Demonstrate advanced knowledge in mechanics consistent with this focus area of study.

Curriculum Map for PhD in Mechanical Engineering

Learning Outcomes	Courses	Assessment Methods
Demonstrate a breadth of knowledge in the discipline of mechanical engineering.	MATH 678: Partial Differential Equations ME 620: Mechanical Engineering Decision Making	Formative: Homework sets Summative: Midterm and final exams
Conduct a comprehensive and critical literature survey of a contemporary topic in their field.	ME 990: Dissertation Topic Presentation	Formative: N/A Summative: Report and presentation
Frame an original research question, justify the necessity and interest in this question, and propose initial avenues for research.	ME 998: Doctoral Dissertation Proposal	Formative: N/A Summative: Research proposal and research plan
Conduct independent research resulting in an original contribution to knowledge in the focus area.	ME 998: Doctoral Dissertation Proposal ME 999:Doctoral Dissertation	Formative: N/A Summative: Research plan and research dissertation

Employment Skills/Workplace Competencies

Graduates of the proposed program will be qualified to work in academic, government or private research laboratory, and private corporation sectors. All graduates of the proposed PhD program in Mechanical Engineering will be able to:

- Develop a research program by attracting funding from agencies such as the National Science Foundation (NSF), the Defense Advanced Research Projects Agency (DARPA), Department of Defense, the Department of Energy, the National Aeronautics and Space Administration (NASA), and the National Institutes of Health (NIH), as well as from the private sector.
- Publish research results in the top academic journals in Mechanical Engineering
- Provide subject matter expertise in the execution of advanced technology development

- Perform independent technical assessments and feasibility analyses of new technologies and system designs

Program Assessment

The Department of Mechanical Engineering will conduct and report annual assessments of student learning outcomes beginning in 2021, in accordance with the Office of Institutional Effectiveness and Planning university-wide reporting requirements.

A more extensive review of the program's mission, goals, learning outcomes, and student successes will occur on a seven-year cycle. The program, with help from the Office of Institutional Research and Effectiveness, will use institutional data, student and alumni surveys, and learning outcome assessments to write an Academic Program Review report that will describe how program goals and learning outcomes have been achieved. The program is scheduled to submit its first Academic Program Review report in 2025. The outcomes of the process are a series of deliverables—a self-assessment report and academic plan written by program faculty and a report by a review team external to the program—and changes made to enhance the program. Finally, the Board of Visitors will conduct its initial review of the proposed program in 2025.

Benchmarks of Success

The following initial benchmarks will be used to gauge the growth and success of the proposed PhD degree program in Mechanical Engineering:

- 75% of full-time students will complete the program in five years or fewer
- 75% of graduates of the program will report satisfaction with the program during their exit interviews
- 90% of graduate students will have published a paper in a peer-reviewed journal and have presented an abstract at a national meeting before graduation.
- 75% of graduated students will have earned jobs within the field, assessed two years after completion of the program (to include post-doctoral fellowships)
- 20% of the graduates in the first five years will be from underrepresented groups

The first three benchmarks are easily tracked within the proposed program. The fourth benchmark will require follow up with graduates. Students will be tracked for at least two years post-graduation to assess job placement status.

If these benchmarks of success are not met, the Associate Chair for Graduate Studies will work with the Graduate Curriculum Committee in the Volgenau School of Engineering to examine which benchmarks were unsuccessful and determine the possible causes. If curriculum changes are needed, they will review and consider curriculum changes.

Expansion of Existing Programs

The existing PhD program in Information Technology at George Mason University has a concentration in Mechanical Engineering (IT/ME/PhD) which was initiated in February 2017. The proposed PhD in Mechanical Engineering is an expansion of this concentration. If the proposed program is approved, the university will close the existing Mechanical Engineering concentration in the PhD in Information Technology degree program. All students in the existing program will be automatically transferred to the new program and will be given credit for all coursework taken under the existing program. In addition, students who have passed the qualifying exam under the existing program will not be required to retake the exam.

The IT/ME/PhD program has grown considerably since it was initiated. The program currently consists of seven full- or part-time graduate students, and nine tenured or tenure-track faculty members. In addition, 18 new Mechanical Engineering courses have been created to support the program. More significantly, the faculty within the Department of Mechanical Engineering has obtained federal research grants now totaling $1,464,268 from agencies such as the National Science Foundation (NSF), Department of Energy (DOE), and Health and Human Services (HHS). The rapid success and growth of the existing program emphasizes the need for the creation of a stand-alone program within the Department of Mechanical Engineering.

Relationship to Existing George Mason University Degree Programs

George Mason University offers four programs housed in the Volgenau School of Engineering that are related to the proposed program: 1) the PhD program in Physics; 2) the PhD program in Civil and Infrastructure Engineering; 3) the PhD program in Electrical and Computer Engineering; and 4) the PhD program in Bioengineering. All of these programs and the proposed degree program share interests in the mathematical modeling of physical systems. However, there are distinct differences in the purposes and program objectives. There are also distinct differences in the knowledge and skills of graduates in these programs.

The Physics PhD program offers advanced knowledge primarily in a broad spectrum of modern physics subject areas such as quantum mechanics, relativity theory, and statistical physics. In contrast, the proposed program will emphasize subjects primarily within the realm of classical mechanics. Examples include continuum mechanics, fluid and solid mechanics, and classical thermodynamics. In addition, the proposed program will emphasize applications in traditional areas of engineering such as manufacturing, and the design of mechanical, thermal, and power systems, which is not emphasized in the Physics PhD program.

The Civil and Infrastructure Engineering PhD program offers advanced knowledge primarily in subject area such as construction engineering and management, environmental and water resources engineering, geotechnical engineering, structural engineering, or transportation engineering. These topics primarily emphasize construction and environmental aspects of engineering. In contrast, the proposed program has significantly greater emphasis on the science base for engineering mechanics, and thermodynamics.

The Electrical and Computer Engineering PhD program offers advanced knowledge primarily in subject areas such as communications, networking, computer engineering, and controls and robotics. These topics are quite distinct from those in the proposed program which emphasizes the application of scientific principles to physical systems such as solids and fluids.

The Bioengineering PhD program offers advanced knowledge primarily in subject areas related to the application of engineering methods to human health. The proposed program does not emphasize human health issues, but instead focuses on the theory and application of physical and mathematical principles to describe the behavior of fluids and solids.

Compromising Existing Degree Programs

No degree programs will be compromised or close as a result of the initiation and operation of the proposed degree program.

Collaboration or Standalone

This is a standalone program. No other institution or organization was involved in its development, and no other institution or organization will collaborate in its operation.

Justification for the Proposed Program

Response to Current Needs (Specific Demand)

Although PhDs in Mechanical Engineering have traditional strengths in the fluid-thermal sciences, energy systems, solid mechanics, and materials, PhD-level mechanical engineers are employed in a wide variety of research and development efforts which often overlap with other engineering disciplines (e.g., Aerospace Engineering, Civil Engineering, Electrical and Computer Engineering, Chemical Engineering, and Bioengineering). In addition, Mechanical Engineering PhD production by U.S. universities exceeds the production of PhD degrees in all other engineering disciplines. These considerations strengthen the view that PhD degrees in Mechanical Engineering are contributing to a remarkably broad array of disciplines. In addition, graduates of PhD programs in Mechanical Engineering are creating and participating in leading edge technologies (e.g., fusion energy technology,[9] nanomaterials, bio-inspired design, and computational fluid dynamics), which have the potential for significant societal and economic impact. The critical current and future need for PhD level talent in engineering has been well documented in several recent studies.

The landmark study composed of distinguished leaders in industry, academia, and government,[10] which used the phrase "Rising above the Gathering Storm" in its title, made an emphatic case that the United States must prioritize the education and training of more Americans in all

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[9] Warrick, C., Fusion Turns to Engineering, Ingenia, Issue 52, Sept. 2012.

[10] NAS/NAE/IOM, *Rising above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future,* National Academies Press, 2007.

Science, Technology, Engineering, Mathematics (STEM) disciplines, at both the graduate and undergraduate levels, to meet future job demand. Two major conclusions from that report were: (1) The U.S. must double the real federal investment in basic research in mathematics, the physical sciences, and engineering over the next seven years (the initial report was issued in 2005, with an edited version released in 2007) and, (2) The U.S. must encourage more of its citizens to pursue careers in mathematics, science, and engineering.

A follow-on study[11] summarized the conclusions of the earlier study: "... the committee concluded that the United States appears to be on a course that will lead to a declining, not growing, standard of living for our children and grandchildren." This later report, which used the phrase "Rapidly Approaching Category 5" in its title, was even more emphatic than the earlier study in calling for urgent attention to the problems associated with a significant shortage in STEM talent in the United States. The report concludes: "…. that in spite of the efforts of both those in government and the private sector, the outlook for America to compete for quality jobs has further deteriorated over the past five years. The Gathering Storm increasingly appears to be a Category 5." In fact, it was the unanimous view of the committee members that "our nation's outlook has worsened," with respect to the STEM shortage crisis.

The conclusions of the earlier two studies were echoed by a more recent study[12]: "In the government and government-related job sector, certain STEM disciplines have a shortage of positions at the PhD level (e.g., materials science engineering, nuclear engineering) .... and there are transient shortages of electrical engineers and mechanical engineers at advanced-degree levels." The conclusions of these major studies are consistent in their conclusion that engineers, particularly at advanced (PhD) levels, are in demand at the national level. More importantly, they are unanimous and emphatic in their view that such advanced training is crucial to the success of the American economy in the coming years, and that failure to address the documented shortage of engineering talent will have dire consequences for the nation.

In Virginia, the demand for talent at the PhD level in the tech-sector in general, and in engineering in particular, is well documented.[13] [14] [15] [16] In a recent comprehensive report[13], the demand for STEM talent in the United States, each state, and each major city was analyzed in detail. The report notes that by 2026, the tech sector nationwide will grow by 8.6 million jobs, or 73 percent higher than in 2018. Virginia ranked second in the nation in its concentration of technology workers. The report notes that 10.7 percent of all state workers were employed in tech-related jobs, and that the state ranked sixth in the nation in net technology employment. The technology sector in Virginia contributed to 13.5 percent of the total economy of the state. The leading tech sector jobs in Virginia include research and development, testing, engineering services, and manufacturing. These jobs, which typically employ mechanical engineers, account

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[11] Cicerone, R.J. et al., *Rising Above the Gathering Storm Revisited: Rapidly Approaching Category 5*, NAS/NAE, 2010.
[12] Xue and Larson, "STEM Crisis or STEM Surplus? Yes and Yes," *Monthly Labor Review*, 2015.
[13] Cyberstates, COMPTIA, 2019.
[14] JLL, Big Tech is Taking off in NoVa, *Washington Business Journal,* Feb 20, 2019.
[15] Suciu, P., "Virginia Has Second Highest Concentration of Tech Workers," ClearanceJobs, April 2, 2019.
[16] Gregg, A., "Forget Silicon Valley—The Dulles Tech Corridor is Cultivating Companies that Break the Mold," *The Washington Post*, June 22, 2018.

for 26 percent of all technology sector jobs in the state. Technology sector wages in the state were found to be 103 percent higher than median state wages. These statistics are echoed in neighboring Washington, DC which ranks third among all cities in net technology employment. In addition, 15.6 percent of the total economy is derived from the technology sector in Washington, DC.

Several major corporations in Virginia are leading the demand for PhD level mechanical engineers. These corporations include Boeing (Manassas, Chantilly, Herndon), Aurora Flight Sciences (Manassas), Centra Technology, Jefferson Lab (Newport News), Northrup Grumman (Dulles, VA), KBR, and SAIC (Chantilly). These employers are seeking mechanical engineers at the PhD level for a variety of jobs which include: designing the next generation of autonomous underwater vehicles and drones, development and testing of new imaging technology, autonomous systems and machine learning research, cryogenics research, structural dynamics modeling, structural engineering using finite element analysis, and robotics.

Non-profit institutions within the state include the National Science Foundation (NSF), and universities such as Virginia Tech, the University of Virginia, Old Dominion University, and Virginia Commonwealth University (4VA). The NSF recruits PhD-qualified mechanical engineers within, for example, their Chemical, Bioengineering, Environmental, and Transport (CBET) division as program managers who lead the following research "clusters": fluid dynamics, thermal processes, combustion and fire systems, and particulate and multiphase processes. The 4VA universities recruit Mechanical Engineering PhD's as faculty members, and as postdoctoral scholars.

At George Mason University, faculty members in the Department of Mechanical Engineering are performing nationally recognized, leading edge research in several areas. This work has the potential to create new advances in engineering and science, with the promise of creating technologies with significant economic impact within the state and the nation. One such faculty member is concerned with understanding the origins of brain aneurysms, why they form, and how they can be detected. The principles of fluid mechanics are used to predict blood flow in such aneurysms using advanced computational methods. Another is concerned with understanding turbulent flow over objects such as aircraft, cars, and ships. The goal is to develop novel ways of reducing drag and energy loses in such flows. If successful, the results of this research could reduce fuel costs by billions of dollars worldwide. The evaluation of the friction, wear and the contact creep response of nickel alloys for very high temperature nuclear reactor applications is the concern of another member of the faculty. This research will contribute to the design and licensing of very high temperature reactors being considered by the Nuclear Regulatory Commission (NRC). An additional faculty member seeks to create a comprehensive theory of systems engineering based on the simple preference statement, "I want the best system I can get," where the definition of "best" is left entirely to the discretion of the project manager. A goal of this work will be the establishment of a set of rules that will define valid methods, procedures and processes for the conduct of engineering design and systems engineering.

Employment Demand

Evidence of employer demand comes from three sources: 1) analysis of federal and Commonwealth employment projections, 2) a sampling of position announcements where the PhD in Mechanical Engineering is either the required or preferred credential, and 3) letters of support from prospective employers. All sources indicate a strong demand for graduates of the proposed program.

Employment projections in the Bureau of Labor Statistics' (BLS) Occupational Outlook Handbook and the Virginia Employment Commission's Workforce Connection (VAWC) databases show the viability of employment for graduates of the proposed PhD in Mechanical Engineering. According to the BLS, employment for mechanical engineers is "projected to grow 4 percent from 2018 to 2028, about as fast as the average for all occupations." Concerning the job outlook, the BLS indicates that because mechanical engineers "can work in many industries and on many types of projects... their growth rate will differ by the industries that employ them. Mechanical engineers are projected to experience faster than average growth in engineering services." [17]

The Virginia Workforce Connection of the Virginia Employment Commission documents the projection of mechanical engineers with bachelor's degrees increasing more than 10 percent from 2016-2026. For mechanical engineers with PhD degrees, the closest available employment projections would be as "Engineering Teachers, Postsecondary," positions for which graduates of the proposed program would be qualified.

Long term employment projections for Engineering Teachers, Postsecondary in Virginia[18]

2016 Estimated Employment	2026 Projected Employment	Total 2016-2026 Employment Change	Total Percent Change	Annual Change
698	829	131	18.77	13

See Appendix E for employment announcements.
See Appendix F for sample letters of support - employment demand.

Student Demand

Student demand for the proposed program is evidenced by 1) a survey administered to students in climate and geology courses in the Department of Mechanical Engineering and 2) a survey administered to students in physics, engineering and environmental science and policy courses.

See Appendix G for the original survey.
See Appendix H for the original survey. Results are included as a separate document behind the survey.

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[17] https://www.bls.gov/ooh/architecture-and-engineering/mechanical-engineers.htm#tab-6
[18] https://virginiaworks.com/occupational-projections?page80257=1&size80257=12&page79862=1&size79862=12&page81630=1&size81630=12&search79862=post%20secondary%20teacher

STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA

SUMMARY OF PROJECTED ENROLLMENTS IN PROPOSED PROGRAM

Projected enrollment:

Year 1		Year 2		Year 3		Year 4 **Target Year (2-year institutions)**			Year 5 **Target Year (4-year institutions)**		
2020 - 2021		2021 - 2022		2022 - 2023		2023 - 2024			2024 - 2025		
HDCT	FTES	HDCT	FTES	HDCT	FTES	HDCT	FTES	GRAD	HDCT	FTES	GRAD
7	4	13	7	19	10	28	14		30	16	7

Assumptions:
Retention percentage: 80%
Percentage of full-time students 40% Percentage of part-time students 60%
Full-time students credit hours per semester: 9
Part-time students credit hours per semester: 4 to 5
Full-time students graduate in 4 years
Part-time students graduate in 8 years

Duplication

The proposed program offers a comprehensive curriculum in traditional mechanical engineering subject areas such as the fluid-thermal sciences and solid mechanics, as well as offering courses of study of study in areas of current interest such as nanomaterials. To obtain the PhD in mechanical engineering the student must complete a total of 72 credit hours of doctoral-level credits.

In addition to the traditional graduate course offerings in Mechanical Engineering, the proposed PhD degree program has a particular strength and focus in the computational sciences as exhibited by the presence of several accomplished scholars in this field within the proposed program. The proposed program will also place a strong emphasis on students taking graduate level courses outside traditional Mechanical Engineering fields. These include courses in mathematics, computational physics, and physics.

Four public institutions, Virginia Polytechnic Institute and State University (VT), the University of Virginia (UVA), Old Dominion University (ODU), and Virginia Commonwealth University (VCU), have a degree program related or similar to the proposed PhD program in Mechanical Engineering.

Virginia Polytechnic Institute and State University (VT)
The PhD in Mechanical Engineering program at VT offers comprehensive graduate courses in the fluid-thermal sciences and mechanics. The VT program requires doctoral students to complete 90 semester hours of graduate study beyond the bachelor's degree, pass a qualifying exam, preliminary exam, and a research dissertation.

Similarities
The PhD in Mechanical Engineering program at VT requires that students take at least 3 credits of graduate level mathematics, which is similar to the proposed program which also requires 3 credits of graduate mathematics as part of the 6 credits of required core courses. The VT program requires 30 credits for research and the dissertation, and 60 hours of approved graduate coursework. This is similar to the proposed program which requires 24 credits for research and the dissertation and 48 credits for approved graduate coursework. The VT program is similar to the proposed program in that most of the course work from the MS degree can be transferred to the PhD program. The VT program requires students to pass a qualifying exam and complete a dissertation. This is similar to the proposed program.

Differences
The PhD in Mechanical Engineering program at VT differs from the proposed program in that it requires significantly more semester hours of course work (90) compared to the proposed program (72). The VT program does not place particular emphasis on taking a significant course work outside those in the standard mechanical engineering graduate curriculum. This differs from the proposed program which requires at least 6 credits in either mathematics, physics, or computer science. The VT program requires students to pass a preliminary exam, which is not required in the proposed program. In the VT program, students may enroll directly from the bachelor's to the PhD by applying for "Direct-PhD" after completing 2 semesters. This differs from the current program which requires the completion of the MS degree to be admitted to the PhD program.

University of Virginia (UVA)
UVA offers a PhD degree program in Aerospace Engineering and Mechanical Engineering. To obtain the degree, students must complete 36 hours of graduate coursework where 21 credits must be taken beyond a set of course courses. The core courses are chosen from three categories: mathematics, numerical methods, and topical areas in mechanical engineering. Completion of 15 hours of core courses is required, as well as 24 hours of dissertation research.

Similarities
The UVA degree program is similar to the proposed program in that it offers a broad base of traditional graduate level mechanical engineering courses, such as those in the fluid-thermal sciences and mechanics. The UVA program requires students to complete core courses (15 credits) outside mechanical and aerospace engineering (MAE) courses, which is similar to the proposed program which requires 6 credits (restricted electives) in mathematics, physics, or computer science as well as 2 required core courses (6 credits). The UVA program requires 21 credits beyond the core, which is similar to the proposed program which requires 36 credits beyond restricted electives and core courses. The UVA program requires 24 research credits which is identical to the proposed program. In addition, the UVA program allows students to

transfer 24 credits from an MS program, which is identical to the proposed program which allows a 24 credit transfer. The UVA program requires students to pass a qualifying exam and complete a dissertation. This is identical to the proposed program.

Differences
Unlike the proposed PhD program, UVA combines Mechanical Engineering and Aerospace Engineering into one "MAE" department. The UVA program grants the PhD in Mechanical and Aerospace Engineering, which differs from the proposed program which grants the PhD in Mechanical Engineering. The UVA program differs from the proposed program in that it requires fewer (60) credit hours of coursework beyond the bachelor's degree compared to the proposed program which requires 72 credits.

Old Dominion University (ODU)
ODU offers admission to their PhD program in Mechanical Engineering to students with a master's degree in engineering, physics, or mathematics. A minimum of 24 credit hours of course work beyond the master's degree and a minimum of 24 semester credit hours of dissertation research must be included in the PhD program. A preliminary exam, candidacy exam, dissertation proposal, and dissertation defense are required to obtain the degree.

Similarities
The ODU program is similar to the proposed program in that both require an MS degree for admission. Both the ODU program and the proposed program offer a comprehensive curriculum in the fluid-thermal sciences and mechanics. The ODU program requires 24 research credits, as does the proposed program. The ODU program requires 24 credits of graduate mechanical engineering courses beyond the MS. The proposed program also requires 24 credits.

Differences
The ODU program requires 48 credits beyond the MS degree which differs from the proposed program which requires 42. The ODU program requires a preliminary exam, as well as a candidacy exam which are not required in the proposed program. The ODU program does not place emphasis on students taking graduate level courses in mathematics, physics, and computer science. The proposed program requires 6 credits in these areas.

Virginia Commonwealth University (VCU)
The VCU PhD program in Mechanical Engineering requires a minimum of 68 credit hours beyond the bachelor's degree, or a minimum of 36 credit hours beyond the MS degree. Students may enter the PhD program with either a BS or an MS degree. The VCU program requires a comprehensive exam, a research proposal exam, and a dissertation defense. Students must have 2 journal articles accepted for publication before the degree is granted. For students with an MS degree, 3 specific courses are required (EGMN 604: Nuclear Materials, EGMN 607: Heat Transfer, and EGMN 610:Topics in Nuclear Engineering) in addition to 24 credits for research and 3 credits of seminar.

Similarities
The VCU program is similar to the proposed program in that it offers a broad base of traditional graduate level mechanical engineering courses, such as those in the fluid-thermal sciences and

mechanics. The VCU program requires 24 credits for research which is identical to the proposed program.

Differences
Unlike George Mason University, VCU combines Mechanical Engineering and Nuclear Engineering into one department. VCU's PhD program differs from the proposed program in its emphasis on nuclear engineering for which 9 credit hours of coursework is required. The VCU program has a required core consisting of 3 courses (9 credits). The proposed program has a required core consisting of 2 courses (6 credits). The VCU program requires fewer (68) credit hours of coursework beyond the bachelor's degree compared to the proposed program which requires 72 credits. The VCU program does not place emphasis on students taking graduate level courses in mathematics, physics, and computer science, whereas the proposed program requires 6 credits in these areas. The VCU program requires that students publish 2 journal articles. This differs from the proposed program which does not require student publications.

Data from the American Society for Engineering Education (ASEE) and the State Council for Higher Education for Virginia (SCHEV) below differ in their representation of ODU. For ODU, the ASEE data counts only PhD programs in Mechanical Engineering, whereas SCHEV's data includes all of ODU's engineering PhD programs.

Enrollments and Degrees Awarded at Comparable Programs in the Commonwealth

Enrollments[19]	**Fall 2014**	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
VT	165	172	181	176	145
UVA	61	64	63	66	83
ODU	N/A	N/A	25	25	20
VCU	44	50	53	54	53
Degrees Awarded[20]	**2014**	**2015**	**2016**	**2017**	**2018**
VT	29	24	30	25	42
UVA	9	15	10	12	5
ODU	N/A	N/A	5	7	4
VCU	3	10	4	8	14

Enrollments[21]	**Fall 2014**	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
VT	165	173	181	176	156
UVA	62	64	63	66	83
ODU	241	239	256	241	230
VCU	28	44	50	52	52

[19] American Society for Engineering Education (ASEE). http://profiles.asee.org/profiles). (Accessed October 1, 2019).
[20] American Society for Engineering Education (ASEE). http://profiles.asee.org/profiles). (Accessed October 1, 2019).
[21] State Council of Higher Education for Virginia (SCHEV). *Fall Headcount Enrollment by Race/Ethnicity, Gender and Program Detail.* http://research.schev.edu/enrollment/E16_Report.asp. (Accessed October 1, 2019).

Degrees Awarded[22]	2014	2015	2016	2017	2018
VT	29	24	31	25	42
UVA	9	15	9	12	5
ODU	29	31	31	31	29
VCU	0	2	1	5	7

Resource Needs

George Mason University and the Volgenau School of Engineering have the faculty, classified support, equipment, library, and other resources necessary to launch the proposed PhD program in Mechanical Engineering. The following subsections detail the resources required to operate the program from its proposed initiation in the Fall 2020 semester through the target enrollment year. Assessments of need for full-time faculty, part-time faculty, and adjunct faculty are based on the following ratio of student enrollment to faculty effort: 6 FTE of enrollment requires one FTE faculty for instruction. The proposed program will therefore require a total of .95 FTE of instructional effort in 2019-2020, rising to 3.15 FTE by the target year of 2024-2025.

Full-time Faculty

One existing faculty member who will serve as the Associate Chair for the proposed program will devote 50% or more of their time to teaching in the proposed program. In the initial year, this effort will represent $52,412 in salary and $17,768 in fringe for a total of $70,180, rising to $122,412 in salary and $41,498 in fringe for a total expense of $163,910 by the target enrollment year.

Part-time Faculty

In the initial year, the proposed program will require two existing faculty members who will devote less than 50% of their time teaching in the proposed program. This effort will represent $29,250 in salaries and $9,916 in fringe for a total of $39,166. It is anticipated that by the target enrollment year, an additional .75 FTE of part-time effort will be required to devote less than 50% of their teaching load in the proposed program. This additional effort will represent an additional cost of $71,250 in salaries and $24,154 in fringe, for a total cost of $100,500 in salaries and $34,070 in fringe for a total expense of $134,570 by the target enrollment year.

Adjunct Faculty

One adjunct faculty member will assist in teaching the required courses in the proposed program. The proposed degree program will require .25 FTE of adjunct faculty to initiate, rising to .75 FTE by the target enrollment year. Adjunct faculty are paid $1,700 per credit hour, with an additional $124 in fringe per credit hour. To initiate the proposed program, it is estimated that costs for adjunct salaries will total $5,100 with $372 in fringe for a total of $5,472. By the target enrollment year, costs for adjunct faculty will rise to $20,400 in salaries and $1,489 in fringe for a total expense of $21,889.

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[22] State Council of Higher Education for Virginia (SCHEV). *Completion, Program Detail C1.2.* http://research.schev.edu/Completions/C1Level2_Report.asp. (Accessed October 1, 2019.)

Graduate Assistants
No graduate assistants will be required to initiate or sustain the proposed program.

Classified Positions
One existing classified staff member in the Department of Mechanical Engineering will provide .25 FTE support to initiate and sustain the proposed program, for a cost of $12,250 in salary and $5,586 in fringe for a total expense of $17,836.

Targeted Financial Aid
No targeted financial aid will be available or is needed to initiate or sustain the proposed program.

Equipment (including computers)
No new equipment (including computers) is required to initiate or maintain the proposed program.

Library
No new library resources will be required to initiate or sustain the proposed program.
See Appendix I for existing George Mason University Library Resources related to the proposed program.

Telecommunications
The proposed program requires no new telecommunications to initiate or sustain the proposed program.

Space
The proposed program will not require additional space to initiate or sustain the proposed program.

Other Resources (specify)
No other resources will be required to initiate or sustain the proposed program.

Resources Needs: Part A – D

Part A: Answer the following questions about general budget information.

- Has the institution submitted or will it submit an addendum budget request to cover one-time costs? Yes ☐ No ☐
- Has the institution submitted or will it submit an addendum budget request to cover operating costs? Yes ☐ No ☐
- Will there be any operating budget requests for this program that would exceed normal operating budget guidelines (for example, unusual faculty mix, faculty salaries, or resources)? Yes ☐ No ☐
- Will each type of space for the proposed program be within projected guidelines? Yes ☐ No ☐
- Will a capital outlay request in support of this program be forthcoming? Yes ☐ No ☐

Part B: Fill in the number of FTE and other positions needed for the program

	Program Initiation Year 2020- 2021		**Expected by Target Enrollment Year 2024- 2025**	
	On-going and reallocated	**Added (New)**	**Added (New)*****	**Total FTE positions**
Full-time faculty FTE*	0.40		0.70	1.10
Part-time faculty FTE**	0.30		0.75	1.05
Adjunct faculty	0.25		0.75	1.00
Graduate assistants (HDCT)				0.00
Classified positions	0.25			0.25
TOTAL	1.20	0.00	2.20	3.40

*Faculty dedicated to the program. **Faculty effort can be in the department or split with another unit.

*** Added **after** initiation year

Part C: Estimated resources to initiate and operate the program

	Program Initiation Year 2020- 2021		Expected by Target Enrollment Year 2024- 2025	
Full-time faculty	0.40	0.00	0.70	1.10
salaries	$52,412		$70,000	$122,412
fringe benefits	$17,768		$23,730	$41,498
Part-time faculty (faculty FTE split with unit(s))	0.30	0.00	0.75	1.05
salaries	$29,250		$71,250	$100,500
fringe benefits	$9,916		$24,154	$34,070
Adjunct faculty	0.25	0.00	0.75	1.00
salaries	$5,100		$15,300	$20,400
fringe benefits	$372		$1,117	$1,489
Graduate assistants	0.00	0.00	0.00	0.00
salaries				$0
fringe benefits				$0
Classified Positions	0.25	0.00	0.00	0.25
salaries	$12,250			$12,250
fringe benefits	$5,586			$5,586
Personnel cost				
salaries	$99,012	$0	$156,550	$255,562
fringe benefits	$33,642	$0	$49,001	$82,643
Total personnel cost	$132,654	$0	$205,551	$338,205
Equipment				$0
Library				$0
Telecommunication costs				$0
Other costs				$0
TOTAL	**$132,654**	**$0**	**$205,551**	**$338,205**

ITEM NUMBER:
MS in Kinesiology Degree Proposal

PURPOSE OF ITEM:
The MS in Kinesiology degree proposal is in development for submission to the State Council of Higher Education for Virginia (SCHEV) for initiation in Fall 2020. Prior to SCHEV submission, Board action is required.

APPROPRIATE COMMITTEE:
Academic Programs, Diversity and University Community Committee

BRIEF NARRATIVE:
Kinesiology is an academic discipline that involves the study of human movement and its impact on health, society, and quality of life. To tackle societal health issues (e.g., obesity, metabolic syndrome, cardiovascular disease, movement dysfunction, occupational task performance), a transdisciplinary approach is needed, as is advanced knowledge and experience using state of the art equipment. The Master of Science (MS) degree program in Kinesiology will provide students an evidence-based approach to the study of human movement and physical activity. Specifically, students will learn to apply the scientific method of discovery, analysis, and research within this broad-based and multidimensional discipline. The knowledge and practical experience gained will be essential to addressing the health needs of populations throughout the Commonwealth of Virginia and beyond.

Graduates of the MS degree program in Kinesiology will be qualified to work in advanced professional positions such as strength and conditioning coaches in a university or professional setting, exercise physiologists, fitness and health directors, college/university instructors, research assistants or research lab managers, performance center directors, and athletic directors. Additionally, graduates will be prepared to pursue a terminal degree in Kinesiology or a related discipline.

REVENUE IMPLICATIONS:
The program at launch will be revenue-neutral. Current labs on campus (e.g., SMART Lab) feature state of the art equipment for studying and measuring human movement, and the program location provides access to a community of diverse populations. As such, the program does not require new laboratory or other facilities at initiation. The program is expected to be revenue enhancing as it reaches maturity.

STAFF RECOMMENDATION:
Staff recommends Board approval.

Description of the Proposed Program

Program Background

George Mason University requests approval to initiate a Master of Science (MS) degree program in Kinesiology, to be implemented in the fall 2020 semester. The proposed program will be administered by the School of Kinesiology in the College of Education and Human Development.

The purpose of the proposed MS in Kinesiology is to provide students an evidence-based approach to the study of human movement in order to address the health needs of populations throughout the Commonwealth of Virginia. The program will provide students with a deep understanding of the subfields of kinesiology through advanced coursework and experiences throughout the curriculum. Students will learn knowledge, skills and abilities reflective of current and future job demands requiring an advanced degree in kinesiology or a related field. The curriculum will emphasize translational research and practical experiences related to improving current health issues across the lifespan. These health issues include, but are not limited to, obesity, metabolic syndrome, cardiovascular disease, movement dysfunction, decline in physical function due to aging, athletic performance and occupational task performance. Graduates will be qualified to work in advanced professional positions or pursue a terminal degree. Advanced professional positions may include: strength and conditioning coaches in a university or professional setting, exercise physiologist, fitness and health manager/director, college/university instructor, research assistant or research lab manager, performance center director, and athletic director.

The proposed program responds to current needs in the Commonwealth of Virginia and the nation as a whole. Kinesiology is defined as "the academic discipline which involves the study of physical activity and its impact on health, society, and quality of life." As the field of kinesiology continues to evolve there is a need for more individuals with several key characteristics to improve the health and well-being of individuals across the life span. The first characteristics is advanced knowledge in subfields of kinesiology. Currently an undergraduate degree in kinesiology typically provides students with a single course in areas such as biomechanics, exercise physiology or strength and conditioning. The proposed MS in Kinesiology will allow students to gain advanced knowledge in one of these areas as a result develop a specialization.

The second key characteristic is a transdisciplinary approach to address health issues. Many of the current health issues require collaboration amongst a variety of health professionals to address. For example, a strength and conditioning coach often needs to work closely with athletic trainers, exercise physiologists and coaches for the overall well-being of the student athletes they are working with. Similarly, an exercise physiologist would likely work collaboratively with a physician, nutritionist and other medical professionals to improve the health of their clients.

The proposed MS in Kinesiology will be well-positioned to produce graduates with both of these key characteristics. Additionally, the current resources at George Mason University and location in the Northern Virginia region provide students with abundant opportunities to grow professionally while completing their degree. Thus, the infrastructure exists to support the

proposed MS in Kinesiology and graduates of the program will be well trained to address current needs of the commonwealth.

Mission

The mission of George Mason University is: "A public, comprehensive research university established by the Commonwealth of Virginia in the National Capital Region, we are an innovative and inclusive academic community committed to creating a more just, free, and prosperous world."

The proposed MS degree program in Kinesiology aligns with the mission of the university as graduates will have the requisite knowledge, skills, and abilities to improve the health and well-being of individuals of diverse backgrounds throughout the life span. The program will take an all-inclusive approach in support of Mason's mission to create "a more just, free, and prosperous world." Further, the proposed program's curriculum will emphasize research of consequence to improve the well-being of the community. This directly aligns with Mason's mission as a "public, comprehensive research university."

Online Delivery

The proposed MS in Kinesiology will be delivered in a hybrid format. One required course, EXSC 606: Advanced Exercise Nutrition will be available exclusively online.

George Mason University and the College of Education and Human Development have excellent on-line teaching resources available to faculty, which are designed to support distance education, including but not limited to: Blackboard, a distance learning librarian, information technology distance learning specialists, and online instructional courses dedicated to distance learning and instructional strategies. The faculty teaching online content have designed and taught previous courses in the virtual environment. Mason offers a variety of on-line support services through the Information Technology Services (ITS) unit. To promote quality virtual instruction, all faculty who design and teach courses on-line will be required to meet with an instructional design consultant in the ITS unit. All instructors will be required to take the Mason sponsored Online Teaching Initiative course that offers new teaching methods and activities to utilize in courses. In addition, instructors teaching on-line will be presented with new virtual teaching strategies at monthly faculty meetings.

Admission Criteria

All students will be required to meet the University requirements for graduate admission:

- An earned baccalaureate degree from a regionally accredited institution of higher education, or international equivalent, verified from official transcripts.
- A minimum 3.00 GPA on a 4.00 scale in baccalaureate study.
- Two letters of recommendation from professional references.
- Current resume/CV
- Goals statement (up to 1,000 words)

Students from non-U.S. institutions will be required to report their English language proficiency test scores. Minimum scores include:

- TOEFL
  - IBT: 88 points total AND a minimum of 20 points in each section
  - PBT: 570 points
- IELTS-Academic
  - 6.5 total band score
- Pearson Test of English
  - 59 overall score
- IELA-Graduate
  - 176 overall score
- INTO-Mason, Academic English, Level 7

In addition, admission to the proposed MS in Kinesiology will require the following:

- Goals statement must cover the following: academic and occupational background, the development of student's interest in kinesiology, reasons for wanting to enter the master's program, career objective(s).
- An interview with the Academic Program Coordinator or designee

With program advisor approval, up to 12 credits of graduate-level coursework may be transferred from George Mason University non-degree status or from another accredited institution. Transfer credit may apply to either core or elective courses. Credits must be less than six years old from the time of admission, and graded B (3.0) or better. Credits applied to a degree previously earned at Mason or at another institution may not be transferred.

Target Population

The primary target population for the proposed MS in Kinesiology will be undergraduate students in Kinesiology or Exercise Science degree programs. A second target group includes individuals who have been working in a related field who wish to advance in the field.

Curriculum

The proposed MS in Kinesiology program is a 36 credit hour degree program. A thesis and non-thesis option will be offered.

The focus and intent of the curriculum is to promote evidence-based practice of kinesiology through didactic and experiential learning experiences. The evidence-based approach of the proposed degree program will be emphasized in the first year as students read, interpret, and synthesize current evidence into a literature review during the first semester. Students then take a research question from the literature review and develop a research proposal, using an evidence-based approach, to answer the question. Simultaneously, students will gain in-depth knowledge regarding sub-areas of biomechanics and exercise physiology. The content of these fields is essential for future coursework in which theory is applied to more practical applications. Students will gain experience using state of the art equipment and current best practices to

measure human movement. The measurement and instrumentation techniques will be primarily related to biomechanical and physiological metrics of human movement.

Coursework will be characterized by didactic instruction followed by experiential learning opportunities in order for students to apply theory to practice. In the second year, students take elective courses to gain experiential learning. Through elective coursework, students focus on a specific sub-area to acquire either a certain skillset for a professional position and/or a skillset needed for a thesis project.

Students may choose a non-thesis or thesis option. Students in either the directed inquiry (KINE 798: Directed Inquiry) or thesis **(**KINE 799: Thesis) option will complete a capstone course. This coursework allows students to address a practical or research-focused issue under the supervision of full-time faculty. In both scenarios, students will be required to make a proposal to a committee of full-time faculty members prior to enrolling in the course. In consultation with the MS in Kinesiology Program Coordinator, students select two additional faculty members to form a three-member directed inquiry or thesis committee. Successful completion of these courses will require students to engage in independent thought, problem solving and utilizing current literature to make evidence-based decisions.

The proposed program will be cohort-driven to encourage full-time enrollment for students. Full-time students will commence in the fall semester and complete the degree in two academic years.

To reflect current job demands, three new courses were developed for the proposed MS in Kinesiology. All new courses are denoted with an asterisk.

Program Requirements

Core Courses: 18 credits
KINE 600: Scientific Foundations of Kinesiology (3 credits)
KINE 601: Advanced Exercise Physiology (3 credits)
KINE 602: Advanced Applied Biomechanics (3 credits)
KINE 605: Research Methods in Kinesiology (3 credits)
KINE 615: Measurement Techniques and Instrumentation* (3 credits)
KINE 798: Directed Inquiry* (3 credits) or KINE 799: Thesis* (3 credits)

Restricted Electives (12-18 credits)
KINE 500: Special Topics (3 credits)
KINE 501: Independent Study (3 credits)
KINE 506: Exercise Psychology (3 credits)
KINE 603: Advanced Movement and Fitness Assessment (3 credits)
KINE 604: Motor Control and Learning (3 credits)
KINE 606: Advanced Exercise Nutrition (3 credits)
KINE 607: Exercise Programming: Movement Selection and Progression* (3 credits)
KINE 608: Data Analytics in Kinesiology* (3 credits)
KINE 609: Advanced Principles of Strength and Conditioning (3 credits)
ATEP 510: Advanced Functional Anatomy (3 credits)

KINE 610: Corrective and Preventative Exercise Techniques* (3 credits)

Electives (6 credits)
With permission of an academic advisor, students may take up to six credits of related coursework offered by other programs within the College of Education and Human Development or other academic units at the University.

Total: 36 Credit Hours

Student Retention and Continuation Plan

The proposed MS in Kinesiology will be a rigorous program requiring students to excel academically, scholarly, and professionally. The George Mason University academic catalog will be used to provide academic standards and policies for the program. Academic advising will be available for all students in the proposed program. Students in the proposed program will be expected to meet with the program director once each semester to discuss academic progress and to update their plan of study. In addition, students can meet at any time with the program director to receive additional academic support.

Students will monitor their academic progress on the Patriot Web system at the University. Students will also be advised of the availability of the free Learning Services through the Counseling and Psychological Services at Mason. Services include mindfulness workshops, time management workshops, academic coaching, and academic skills workshops. Students will be encouraged to utilize Mason's Writing center for consultation on writing assignments.

The College of Education and Human Development also offers resources to support student success. A Retention Coordinator meets with students who may be struggling academically or who are not attending regularly or completing classwork. The Retention Coordinator contacts the student and assists in the development of a plan that provides strategies for success. The College also offers several engagement activities including the Writer's Retreat, open exclusively to College of Education and Human Development graduate students, which is a day-long event each semester, providing group accountability among peers who are determined to accomplish their academic writing goals. Students are encouraged to participate in the Student Research Symposium, offering students the opportunity to present on a research topic of their choice. These and other activities provide opportunities for students to be engaged with their academic community, thus improving student retention.

Faculty

The School of Kinesiology in the College of Education and Human Development has ten full-time faculty. Six of the ten faculty will teach the required core courses for the proposed MS in Kinesiology. All ten primary faculty members will have the proper academic training, teaching experience, and professional expertise to teach and supervise the required capstone course for thesis and non-thesis options on an individualized basis, provide competent instruction in kinesiology courses, and mentor students. All ten are full-time faculty who will be dedicated to

teaching the required common core, restricted electives, and other required courses. They include three full professors, four associate professors, and three assistant professors.

Of the current faculty, four tenured and three of the term faculty are actively conducting research in areas related to community well-being, injury prevention, and improving the health of individuals. They are active in their professional organizations, present at conferences, maintain ongoing research programs, pursue grant funding, and publish in peer-reviewed journals. All ten faculty have terminal degrees. Six faculty members are certified by the National Strength and Conditioning Association (NSCA). Three faculty members are certified by the American College of Sports Medicine Exercise (ACSM).

Program Administration

The proposed MS in Kinesiology will have an Academic Program Coordinator. The Academic Program Coordinator will be responsible for scheduling courses and assigning instructors; facilitating the matching of students with faculty to serve on thesis and directed inquiry committees; overseeing student assessments; performing annual reviews of the program; purchasing; marketing; communicating with prospective students and reviewing applications; cultivating relationships in the community and profession; and academic advising for all students in the program.

Three existing staff members supporting the School of Kinesiology will allocate a portion of their time and duties toward the proposed MS in Kinesiology program.

The College of Education and Human Development will provide support to the proposed program through their Office of Admissions, Office of Student and Academic Affairs, Office of Accreditation and External Reporting, Office of Development, and the Office of Research.

Advisory Board

The proposed MS in Kinesiology will receive guidance from an advisory board with members that represent a variety of employment settings in the field of Kinesiology. Represented fields will consist of academic, clinical, and private sectors. The entire board will meet as a collective group once a year during the spring academic semester. The members will review the curriculum and provide suggestions for improvement to prepare professionals in various fields associated with the proposed MS in Kinesiology. All members will be appropriately credentialed nationally as well as in the Commonwealth of Virginia when appropriate.

Student Assessment

Students who complete the proposed MS program in Kinesiology will have mastered a set of skills needed to work in advanced professional positions and/or conduct research in the field of kinesiology. The core outcomes are values and concepts emphasized throughout the proposed curriculum. The learning outcomes for the proposed MS in Kinesiology are specific to graduate level knowledge, skills, and abilities students should acquire in the proposed degree program.

Student progress will be assessed in courses utilizing a variety of formative and summative evaluative measures. Formative evaluative measures will include but are not limited to: quizzes, exams, demonstration of practical skills, and laboratory reports. Summative evaluative measures will include but are not limited to: research papers, final presentations, and final projects. Classes will use a combination of didactic instruction, experiential learning and independent study. Didactic instruction will provide foundational knowledge to students and learning outcomes will be evaluated by a variety of means including written in class examinations, quizzes, research papers, and presentations. Experiential learning will provide knowledge and skills to students primarily through laboratory experiences. The main form of evaluation will be projects, presentations and laboratory reports. Culminating the program, students will engage in independent study through the directed inquiry or thesis option. Students will be expected to demonstrate: 1) a practical application of knowledge, skills and abilities from previous coursework and 2) an evidenced-based approach to address a problem or research question in the field of kinesiology. The committee of full-time faculty members will evaluate student performance based upon a proposal, final paper, and presentation.

Learning Outcomes

Students will be able to:

- Describe the responses that occur during exercise in the body's various physiological systems.
- Evaluate basic movement patterns and identify common deficiencies in healthy populations
- Develop a thorough fitness profile of an individual with the ability to incorporate fitness assessment results into a comprehensive exercise program.
- Describe the biomechanical measures of human movement and exercise using qualitative and quantitative techniques.
- Demonstrate knowledge of new trends and issues in human movement and exercise science.
- Develop nutritional recommendations based on exercise demands and individual needs.
- Design and implement exercise programs appropriate for an individual based on movement capabilities, fitness level and goals.
- Compare major theoretical frameworks and factors within the field of motor learning that need to be considered when working with individuals.
- Incorporate common strength and conditioning principles with the ability to integrate strength, speed, agility and plyometric training safely into an exercise program.
- Apply data analysis and statistical techniques commonly used within the field of human movement and exercise science.
- Develop a research proposal and design an experimental protocol to test a specific research question.
- Conduct a research project that requires data collection, analysis and presentation of findings (written and oral).

Curriculum map for MS in Kinesiology

Learning Outcomes	**Courses**	**Assessment Methods**
Describe the responses that occur during exercise in the body's various physiological systems.	KINE 601: Advanced Exercise Physiology KINE 607: Exercise Programming: Movement Selection and Progression	Formative: Exams, quizzes, homework assignments Summative: Final presentations
Evaluate basic movement patterns and identify common deficiencies in healthy populations	KINE 602: Advanced Applied Biomechanics KINE 603: Advanced Movement and Fitness Assessment	Formative: Exams, laboratory reports Summative: Final presentations, projects
Develop a thorough fitness profile of an individual with the ability to incorporate fitness assessment results into a comprehensive exercise program.	KINE 603: Advanced Movement and Fitness Assessment KINE 607: Exercise Programming: Movement Selection and Progression KINE 609: Advanced Principles of Strength and Conditioning	Formative: Exams, quizzes, homework assignments, laboratory reports Summative: Final presentations, projects
Describe the biomechanical measures of human movement and exercise using qualitative and quantitative techniques.	KINE 602: Advanced Applied Biomechanics	Formative: Exams, Laboratory Reports Summative: Projects
Demonstrate knowledge of new trends and issues in human movement and exercise science.	KINE 600: Scientific Foundations of Kinesiology KINE 605: Research Methods in Kinesiology KINE 615: Measurement Techniques and Instrumentation KINE 798: Directed Inquiry KINE 799: Thesis	Formative: Homework assignments Summative: Literature review, research proposal, final presentations
Develop nutritional recommendations based on exercise demands and individual needs.	KINE 606: Advanced Exercise Nutrition	Formative: Homework assignments Summative: Projects
Design and implement exercise programs that are appropriate for an individual based on their	KINE 603: Advanced Movement and Fitness Assessment KINE 604: Motor Control and Learning	Formative: Laboratory reports, homework assignments

movement capabilities, fitness level and goals.	KINE 607: Exercise Programming: Movement Selection and Progression KINE 609: Advanced Principles of Strength and Conditioning	Summative: Projects, final presentation
Compare major theoretical frameworks and factors within the field of motor learning that need to be considered when working with individuals.	KINE 604: Motor Control and Learning	Formative: Exams, Homework assignments Summative: Research paper, final presentation
Incorporate common strength and conditioning principles with the ability to integrate strength, speed, agility and plyometric training safely into an exercise program.	KINE 609: Advanced Principles of Strength and Conditioning	Formative: Exams, quizzes, laboratory reports Summative: Final presentations, projects
Apply data analysis and statistical techniques commonly used within the field of human movement and exercise science.	KINE 608: Data Analytics in Kinesiology	Formative: Homework assignments, quizzes Summative: Projects
Develop a research proposal and design an experimental protocol to test a specific research question.	KINE 605: Research Methods in Kinesiology KINE 798: Directed Inquiry KINE 799: Thesis	Formative: Quizzes, weekly assignments Summative: Research proposal, paper, presentation
Conduct a research project that requires data collection, analysis and presentation of findings (written and oral)	KINE 798: Directed Inquiry KINE 799: Thesis	Formative: Weekly assignments Summative: Research proposal, paper, presentation

Employment Skills and Workplace Competencies

Graduates of the proposed MS in Kinesiology will be able to:

- Direct fitness testing and evaluation of clients
- Develop evidence-based exercise programs for various populations
- Analyze and monitor various forms of data and outcome measurements

- Demonstrate ability to record/measure physiological measurements using a variety of technology
- Utilize an evidence-based approach to make clinical decisions
- Provide innovative education to clients and staff
- Motivate and provide support to clients
- Create reports using various software packages
- Lead, develop, implement and coordinate programs and projects

Program Assessment

The School of Kinesiology of the College of Education and Human Development will assess and evaluate the proposed program on an annual basis, commencing in 2021. The School will conduct, report and analyze assessments of student learning in accordance with the college-wide reporting requirements of the Accreditation and External Reporting Office (AERO) covering student performance in key assessments and standards across the calendar year. AERO data sources include results of performance-based assessments for each of the core required courses in the proposed program, student retention data, along with the results of university-wide graduate exit surveys conducted by the university's Office of Institutional Effectiveness and Planning to determine student satisfaction and experiences with the proposed program. The Learning Technologies Division will use these data to identify opportunities for continuous improvement of the proposed program.

Each semester during the academic year, the School will review faculty evaluations conducted by the university's Office of Institutional Effectiveness and Planning. The School will also review annual employment needs for learning professionals, in consultation with the external Advisory panel members, to ensure the curriculum is meeting the education needs of industry. Faculty will also be given opportunities to attend industry events to ensure continual program assessment and evaluation to enhance the program's curriculum and students' skills and knowledge.

A more extensive review of the program's mission, goals, learning outcomes, and student successes will occur on a seven-year cycle, consistent with the university's Academic Program Review process. This review takes place under the guidance of the university's Office of Institutional Effectiveness and Planning and requires four semesters to complete. The outcomes of the process are a series of deliverables - a self-assessment report and academic plan written by program faculty and a report by a review team external to the program - and changes made to enhance the program. The Academic Program Review (APR) process for the proposed MS Kinesiology will be scheduled to commence in 2023.

Benchmarks of Success

The following measures will be used to assess the growth and success of the proposed MS degree program in Kinesiology:

- 75% of the full-time students will complete the program in 3 years or less.
- 75% of graduate students will have earned jobs within the field (to include entering a terminal degree program), assessed two years after completion of the program.

- 75% or higher pass rate for students attempting national certification exams, such as the National Strength and Conditioning Association's Certified Strength and Conditioning Specialist exam or the American College of Sports Medicine's Certified Exercise Physiologist exam.

Graduates will be tracked for at least two years post-graduation to assess the job placement situation of graduates of the proposed program. The third benchmark will require students to complete an exit survey administered by the program director.

If these benchmarks of success are not met, the program evaluation committee will examine which benchmarks were unsuccessful and determine the reason(s) for the miss. If curriculum changes are needed, the curriculum committee will work with the program evaluation committee to review and revise the curriculum to better meet the needed benchmarks. Further, regarding enrollment issues, the department will work with the College of Education and Human Development marketing team and the Office of Student Academic Affairs and Enrollment Management to assist with marketing the program.

Expansion of Existing Programs

The proposed MS degree program in Kinesiology is not an expansion of an existing certificate, option, concentration, emphasis, focus, major, minor or track.

Relationship to Existing George Mason University Degree Programs

The proposed MS degree program in Kinesiology is not related to existing master's degree programs. It emerged from the Kinesiology specialization within the MS in Physical Education.

Compromising Existing Degree Programs

No degree programs will be compromised or close as a result of the initiation and operation of the proposed degree program.

Collaboration or Standalone

The proposed MS degree program in Kinesiology is a standalone program. No other organization was involved in its development, and no other organization will collaborate in its operation.

Justification for the Proposed Program

Response to Current Needs (Specific Demand)

The proposed MS degree program in Kinesiology responds to changes related to improving the overall quality of health across the lifespan. It is intended to directly address a number of health-related issues impacting communities. Throughout the nation obesity remains at an all-time high,

cardiovascular disease is a major problem, and many individuals suffer from an assortment of musculoskeletal issues which are present in as many as one in three people. Fortunately, many of these health issues are preventable through exercise and proper nutrition. Unfortunately, the fitness and health industry is plagued with practitioners not utilizing current evidence to best combat obesity, cardiovascular disease and musculoskeletal disorders. There are several calls to action, and initiatives, to improve the health of the nation utilizing an evidence-based approach to address these issues. Virginia, and specifically the Northern Virginia region, is impacted just as much by these health issues as the rest of the country.

George Mason University is located in a region of the state with tremendous growth over the past several decades. Large companies, such as Amazon, find the area attractive, many of the schools are ranked high in the state, and the communities in Northern Virginia are rated very well in regards to quality of life. At the same time that advances in technology are being facilitated by many of the companies in the region there is a decline in physical activity, especially among the pediatric population. This, coupled with the large and growing population, brings with it a need for more professionals working to support the health and well-being of Northern Virginia residents. Medical professionals are realizing that "exercise is medicine" and encouraging more of their patients to seek fitness professionals as a preventative measure against an array of health issues later in life. To ensure the health and well-being of the region, highly educated fitness professionals are needed who are capable of incorporating the current best evidence into practice. The proposed MS in Kinesiology will produce graduates capable of taking an evidence-based approach to provide preventative health care to the region. Furthermore, as part of program requirements current students will have the opportunity to make an immediate impact while in the program.

The American College of Sports Medicine surveys fitness professionals, clinicians, educators and researchers annually to identify current trends in health and fitness. The 2019 survey listed the following trends in the top 20: wearable technology, employing certified fitness professionals, Exercise is Medicine, outcome measurements, licensure for fitness professionals, and post-rehabilitation classes. As the health and fitness needs of society grows, so does a trend for more education, wearable technology and an evidence-based approach to address these needs. A trend in recent job advertisements is "BS required, MS preferred" (Appendix D). This suggests that for current graduates to be competitive in securing a position such as an exercise physiologist or a strength and conditioning coach, an MS or higher-level degree is needed. Additionally, more individuals are deciding to pursue a PHD in a health-related field and in most cases an MS in a related field is a prerequisite. Thus, another reason an MS in Kinesiology is being proposed is to keep abreast with current trends in the field in order to meet societal needs.

The past decade has been a period of tremendous growth at the University. Furthermore, over the same time period a BS in Kinesiology, MS in Athletic Training, and a change from a Division of Health and Human Performance to a School of Kinesiology has occurred within the local academic unit where the proposed MS in Kinesiology will be located. Additionally, a state-of-the-art research laboratory was created to provide students a place to learn and work on consequential research. The proposed MS in Kinesiology would align with other programs in the newly created School of Kinesiology, which aspires to become a nationally recognized School with graduates contributing to improving the well-being of society.

To support the vision of the School of Kinesiology, the proposed MS in Kinesiology will bridge a gap between the existing undergraduate and the proposed doctoral program. As opposed to creating multi-level programs operating independently within the School of Kinesiology, establishing a synergistic relationship among all programs will better allow for student learning outcomes to be realized. Ultimately, the goal is to create an environment where students at all degree levels can be successful and prepared for their future upon graduation. For the BS in Kinesiology students, the proposed MS in Kinesiology will provide a logical progression in their education. The BS in Kinesiology degree provides a basic understanding of subfields of kinesiology; however, a deep understanding of areas such as exercise physiology, biomechanics, strength and conditioning is often not afforded to graduates of undergraduate programs. The proposed MS in Kinesiology will allow more in-depth knowledge of the subfields to kinesiology and, through elective course options, an exposure to an area of research in which they are interested. The smaller size of the program and curriculum will provide opportunities for students to learn how to use laboratory equipment, which will translate into marketable skills when seeking jobs.

One of the unique features of the proposed MS in Kinesiology are the laboratory spaces. Currently, George Mason University has a state-of-the-art laboratory facility called the Sports Medicine Assessment Research Testing (SMART) Lab. The SMART Lab has a 3800 square foot biomechanics lab with equipment for performing motion analysis, force measurement, muscular imaging, isokinetic dynamometry, and recording muscle activity. Another laboratory space in the Freedom Fitness and Aquatic Center contains equipment for measuring physiologic function: Parvo metabolic cart, 3D gait analysis, BodPod for body composition, electrocardiogram and a research grade treadmill.

The SMART Lab spaces will be used for delivering course content in the form of experiential learning in the proposed MS in Kinesiology. The SMART Lab will enrich the student learning experience in the program and allow students to gain tangible skills which are highly desirable in the current job market. Further, the SMART Lab resources will be utilized by students for the directed inquiry or thesis to address health issues mentioned above. Upon graduation from the MS in Kinesiology students who wish to entire the workforce or continue on to a PhD will be well prepared to be successful in their future endeavors.

There are currently no comparable MS-level Kinesiology programs in the Northern Virginia region, with Old Dominion University and the University of Virginia the only comparable programs in the state. Within the field of health and fitness, education is increasingly valued and sought out by clients, as well as employers. Currently at George Mason University, the infrastructure and resources of the School of Kinesiology, as well as the SMART lab, are in place to support the proposed MS in Kinesiology.

Employment Demand

Graduates of the proposed MS in Kinesiology will have a variety of employment opportunities upon entering the workforce. A degree in kinesiology can lead to a wide variety of career options. These careers are typically focused at addressing large societal issues related to physical activity, health and well-being. Performance of activities of daily living, occupational tasks and

athletic performance are other areas in which jobs for kinesiology graduates exist. A number of current positions require individuals capable of using technology and analyzing various forms of data to improve client outcomes.

Professional fields in which graduates will be prepared to work include but are not limited to healthcare professions (fitness, strength and conditioning, athletic training, human performance) and exercise physiology. As the recognition of exercise as medicine increases, the number of jobs in the kinesiology field will also continue to grow.[1] A rise in medical scientists and medical and clinical laboratory technologists have an anticipated job growth rate that is faster than the national average (see Table 1). Some students may seek out entry level medical scientist (research) positions requiring an MS degree. Other students may seek an MS as a required step to continue on to a PhD. Lastly, as Athletic Training has moved to a MS level degree, it is anticipated that a number of individuals with a BS degree in Athletic Training may choose to enroll in an MS in Kinesiology (or related) degree program to improve their job market attractiveness.[2]

At the national level, Mason graduates will be well-positioned to participate in the upsurge of jobs in postsecondary settings (see Table 1). The Bureau of Labor Statistics projects a much faster than average increase in postsecondary health specialties teachers at 23%, and 11% increase in postsecondary teachers overall from 2018 to 2028, respectively.[3] As the number of kinesiology programs expand, there will be a greater need for individuals with MS level degrees to serve in these areas. Many doctoral programs will require an MS in a related field for admission. Thus, the MS in Kinesiology will be a logical step for those seeking a faculty appointment in a Kinesiology position.

Table 1. National Health and Research Employment Change Statistics for 2018 to 2028 from Bureau of Labor Statistics

Position	**Number of New Jobs**	**Growth Rate**
Exercise Physiologists	1,500	10% (faster than average)
Fitness Trainers and Instructors	45,700	13% (Much faster than average)
Health Specialties Teachers, postsecondary	60,600	23% (much faster than average)
Medical Scientists	10,600	8% (faster than average)
Medical and Clinical Laboratory Technologists	35,100	11% (faster than average
Postsecondary teachers	155,000	11% (much faster than average)
Athletic Trainers	5,900	19% (much faster than average)

[1] Ibid.
[2] The Professional Degree. CAATE. https://caate.net/the-professional-degree/.
[3] U.S. Bureau of Labor Statistics. https://www.bls.gov/.

At the state level, the job outlook is positive for individuals seeking careers that an MS in Kinesiology degree would lead to (Table 2).[4] Virginia anticipates a nearly 20% increase in medical scientist roles and 16% in medical and clinical laboratory technologist jobs. The demand for postsecondary health teachers has experienced strong growth in the state. An MS in Kinesiology (or related) is a common requirement for direct entry or as a required step to a terminal degree preparing one for this occupation. Healthcare professions including exercise physiology, athletic training and physical therapy anticipate a faster than average job growth at approximately 12%, 29% and 30%, respectively. Additionally, while the MS degree would not necessarily be intended to prepare individuals to work as entry level fitness trainers and instructors, graduates would be more qualified to obtain mid-level positions or make themselves more competitive for a number of positions where a BS is required but a MS is preferred.

Table 2. Virginia Employment Commission Employment Statistics for 2016 to 2026

Position	Base Year Employment	Projected Employment	Total Percent Change	Annual Openings
Exercise Physiologists	1,248	1,395	11.78%	85
Fitness Trainers and Instructors	12,654	14.720	16.33%	2,472
Health Specialties Teachers, postsecondary	5,078	6,641	30.78%	595
Medical Scientists	1,931	2,305	19.37%	211
Medical and Clinical Laboratory Technologists	4,430	5,150	16.25%	362
Athletic Trainers	825	1,061	28.61%	71
Physical Therapists	6,257	8,124	29.84%	476
			Total	**4,272**

The proposed MS in Kinesiology will allow Mason graduates to fulfill industry needs in Virginia, nationally, and globally. George Mason University is located in one of the most densely populated regions in the state with no sign of a decline in population growth.[5] The region has a large number of health, fitness and performance centers who employ individuals with advanced degrees in kinesiology or related fields. Mason's graduates will be prepared to serve as health/fitness professionals. Furthermore, the proposed MS in Kinesiology will also provide a mechanism for students to stay at George Mason to continue on to the proposed PhD in Kinesiology. The PhD degree will provide greater opportunity for those students interested in careers in research and higher education. Most importantly, graduates will be prepared to address a number of health-related issues affecting the region, state and country.

[4] Virginia Labor Market Information > Occupational Projections. https://virginiaworks.com/occupational-projections/page79862/1/size79862/12/page80257/1/size80257/12?page79862=1&size79862=12&page80257=1&size80257=12&page81630=1&size81630=12&search79862=ath.

[5] Ibid.

Student Demand

Faculty in the School of Kinesiology created a survey, in consultation with George Mason University's Office of Institutional Effectiveness and Planning, to capture student interest in the program. All surveys were administered during the fall semester of the 2019 academic year to the sample groups listed below. A total of 108 people responded. The populations sampled were as follows:

Survey #1
This survey was conducted on September 11, 2019 and was comprised of Mason undergraduate students in the School of Kinesiology. Students completed the survey during KINE 400: Biomechanics. All of the students were Kinesiology majors consisting of 2 juniors and 22 seniors completing the survey. Of the 24 students currently in pursuit of an undergraduate degree, 12 answered that they would be "extremely likely" to enroll in a master's degree in Kinesiology if George Mason University offered the program. There were an additional 5 students who would "likely" enroll in a master's degree in Kinesiology if George Mason University offered the program.

Survey #2
This survey was conducted on September 11, 2019 and was comprised of Mason undergraduate students in the School of Kinesiology. Students completed the survey during KINE 310: Exercise Physiology 1. All of the students were Kinesiology majors consisting of 8 sophomores, 12 juniors and 1 senior completing the survey. Of the 21 students currently in pursuit of an undergraduate degree, 5 answered that they would be "extremely likely" to enroll in a master's degree in Kinesiology if George Mason University offered the program. There were an additional 11 students who would "likely" enroll in a master's degree in Kinesiology if George Mason University offered the program.

Survey #3
This survey was conducted on September 12, 2019 and was comprised of Mason undergraduate students in the School of Kinesiology. Students completed the survey during KINE 400: Biomechanics. All of the students were kinesiology majors consisting of 3 juniors and 20 seniors completing the survey. Of the 23 students currently in pursuit of an undergraduate degree, 5 answered that they would be "extremely likely" to enroll in a master's degree in Kinesiology if George Mason University offered the program. There were an additional 6 students who would "likely" enroll in a master's degree in Kinesiology if George Mason University offered the program.

Survey #4
This survey was conducted on September 16, 2019 and was comprised of Mason undergraduate students in the School of Kinesiology. Students completed the survey during KINE 310: Exercise Physiology 1. All of the students were kinesiology majors consisting of 7 sophomores, 15 juniors and 1 senior completing the survey. Of the 23 students currently in pursuit of an undergraduate degree, 4 answered that they would be "extremely likely" to enroll in a master's degree in Kinesiology if George Mason University offered the program. There were an additional 6

students who would "likely" enroll in a master's degree in Kinesiology if George Mason University offered the program.

Survey #5

This survey was conducted on September 19, 2019 and was comprised of Mason graduate students in the School of Kinesiology. Students completed the survey during EFHP 611: Movement and Fitness Assessment. All of the students were graduate students in the Kinesiology Specialization within the MS in Physical Education. Of the 17 students currently in pursuit of a graduate degree, 10 answered that they would be "extremely likely" to enroll in a master's degree in Kinesiology if George Mason University offered the program. There were an additional 6 students who would "likely" enroll in a master's degree in Kinesiology if George Mason University offered the program.

STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA

SUMMARY OF PROJECTED ENROLLMENTS IN PROPOSED PROGRAM

Projected enrollment:

Year 1		**Year 2**		**Year 3**		**Year 4 Target Year (2-year institutions)**			**Year 5 Target Year (4-year institutions)**		
2020 – 2021		2021– 2022		2022 – 2023		2023- 2024			2024 – 2025		
HDCT 15	FTES 11	HDCT 30	FTES 22	HDCT 46	FTES 34	HDCT 62	FTES 45	GRAD --	HDCT 66	FTES 48	GRAD 16

Assumptions:
Retention percentage: 80%
Full-time students 90%/ Part-time students 10%
Full-time students credit hours per semester: 9
Part-time students credit hours per semester: 6
Full-time students graduate in 2 years
Part-time students graduate in 3 years

Duplication

Two public institutions offer programs that are similar or related to the proposed MS degree program in Kinesiology. The following universities offer graduate degrees in the field of Kinesiology: Old Dominion University (ODU), and the University of Virginia (UVA).

Old Dominion University (ODU)

Old Dominion University (ODU) offers a 30-credit Master of Science (MS) in Exercise Science. The purpose of ODU's program is to prepare students for advanced roles in careers that utilize

exercise to improve the fitness and health among a wide variety of populations: individuals with chronic disease, healthy adults, fitness enthusiasts, and athletes.

Similarities

The proposed program ODU's program both offer thesis and non-thesis tracks. The non-thesis track of the proposed program would offer similar flexibility to the non-thesis tracks at ODU (internship, research problem). The proposed program consists of three similar core courses (Exercise Physiology, Biomechanics and Research Methods) to ODU's program.

Differences

The proposed program is a 36-credit program. ODU's program is a 30-credit program. ODU's thesis, internship, and research problem tracks require 12, 15, and 12 credits, respectively. The research methods course in the proposed program focus on methods specific to the field of kinesiology. ODU's research methods course are more broadly focused within the ODU School of Education. The proposed program's two core courses (Scientific Foundations of Kinesiology, Measurement Techniques and Instrumentation) differ from ODU's core (Clinical Exercise Testing and Prescription, Nutrition for Sports and Health). Further, the range of elective offerings differ between the programs. Four of ODU's 12 elective offerings focus on physiology and three of the 12 focus on aging/disease. The proposed program's electives include Exercise Psychology, Advanced Movement and Fitness Assessment, Motor Control and Learning, Exercise Programming, Data Analytics, Corrective and Preventative Exercise Techniques. The proposed program also offers the option to take up to 6 credits offered outside of the program. The curriculum of the proposed degree allows students to focus in sub-fields such as biomechanics, neuromuscular control of movement, wearables, and exercise psychology. These options are not a part of the ODU program.

University of Virginia (UVA)

The University of Virginia (UVA) offers a Masters of Education (MEd) in Kinesiology with three concentrations: Exercise Physiology, Kinesiology for Individuals with Disabilities, and Pedagogy. UVA's Exercise Physiology concentration is a two-year program of study with three specialization options: a specialization that prepares students for advanced graduate study in Exercise Physiology, Physical Activity Intervention, Exercise Science and potential academic/ research careers; a specialization that prepares students for clinically-oriented careers in fitness/exercise and health promotion, physical activity intervention, cardiac rehabilitation or strength training and conditioning; and a specialization that allows students to combine options.

UVA's concentration in Kinesiology for Individuals with Disabilities includes two summers and two semesters (fall and spring). The emphasis of the program is on practical experiences. Students serve as adapted physical education specialists and have the opportunity to work with occupational and physical therapists. UVA's concentration in Pedagogy offers two tracks. The first is a graduate program for students who already possess an undergraduate degree in physical education pedagogy. The second track is for active duty military officers who will assume the role of instructor in the Department of Physical Education at the United States Military Academy. Students are prepared to design, implement and evaluate curricula that stress developing motor ability, fitness levels, and cognitive understanding. UVA's concentration in Exercise Physiology is the most closely comparable to the proposed program.

Similarities
The proposed program and the MEd in Kinesiology at UVA have similar coursework in Advanced Exercise Physiology, Strength and Conditioning and an option for a thesis. Both programs require 36 credits of coursework.

Differences
The proposed program has several differences from the MEd in Kinesiology at UVA. The degree designation differs: the proposed program is an MS degree program, and the UVA program is an MEd degree program. The focus of UVA's program is in Exercise Physiology. The proposed program allows students to take coursework in other areas. Graduates of the UVA program are prepared to enter professional positions as an Exercise Physiologist or to pursue a terminal degree. The proposed program offers a directed inquiry option compared to a comprehensive examination option in UVA's program.

Enrollment and Degrees Awarded at Comparable Programs

Enrollments[6]	**Fall 2014**	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
Old Dominion University	*	*	*	*	1
University of Virginia	46	56	62	54	31
Degrees Awarded[7]	**2014**	**2015**	**2016**	**2017**	**2018**
Old Dominion University	*	*	*	*	5
University of Virginia	42	40	42	46	37

*Old Dominion University's MS in Exercise Science was initiated in Fall 2018.

Projected Resource Needs for the Proposed Program

Resource Needs

George Mason University has all of the faculty, classified support, equipment, library, and other resources necessary to launch the proposed MS in Kinesiology. The following subsections detail the resources required to operate the program from its initiation in the Fall 2020 through the target year of 2024 – 2025. Assessments of need for full-time faculty, part-time faculty, and adjunct faculty are based on the following ratio of student enrollment to faculty effort: 10 FTE of enrollment requires 1.0 FTE faculty for instruction. The proposed program will therefore require a total of 2.0 FTE to launch, increasing to 4.0 FTE by the target year of 2024 – 2025.

Full-time Faculty
The proposed MS degree program in Kinesiology will have six faculty members dedicated to the program. The proposed program will require 5.18 FTE of full-time faculty instruction to launch,

[6] State Council of Higher Education for Virginia (SCHEV). *Fall Headcount Enrollment by Race/Ethnicity, Gender and Program Detail.* http://research.schev.edu/enrollment/E16_Report.asp. (Accessed [DATE]).
[7] State Council of Higher Education for Virginia (SCHEV). *Completion, Program Detail C1.2.* http://research.schev.edu/Completions/C1Level2_Report.asp. (Accessed [DATE]).

increasing to 5.68 FTE in the target year of 2024-2025. The program director will teach and perform academic advising. This will be accommodated by internal reallocation of resources.

Part-time Faculty
No part-time faculty will be used to initiate or sustain the proposed program.

Adjunct Faculty
No adjunct faculty will be required to initiate or sustain the proposed program.

Graduate Assistants
No graduate assistants will be required to initiate or sustain the proposed program.

Classified Positions
The proposed MS degree program in Kinesiology will require 0.40 FTE of classified administrative support to launch and maintain the proposed program through the target year.

Targeted Financial Aid
No targeted financial aid will be required to launch or maintain the proposed MS degree program in Kinesiology.

Equipment (including computers)
The proposed MS degree program in Kinesiology will not require any new equipment costs to launch or maintain the proposed program.

Library
George Mason University's library is resourced with a variety of sports medicine and athletic training textbooks as well as a multitude of subscriptions to athletic training and healthcare related journals.

Telecommunications
The proposed MS degree program in Kinesiology will not require additional telecommunications to launch or maintain the proposed program

Space
The proposed MS degree program in Kinesiology will not require additional space to initiate or sustain the proposed program.

Other Resources (specify)
No other resources will be required to launch or maintain the proposed program.

PROJECTED RESOURCE NEEDS FOR PROPOSED PROGRAM

Part A: Answer the following questions about general budget information.

- Has or will the institution submit an addendum budget request to cover one-time costs? Yes _____ No X
- Has or will the institution submit an addendum budget request to cover operating costs? Yes _____ No X
- Will there be any operating budget requests for this program that would exceed normal operating budget guidelines (for example, unusual faculty mix, faculty salaries, or resources)? Yes _____ No X
- Will each type of space for the proposed program be within projected guidelines? Yes X No _____
- Will a capital outlay request in support of this program be forthcoming? Yes _____ No X

Part B: Fill in the number of FTE positions needed for the program

	Program Initiation Year 2020 – 2021		**Expected by Target Enrollment Year 2024 – 2025**	
	On-going and reallocated	**Added (New)**	**Added (New)*** **	**Total FTE positions**
Full-time FTE*	5.18	0.50	0.00	5.68
Part-time FTE **	0.00	0.00	0.00	0.00
Adjunct faculty	0.00	0.00	0.00	0.00
Graduate assistants (HDCT)	0.00	0.00	0.00	0.00
Classified positions	0.40	0.00	0.00	0.40
TOTAL	5.58	0.50	0.00	6.08

* Faculty dedicated to the program. **Faculty effort can be in the department or split with another unit.

*** Added **after** initiation year.

Part C: Estimated resources to initiate and operate the program

	Program Initiation Year 2020 – 2021		**Expected by Target Enrollment Year 2024- 2025**	
Full-time faculty	5.18	0.50	0.00	5.68
salaries	$466,433	$55,000	$0	$521,433
fringe benefits	$158,121	$18,645	$0	$176,766
Part-time faculty (faculty FTE split with unit(s))	0.00	0.00	0.00	0.00
salaries	$0	$0	$0	$0
fringe benefits	$0	$0	$0	$0
Adjunct faculty	0.00	0.00	0.00	0.00
salaries	$0	$0	$0	$0
fringe benefits	$0	$0	$0	$0
Graduate assistants	0.00	0.00	0.00	0.00
salaries	$0	$0	$0	$0
fringe benefits	$0	$0	$0	$0
Classified Positions	0.40	0.00	0.00	0.40
salaries	$22,713	$0	$0	$22,713
fringe benefits	$10,357	$0	$0	$10,357

Total Personnel cost				
salaries	$489,146	$55,000	$0	$544,146
fringe benefits	$168,478	$18,645	$0	$187,123
Total personnel cost	$657,624	$73,645	$0	$731,269
Equipment	$0	$0	$0	$0
Library	$0	$0	$0	$0
Telecommunication costs	$0	$0	$0	$0
Other costs	$0	$0	$0	$0
TOTAL	**$657,624**	**$73,645**	**$0**	**$731,269**

ITEM NUMBER:
PhD in Kinesiology Degree Proposal

PURPOSE OF ITEM:
The PhD in Kinesiology Degree Proposal is in development for submission to the State Council of Higher Education for Virginia (SCHEV) for initiation in Fall 2020. Prior to SCHEV submission, Board action is required.

APPROPRIATE COMMITTEE:
Academic Programs, Diversity and University Community Committee

BRIEF NARRATIVE:
Kinesiology is an academic discipline that involves the study of human movement, and its impact on health, society, and quality of life. The proposed PhD in Kinesiology will prepare the next generation of kinesiology scholars to be professional leaders, educators, and researchers through a rigorous, sequential, science-based curriculum and translational research experience. In addition to the demanding course component, doctoral students will pursue inquiry that provides an understanding of: 1) evidence-based knowledge of kinesiology; 2) sports medicine; 3) youth injury prevention; and 4) improvement of quality of life throughout the lifespan. Faculty will mentor students to generate, disseminate, and translate research by investigating problems of high consequence and societal significance.

Graduates of the proposed PhD in Kinesiology will enter a variety of fields associated with education, research, health, injury prevention, rehabilitation, and youth sports. Graduates will have a wide range of career choices including the public and private sectors.

REVENUE IMPLICATIONS:
The program at launch will be revenue-neutral. Current labs on campus (e.g., SMART Lab) feature state of the art equipment for studying and measuring human movement, and the program location provides access to a community of diverse populations. As such, the program does not require new laboratory or other facilities at initiation. It is expected that the program will be revenue enhancing as it reaches maturity.

STAFF RECOMMENDATION:
Staff recommends Board approval.

Description of the Proposed Program

Program Background

George Mason University requests approval for a Doctor of Philosophy (PhD) degree program in Kinesiology to be implemented in the fall 2020 semester. The proposed program will be administered by the School of Kinesiology in the College of Education and Human Development. The target start date is Fall 2020.

The purpose of the PhD in Kinesiology is to prepare the next generation of kinesiology scholars to be professional leaders, educators, and researchers of consequence through a rigorous, sequential, science-based curriculum and translational research experience. The PhD in Kinesiology program is a rigorous, sequential, science-based curriculum that includes a foundation in research methods and kinesiology-based science courses, and translational research experiences. In addition to the demanding course component, doctoral students pursue inquiry that provides an understanding of: 1) evidence-based knowledge of kinesiology, 2) sports medicine, 3) youth injury prevention, and 4) improvement of quality of life throughout the lifespan. This PhD in Kinesiology will prepare students to enter a variety of fields associated with education, research, kinesiology, health, injury prevention, rehabilitation, and youth sports. Knowledge and skills developed in the doctoral program can be transferred to individuals, groups, organizations, and society. Graduates of the PhD in Kinesiology will have a wide range of career choices including the public and private sectors.

Students in the proposed PhD degree program in Kinesiology will be taught to apply the scientific method of discovery, analysis, and research to the study of human movement within this broad-based and multidimensional discipline. The mission of the proposed PhD in Kinesiology is to prepare the next generation of kinesiology scholars. Students in the proposed program will generate, disseminate and translate research and research of consequence by investigating problems of high consequence and societal significance. The proposed PhD in Kinesiology will focus on applying the scientific method to develop new and novel evidence that can be disseminated to the field of kinesiology. The students will also be immersed in existing research opportunities that address societal health problems that are the focus of the Commonwealth of Virginia.

The proposed PhD in Kinesiology students will be prepared to be engaged with the surrounding community by employing best evidence-based practices and developing research of societal consequence by promoting and implementing well-being initiatives across the lifespan. Every student who completes the proposed PhD in Kinesiology will have mastered a set of skills that is needed to become a professor and/or conduct research in the field of kinesiology. The PhD in Kinesiology will expand the scope and strengthen the existing relationships within the Commonwealth and global communities by engaging students in coursework including experiential learning, original research development and community engagement. The current resources at George Mason University and location in the Northern Virginia region provide students with abundant opportunities to grow professionally while completing their degree. Studying kinesiology in the National Capital Region affords ideal opportunities for unique

research opportunities, career networking, outstanding guest instruction, and our location provides access to a community of diverse populations not available at other institutions.

Mission

The mission of George Mason University is: "A public, comprehensive research university established by the Commonwealth of Virginia in the National Capital Region, we are an innovative and inclusive academic community committed to creating a more just, free, and prosperous world."

The proposed degree aligns with the mission of the university as graduates from the PhD in Kinesiology will have the requisite knowledge, skills, and abilities to enable them to be professional leaders, educators, and researchers of consequence to impact and transform societal health and quality of life across the lifespan in the global community. The promotion of health and fitness contributes significantly to the well-being of the population. This focus allows the proposed program to drive the effort toward "a more just, free, and prosperous world."

Online Delivery

The majority of courses will be delivered face-to-face. The on-line content will be taught by faculty that have experience in the virtual environment. Mason offers a variety of on-line support services through the Information Technology Services (ITS) unit. To maintain the quality of on-line instruction, an instructional design consultant from ITS will meet with the faculty assigned to teach on-line courses. instructors will be required to take the Mason sponsored Online Teaching Initiative course that offers new teaching methods and activities to utilize in courses. In addition, instructors teaching on-line will be presented with new virtual teaching strategies at monthly faculty meetings. The following courses will be offered by a hybrid format utilizing 50% face-to-face and 50% on-line/electronic content:

- EFHP 811: *Motor Learning*
- EFHP 820: *Careers in the Academy Seminar*
- EFHP 840: *Doctoral Seminar in Exercise, Fitness and Health Promotion*
- EFHP 860: *Critical Perspectives in Exercise, Fitness, and Health Promotion*

George Mason University and the College of Education and Human Development have excellent resources available to faculty, which are designed to support distance education, including but not limited to: College dedicated IT support; Blackboard, a distance learning librarian; information technology distance learning specialists; and online instructional courses dedicated to distance learning and instructional strategies.

Admission Criteria

To be considered for the proposed PhD in Kinesiology, applicants will be required to meet the following University admission requirements.

- Completed online Graduate Application.
- Nonrefundable application fee.

- Application for Virginia In-State Tuition Rates, if claiming entitlement to these rates.
- An earned baccalaureate degree from a regionally accredited institution of higher education, or international equivalent, verified from official transcripts.
- Students with international degrees must submit an official credential evaluation and an official English translation of transcripts.
- International students will submit additional documentation regarding immigration status and financial responsibility.
- A minimum 3.00 GPA on a 4.00 scale in baccalaureate study.
- No minimum scores for standardized tests are required.
- Proof of English language proficiency, established one of two ways:
    - Earning a prior degree (bachelor's degree or higher) from a regionally accredited university in the U.S., Canada (excluding Quebec), the United Kingdom, Ireland, Australia, New Zealand, and Commonwealth Caribbean nations (Antigua, Barbuda, Belize, Cayman Islands, Dominica, Guyana, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and Grenadines, and Trinidad and Tobago).
    - All other applicants are required to submit English proficiency cores not more than two years old. Minimum scores include:
        - TOEFL: 88, 20 points in each section, PBT minimum 570 points
        - IELTS: 6.5
        - Pearson Test of English : overall score of 59
        - IELA: overall score of 176
        - INTO-Mason, Academic English, Level 7

In addition, the proposed PhD program in Kinesiology has the following admissions requirements:

- Earned master's degree in Kinesiology or related field.
- Applicants must submit Graduate Record Examination (GRE) scores (within the previous five years) for consideration.
- Personal goals statement (up to 750 words) covering the following items: academic and occupational background, the development of your interest in kinesiology, reasons for wanting to enter this program, qualities you possess, and future career objective(s).
- Three recommendations from professional references.
- A signed copy of the Technical Standards for Admission form.
- Current professional resume or professional curriculum vitae.
- An interview is required for selected applicants.

With program advisor approval, a maximum of twelve credits of graduate-level coursework may be transferred from George Mason University non-degree status or from another accredited institution. Transfer credit may apply to either core or elective credit. Credits must be less than six years old from the time of admission, and graded B (3.0) or better. Credits applied to a degree previously earned at Mason or at another institution may not be transferred.

Target Population

The target audience for the proposed PhD program in Kinesiology will be recruited from institutions of higher education master's degree programs that include but are not limited to the following areas: kinesiology, exercise science, physical education, athletic training, biomechanics, and sports medicine. Practicing clinicians holding a master's level degree will be recruited as well.

Curriculum

The proposed PhD in Kinesiology is a 72 credit-hour degree program designed to prepare research-based educators and practitioners in kinesiology and related fields. The proposed program will be cohort driven and offer an exclusive fulltime enrollment format. A doctoral level dissertation is required.

The focus and intent of the curriculum is to promote evidence-based practice through didactic and experiential learning experiences. The proposed program will provide students solid preparation to be critical thinkers and apply evidence-based (research-based) practice principles to preserve and enhance human movement in all settings and populations across the Commonwealth of Virginia and the United States. The curriculum includes all the core components within the discipline of kinesiology. Core components include: biomechanics, exercise physiology, motor behavior, data analytics, and measurement techniques and instrumentation. Required courses will build competencies in core areas of kinesiology via advanced didactic, laboratory coursework and grant writing.

Core Coursework

EFHP 860 (Critical Perspectives in Exercise, Fitness, and Health Promotion) will focus on the general culture of kinesiology and research areas in the field. EFHP 811 (motor learning), EFHP 813 (Advanced Applied Biomechanics), and EFHP 810 (Neuromuscular Responses to Exercise) are core courses that provide many foundations of the field of kinesiology, such as in-depth biomechanical analysis, motor control theories, and principles of neuromuscular physiology. EFHP 815 (Measurement Techniques and Instrumentation) will cover state-of-the-art equipment in kinesiology, and students will have an opportunity to work and become proficient with the equipment and collect data. The data collected in EFHP 815, will be employed in EFHP 825 (Data Analytics in Exercise, Fitness and Health Promotion) where students will develop the skills and methods to process and analyze data. EFHP 880 (Grant writing) will provide the knowledge and experience with the process and mechanisms of grant writing, which is a common activity of future professionals. EFHP 820 (Careers in the Academy Seminar) and EFHP 840 (Doctoral Seminar in Exercise, Fitness, and Health Promotion) will be offered in seminar format to enable students to become familiar with various careers in and outside academia, as well as exploring teaching models. The research core courses will provide the foundation and depth to students in both quantitative (EDRS 811, 821, and 831) and qualitative (EDRS 812) methodologies; these courses are key in preparing students to utilize methodologies appropriately in the dissertation phase. In all the core curriculum, students will have the unique opportunity to work with state-of-the-art equipment, and be immersed in an educational environment to generate novel research questions addressing problems of high societal importance.

The first year of study will have students take core course work in general culture, research methods and kinesiology requirements. During the second year, students will continue to take the core course work in those areas that will prepare them for the first experiential course (Research Experience I) during the summer. The third year will emphasize directed inquiry and experiential learning that will culminate with the dissertation proposal during the summer of year three (before year four). The final year will be exclusively focused on dissertation research. Students will complete experiential courses (KINE 890 and 891) that will allow them to engage in practical research experiences and learn content that includes advanced research methodologies or pilot methodologies prior to their dissertation. An elective course chosen with advisor's approval will allow them to engage in advance data analysis.

Program Requirements

Core Courses (27 credits)
EFHP 810 - Neuromuscular Responses to Exercise (3 credits)
EFHP 811 - Motor Learning and Control (3 credits)
EFHP 813 - Musculoskeletal Biomechanics in Human Movement (3 credits)
EFHP 815 - Measurement Techniques and Instrumentation (3 credits)
EFHP 820 - Careers in the Academy Seminar (3 credits)
EFHP 825 - Data Analytics in Exercise, Fitness and Health Promotion (3 credits)
EFHP 840 - Doctoral Seminar in Exercise, Fitness, and Health Promotion (3 credits)
EFHP 860 - Critical Perspectives in Exercise, Fitness, and Health Promotion (3 credits)
EFHP 880 - Grant Writing (3 credits)

Research Methods Requirements (15 credits)
EDRS 810 - Problems and Methods in Education Research (3 credits)
EDRS 811 - Quantitative Methods in Education Research (3 credits)
EDRS 812 - Qualitative Methods in Educational Research (3 credits)
EDRS 821 - Advanced Applications of Quantitative Methods (3 credits)
EDRS 831 - Structural Equation Modeling (3 credits)

Experiential Learning (18 credits)
KINE 890 - Research Experience 1 (6 credits)
KINE 891 - Research Experience 2 (3 credits)
KINE 897 - Independent Study (6 credits)
Elective – Select an additional 3 credits with advisor approval (3 credits)

Dissertation (12 credits)
EDUC 998 Doctoral Dissertation Proposal (3 credits)
EDUC 999 Doctoral Dissertation Research (9 credits)
Total: 72 credit hours

Description of the Dissertation Proposal and Research
Advancement to Candidacy
Upon successful completion of all coursework and the comprehensive portfolio assessment, students are advanced to candidacy and enroll in KINE 998 Doctoral Dissertation Proposal. Prior

to beginning their dissertation research, students will take a written examination, successful completion of which will demonstrate their qualification for advancement to candidacy per Mason Graduate Policy (AP.6.10.4 Advancement to Candidacy). The examination will cover foundation knowledge acquired during the doctoral studies in kinesiology. Passage of the exam will allow the students to enter into candidacy for the PhD. Only two attempts at a passing grade will be allowed, and the exam must be completed before the students take dissertation research courses.

Dissertation

Once enrolled in KINE 998 Doctoral Dissertation Proposal, students must maintain continuous registration in at least 1 credit; once enrolled in KINE 999 Doctoral Dissertation Research, students must follow the university continuous registration policy as specified in AP.6.10.6 Dissertation Registration. After passing the qualifying exam, students then choose a dissertation committee. The chair and one member of the dissertation committee must be from the School of Kinesiology. The student must also choose to have one member from another department and/or a member external to the University subject to the approval of the graduate director and the committee chair. Finally, the students must publicly defend the dissertation within 9 years of beginning the program, and 4 years of advancing to candidacy. For a dissertation to be approved, all members of the committee must sign. If a committee member refuses to do so, the student or any member of the committee may petition the unit dean or director for a review and ruling. The dean or director may seek the advice of outside reviewers to provide an assessment of the work. The final decision is that of the dean or director, and is not subject to appeal.

Student Retention and Continuation Plan

The proposed PhD in Kinesiology will be a rigorous program requiring students to excel academically, scholarly, and professionally. Students will monitor their academic progress on the Patriot Web system at GMU. This self-service website will offer students the opportunity to view their weekly schedule in calendar form, view their academic transcripts and monitor their degree evaluation which shows what courses need to be completed for program requirements.

Academic advising will be available for all PhD in Kinesiology students at the Science and Technology campus at Prince William by appointment with the program director. Though not required by George Mason University, students will be expected to meet with the program director once each semester to discuss academic progress and to update their plan of study. In addition, student can meet at any time with the PhD in Kinesiology program director to receive additional academic support. The students will also have an academic advising committee that every year will meet with the student to provide feedback on their progress. If the student does not pass this meeting, remediation with strategies from the academic advising committee will be provided. The student will have the opportunity to present again before the beginning of the following academic year.

Students will also benefit from the professional experience of affiliated faculty members. Each faculty member will welcome the opportunity to mentor students about their career interests, the application of coursework knowledge, research interests and opportunities. The diverse

background of the PhD in Kinesiology faculty will assist students with their academic, scholarly, and professional growth and development.

Time to Degree

For both full-time and part time students, the total time to degree will not exceed nine (9) calendar years from enrolling as a doctoral student. Doctoral students are expected to advance to candidacy within no more than six (6) years from admission to the doctoral program.

Faculty

The six primary faculty members in the PhD in Kinesiology program are from the School of Kinesiology (eighteen total faculty). The faculty have the proper academic training, teaching experience, and professional expertise to provide competent instruction in kinesiology courses and to mentor students. All six faculty are full time graduate faculty that will be dedicated to the required common core, restricted electives, and other required courses. Of the current faculty, three tenured and two of the term faculty are actively conducting research in areas related to community well-being, injury prevention and improving the health of individuals. The faculty has over 40 years of combined faculty experience. The School of Kinesiology currently has 3 faculty searches undergoing that will associated with the PhD in Kinesiology. The expected hire date is August 2020. They are active in their professional organizations, present at conferences, maintain ongoing research programs, pursue grant funding, and publish in peer-reviewed journals. The faculty positions will include two full professors, three associate professors, and one assistant professor

All six faculty have terminal degrees. Four faculty members are certified by the National Strength and Conditioning Association (NSCA-CSCS). Two faculty members are certified by the American College of Sports Medicine Exercise (ACSM EP-C).

Program Administration

The proposed PhD degree program in Kinesiology will have an Academic Program Coordinator who will teach in the program. Responsibilities of the Academic Program Coordinator include scheduling courses, assigning instructors, advising students, facilitating the construction of dissertation committees, overseeing student assessments, performing annual reviews of the program, and coordinating efforts to modify courses and curriculum as needed. The Academic Program Coordinator will be assisted by support staff in the School of Kinesiology. Three staff members will allocate a portion of time and duties toward the PhD in Kinesiology program. The College of Education and Human Development's PhD Program Office Manager will contribute a portion of time toward students in the proposed degree.

The College of Education and Human Development will provide support through its Office of CEHD Admissions, Office of Student and Academic Affairs, Office of Accreditation and External Reporting, Office of Development, and Office of Research.

Advisory Board

The proposed PhD in Kinesiology has established an Advisory Committee that consists of professionals who are currently employed in a variety of exercise settings (e.g. youth healthcare, clinical, fitness, health). Members of this committee have agreed to participate in regular meetings with faculty in the proposed program and review the programmatic content. The Advisory Committee will make recommendations to aid in the preparation of students for the workplace and/or professional schools. The Board will meet once each semester.

Student Assessment

Students who complete the proposed PhD degree program in Kinesiology will have mastered a set of skills that are needed to become a professor and/or conduct research in the field of kinesiology. Students will be assessed in each course through various mechanisms that include homework, projects, term papers and exams. The learning outcomes for the proposed PhD in Kinesiology are specific to graduate level knowledge, skills and abilities that students should acquire.

Learning Outcomes

Students will learn to:

- Develop a research proposal and design an experimental protocol to test a specific research question for a dissertation project.
- Conduct a dissertation research project that requires data collection, analysis and presentation of findings (written and oral).
- Develop ethical skills to conduct science in health-related fields.
- Describe the responses that occur during exercise in the body's neurophysiological and neuromuscular systems.
- Evaluate movement patterns and identify common deficiencies in healthy populations.
- Disseminate knowledge effectively in the academic classroom, scientific community, and to general society.
- Develop knowledge of qualitative and quantitative techniques that are used in the kinesiology field.
- Knowledge of state-of-the-art equipment that is commonly used in the kinesiology field.
- Develop coding and data analytics skills to analyze kinesiology data.
- Compare major theoretical frameworks and factors within the field of motor learning.

The following correlates specific learning outcomes of graduates from the program's curriculum to courses focused on meeting these outcomes.

Learning Outcomes	Key Courses	Methods of Measure
Prepare scholars that develop and disseminate new knowledge in kinesiology	KINE 890, 891 Research Experience 1 and 2 KINE 897 Independent study EFHP 860 Critical Perspectives in Exercise, Fitness, and Health Promotion EFHP 811 Motor Learning EFHP 815 Measurement Techniques and Instrumentation	The student will submit one research abstract for peer review to present at a professional conference The student will develop innovative research proposal
Conduct ethical research of consequence that addresses healthcare concerns of societal significance across the lifespan	KINE 890, 891 Research Experience 1 and 2 KINE 999 Doctoral Dissertation Research EDUC 810 Problems and Methods in Education Research	The student will develop a research Project, seek and guarantee Human Subjects Review Board Approval, and successful conduct CITI Training for ethical conduct
Disseminate knowledge effectively in the academic classroom, scientific community, and to general society	EFHP 840 EFHP 810, 811, 815, 825 and 860 EFHP 820 KINE 999	The student will instruct an undergraduate or graduate level course and do a teaching demonstration The student will present research findings to kinesiology professionals Peer review manuscript commentary project for the general public Dissertation defense
Develop students with attitudes and behaviors necessary to engage as professional leaders	EFHP 820	The student will become a member of their professional organization – Professional membership verification
Describe the responses that occur during exercise in the	EFHP 810	Exams, presentations, homework assignments

body's neurophysiological and neuromuscular systems		
Evaluate movement patterns and identify common deficiencies in healthy populations	EFHP 811, EFHP 813, KINE 890, KINE 891	Exams, presentations, projects, laboratory reports and HW assignments
Knowledge of state-of-the-art equipment that is commonly used in the kinesiology field.	EFHP 815	Exams, presentations, projects, laboratory reports and HW assignments
Develop coding and data analytics skills to analyze kinesiology data.	EFHP 825	Presentations, projects, and HW assignments
Develop knowledge of qualitative and quantitative techniques that are used in the kinesiology field.	EDRS 811, EDRS 812, EDRS 821, EDRS 831	Exams, presentations, projects, and HW assignments
Compare major theoretical frameworks and movement science theories within the field of motor learning	EFHP 811	Presentation, exam, project, quizzes

Program Assessment

The proposed program will be incorporated into the College of Education and Human Development Calendar Year Review Process (CYRP). This is a systematic, annual college-wide assessment system. The CYRP entails providing each program with multiple measures of student, faculty, alumni, and other data sources to facilitate data-based, decision-making related to continuous program improvement and program effectiveness. Each program participates in the overall CYRP, which involves review and analysis at the academic program, then school, then college level. This annual review process promotes collaborative, evidence- informed decision-making that leads to the formulation of specific goals and objectives related to innovation at the program, school, and college levels. Finally, the Board of Visitors will conduct its initial review of the program in 2025.

Benchmarks of Success

The benchmarks of success of the proposed PhD degree program in Kinesiology include:

- 75% of the students will successfully pass the candidacy exam at their first attempt
- 75% of full-time students will complete the program in five years or less
- 75% of graduated students will have earned jobs within the field, assessed two years after completion of the program (to include post-doctoral fellowships)

The final benchmarks will require follow up with graduates. Graduates will be tracked for at least two years post-graduation to assess the job placement situation of our graduates.

If these benchmarks of success are not met, the College of Education and Human Development program evaluation committee will examine which benchmarks were unsuccessful and determine the reason(s) for the miss. If curriculum changes are needed, the curriculum committee will work with the program evaluation committee to review and revise the curriculum to better meet the needed benchmarks. Further, regarding enrollment issues, the department will work with the College of Education and Human Development marketing team and the Office of Student Academic Affairs and Enrollment Management to assist with marketing the program.

Expansion of Existing Programs

The proposed PhD degree program in Kinesiology is not an expansion of an existing certificate, option, concentration, emphasis, focus, major, minor or track.

Relationship to Existing George Mason University Degree Programs

The proposed PhD degree program in Kinesiology is not similar or related to any existing degree program at George Mason University.

Compromising Existing Degree Programs

The proposed PhD degree program in Kinesiology can be initiated without compromising or negatively impacting any existing degree program in the College of Education and Human Development or any existing degree programs at George Mason University. No degree programs will close as a result of the initiation and operation of the proposed degree program.

Collaboration or Standalone

This is a standalone program. No other organization was involved in its development, and no other organization will collaborate in its operation.

Justification for the Proposed Degree Program

Response to Current Needs (Specific Demand)

The growing field of kinesiology is defined by the American Kinesiology Association as "the academic discipline which involves the study of physical activity and its impact on health, society, and quality of life."[1, 2] Kinesiology academic programs are growing by 30-40%, and in some cases even up to 50%.[3] One of the strengths of kinesiology is that is a multidimensional field including specialization areas of biomechanics, exercise physiology, motor behavior, athletic training, physical education, and sports medicine. Two national and statewide initiatives

[1] http://www.americankinesiology.org/Content/Documents/Position%20Statement_2.pdf
[2] http://www.americankinesiology.org/Content/Documents/Position%20Statement_1.pdf
[3] Charlotte "Toby" Tate (2010) Revenue in Public Higher Education: A Dean's Perspective, Quest, 62:1, 10-14, DOI: 10.1080/00336297.2010.10483629

support the need for a PhD in Kinesiology at George Mason University: community well-being and injury prevention.

Community Well-Being

Every 10 years the Healthy People initiative develops a new set of objectives to improve the health of all American citizens. The overarching goals for Healthy People 2020 are:

1. Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.
2. Achieve health equity, eliminate disparities, and improve the health of all groups.
3. Create social and physical environments that promote good health for all.
4. Promote quality of life, healthy development, and healthy behaviors across all life stages.[4]

Kinesiology is a field that addresses components of each of these goals. The Commonwealth of Virginia's goal is to become the healthiest state in the nation.[5]

"*Why George Mason University?*"

There are large health disparities across the Commonwealth.[5] In order to become the healthiest state in the nation, the gaps across the Commonwealth must be overcome. While there are many aspects that need to be addressed to help combat these inequities, in Virginia's Plan for Well-Being, prevention is one of the four aims. Two of the goals of this aim are for Virginians to follow a healthy diet and live actively and for Virginians to have life-long wellness.[5] Moreover, physical inactivity is a modifiable risk factor, and there is a push for physical activity as a medical assessment and prescription.[6, 7] Mason's PhD in Kinesiology program would be able to help address these issues through its research and community outreach programs. The students and faculty will address issues across the lifespan, including youth sport injury prevention, diet and exercise outreach programs across all ages, investigation of quality of life, and fall prevention in older adults.

The field of kinesiology addresses Healthy People 2020's second overarching goal of achieving health equity, eliminating health disparities of all age groups. New specific goals for Healthy People 2020 are to improve the healthy development, health, safety and well-being of adolescents and young adults, and improve health-related quality of life and well-being for all individuals across all stages of life.[4] Mason's research and outreach programs address these areas from youth to the aging adult. Currently, faculty that will be involved in the PhD in Kinesiology are leading two outreach programs to help close the gap and reduce health disparities in the Commonwealth. Mason has outreach athletic trainers in various youth leagues, middle schools, and public safety venues throughout the local community. The Advancing Healthcare Initiatives for Underserved Students (ACHIEVES) project addresses healthcare disparities in middle schools in Prince William County Public Schools. The project implements best care practices for sport safety to medically underserved and economically disadvantaged children. Some of the

[4] https://www.healthypeople.gov/

[5] https://rga.lis.virginia.gov/Published/2017/RD562/PDF

[6] https://www.exerciseismedicine.org/assets/page_documents/Call_to_Action_on_Making_Physical_Activity.19.pdf

[7] Chodzko-Zajko WJ, Proctor DN, Fiatarone Singh MA, et al. Exercise and Physical Activity for Older Adults: *Med Sci Sports Exerc*. 2009;41(7):1510-1530. doi:10.1249/MSS.0b013e3181a0c95c

areas the project addresses are on-site care through athletic trainers, accessible automated external defibrillator, developing emergency action plans, injury reporting and communication systems, and sport safety education. The project also provides education, prevention, assessment, and treatment and care of injuries. Currently, the ACHIEVES project has been expanded to all middle schools in Prince William County. This enables all middle students to have access to care.

The PhD in Kinesiology will benefit from existing partnerships with the department of health in the Commonwealth of Virginia (state agency) the Center for Diseases Control (federal agency) and the School of Kinesiology to Evaluate Concussion Return-to-Play and Return-to-Learn Policy Implementation in Virginia Public Schools. This work focuses on addressing a significant health concern on the state of Virginia that can lead to optimization of resources and policies to improve the quality of life of students across the state.

Additionally, Mason contributes to the goals of creating social and physical environments that promote good health for all, and promoting quality of life, healthy development, and healthy behaviors across all life stages. Mason's ACHIEVES, Precision Outreach Intervention Surveillance and Exercise (POISED), and VALE projects all help to provide positive environments that promote healthy behaviors and quality of life. Two PhD courses would allow students to gain a better understanding of how physical activity can affect human function, EFHP 810 Neuromuscular Response to Exercise, and EFHP 813 Advanced Applied Biomechanics. Through the current outreach, research, and academic endeavors, the PhD in Kinesiology will continue and expand the efforts to improve the well-being of the citizens of the Commonwealth.

Injury Prevention

Healthy People 2020's first overarching goal includes attaining, high-quality, longer lives free of injury and disability. The outreach projects, ACHIEVES and POISED, directly align with Healthy People 2020's goal to prevent unintentional injuries and reduce their consequences and to increase the quality, availability, and effectiveness of educational and community-based programs designed to prevent disease and injury, improve health, and enhance quality of life.[4]

Mason's PhD in Kinesiology is in alignment with Virginia's aim for prevention in Virginia's Plan for Well-Being. Primary prevention is aimed at reducing the incidence of disease or injury, and secondary prevention involves identifying these ailments early. Community outreach and education program are important because they reach people outside of traditional healthcare settings. These opportunities help maximize impact and sharing of information.[8] As the push for physical activity and exercise as medicine continues, kinesiology professionals will be well-positioned to provide this service and implement preventative care. One example is athletic trainers like those participating in Mason's ACHIEVES project help reduce the complications of injury by being in the position to diagnose injuries early and treat symptoms and injuries quickly and effectively.

Moreover, POISED addresses Healthy People 2020's specific goal to "improve the health, function, and quality of life of older adults."[4] POISED collaborates with Project Mend-A-House and Old Dominion University to implement evidence-based intervention programs to prevent

[8] https://www.med.uottawa.ca/sim/data/Prevention_e.htm

falls in older adults and provide education sessions on fall prevention, home safety, and evidence-based exercise prevention opportunities to the community. As our aging population continues to grow, it important to minimize injury risk and help older adults maintain high quality of life as they age. Physical activity can help prevent disease and injury.[7] One in four older adults will experience a fall in a given year, which can result in injuries such as broken hips or head trauma, and even death.[9,10,11] The annual healthcare costs in the United States are estimated at $31 billion.[12] Kinesiology professionals research and have the clinical skills to provide care to effectively reduce falls; this multidimensional approach includes gait and balance assessment, strength and balance exercises, and medication review.[10]

Kinesiology researchers are also investigating the brain and concussions to improve understanding and inform related injury prevention initiatives. In 2013, President Obama launched the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative. In just three years, investment in the BRAIN Initiative was $150 million.[13] This "major national project to unlock the mysteries of the brain" "can only be achieved through innovative, multidisciplinary investigation at all levels of nervous system function – behavioral, electrophysiological, anatomical, cellular, and molecular."[14] The Commonwealth aims to be "The Brain State" and to be viewed as a leader in the neurosciences both nationally and globally.

In 2016, Governor Terry McAuliffe signed a $2.2 billion bond bill which included $46.7 million to expand health sciences and technology research and training assets at the Virginia Tech Carilion Research Institute. This investment would allow Virginia to become a world-class research hub, opportunities for undergraduate to postdoctoral student opportunities, and provide more jobs in this field.[15] Additionally, the Virginia Biosciences Health Research Corporation, Virginia Catalyst provides grant funding to support economic develop through collaborations with universities and industry to improve human health with a focus area in neuroscience.[16] While Mason and other universities in Virginia have degrees in neuroscience, the focus is typically centered around areas such as Alzheimer's disease, anatomy and physiology, neurodevelopmental disorders, neuropharmacology, and neuroimmunology. The proposed PhD degree program in Kinesiology would be unique in that it would focus on mild traumatic brain injuries (mTBI) in both the laboratory and the "real-world" settings. Currently at Mason, research is being done in prevention, detection, and treatment of mTBI. Students in Mason's PhD in Kinesiology would have the opportunity to be involved in cutting edge translational research.

[9] CDC Behavioral Risk Factor Surveillance System. 2014 Codebook Report. https://www.cdc.gov/brfss/annual_data/2014/pdf/codebook14_llcp.pdf. Accessed November 7, 2017.
[10] Bergen G. Falls and Fall Injuries Among Adults Aged ≥65 Years — United States, 2014. *MMWR Morb Mortal Wkly Rep*. 2016;65. doi:10.15585/mmwr.mm6537a2.
[11] Important Facts about Falls | Home and Recreational Safety | CDC Injury Center. https://www.cdc.gov/homeandrecreationalsafety/falls/adultfalls.html. Accessed September 26, 2017.
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[13] https://www.nih.gov/news-events/news-releases/nih-nearly-doubles-investment-brain-initiative-research
[14] https://www.braininitiative.nih.gov/pdf/BRAIN2025_508C.pdf
[15] http://research.vtc.vt.edu/news/2016/may/06/gov-mcauliffe-signs-bond-bill-advances-health-scie/
[16] https://www.virginiacatalyst.org/

In 2012, the National Institute of Neurological Disorders and Stroke (NINDS) and other Federal agencies collaborated to update and develop Traumatic Brain Injury (TBI) Common Data Elements (CDE) version 2. The focus areas were: 1. Epidemiological research, 2. Studies on acute, hospitalized patients, 3. Studies of the rehabilitation for moderate/severe TBI, and 4. Mild TBI/Concussion research. In 2017, the Biomechanical Devices in TBI CDE Working Group was developed and divided into the following subgroups: head accelerometry, impact video, and blast exposure.[17] Mason is currently conducting epidemiological research in a pediatric population, examining head accelerometry and impact video. Mason is also conducting research on detection of mTBIs and can expand its research to rehabilitation for mTBIs. Through Mason's courses KINE 890 and KINE 891 Research Experience 1 and 2 and KINE 999 Doctoral Dissertation Research students will have the opportunity to gain experience in these or other research areas. Mason's students also have the opportunity to take six credits of KINE 897 Independent Study, which allows them to develop skills and expand their knowledge in an area of expertise. Through the current outreach, research, and academic endeavors, the PhD in Kinesiology will continue and expand the efforts to improve injury prevention of the citizens of the Commonwealth.

Employment Demand

Graduates of Mason's PhD in Kinesiology will have multifarious employment opportunities upon entering the workforce. Kinesiology can lead to a wide variety of career options; The American Kinesiology Association lists 29 careers on its website.[18] "Kinesiology has paralleled the rest of science with increasing specialization and doctoral programs."[19] Some focus areas include physical activity epidemiology, biomechanics, performance analysis, and specializing in specific populations (e.g. older adults). Kinesiology is currently addressing large societal issues such as preventative physical activity. [20] The Ph.D. program will prepare students to work in both the public and private sector in areas of research, education, clinics, hospitals, injury prevention and promote well-being across the lifespan.

Mason graduates will be well-positioned to participate in the upsurge of jobs in postsecondary settings (see Table 1). The Bureau of Labor Statistics projects a much faster than average increase in postsecondary health specialties teachers at 26%, and 15% increase in postsecondary teachers overall from 2016 to 2026; Virginia projects a 25% and 18% rate in those professions, respectively. As the expansion of kinesiology programs and mandated transition of athletic training education programs from the bachelor's to master's level occurs, there will be a greater need for educators with doctoral degrees to serve in these areas. There is an anticipated rise in overall enrollment at postsecondary institutions, which will result in a greater need and creation of more faculty positions. From 2015 to 2026, there is a projected increase in post baccalaureate and undergraduate enrollment, 12% and 14%, respectively.

Fields in which Mason graduates will be prepared to work and educate include but are not limited to medical research, healthcare professions, and exercise physiology. A rise in medical

[17] https://commondataelements.ninds.nih.gov/TBI.aspx#tab=Data_Standards
[18] http://www.americankinesiology.org/SubPages/Pages/Careers%20In%20Kinesiology
[19] https://www-tandfonline-com.mutex.gmu.edu/doi/pdf/10.1080/00336297.2016.1184171?needAccess=true
[20] http://www.americankinesiology.org/SubPages/Pages/Careers%20In%20Kinesiology

scientists and medical and clinical laboratory technologists have an anticipated job growth rate that is faster than the national average (see Table 1). Virginia anticipates a nearly 15% increase in medical scientist roles and 23% in medical and clinical laboratory technologist jobs. According to the Bureau of Labor and statistics, medical scientists typically have a PhD and conduct research aimed at improving overall human health.[6] Healthcare professions including athletic training and physical therapy anticipate a much faster than average job growth at 23% and 28%, respectively. Additionally, as the recognition of exercise as medicine increases, the number of jobs in the kinesiology field will also continue to grow. Graduates of the proposed program will be able to contribute to the growing opportunities in research as well as participate in the expansion of the need for educators in these areas.

Table 1. Health and Research Employment Change Statistics for 2016 to 2026 from Bureau of Labor Statistics

Position	Number of New Jobs	Growth Rate
Exercise Physiologists	2,000	13% (faster than average)
Health Specialties Teachers, postsecondary	60,600	26% (much faster than average)
Medical Scientists	16,100	13% (faster than average)
Medical and Clinical Laboratory Technologists	42,700	13% (faster than average
Postsecondary teachers	197,800	15% (much faster than average)

Furthermore, a PhD in Kinesiology will allow Mason graduates to fulfill industry needs in Virginia, nationally, and globally. Graduates may choose to work as an exercise physiologist or in product development utilizing their knowledge and skills in kinesiology, biomechanics, and exercise physiology. A PhD in Kinesiology will allow graduates to contribute to research and product development in the in private industry, government, including the military, and tactical athlete.

George Mason University is geographically positioned to contribute to the job market in the Commonwealth of Virginia and the Washington metropolitan area. Mason's graduates will be prepared to serve as researchers, faculty members, administrators, and clinicians at clinical and research institutions in the area (Children's National Health System, Inova Health System, National Institutes of Health, National Naval Medical Center, Uniformed Services University of the Health Sciences, and Walter Reed Army Medical Center) and at institutions of higher education. Graduates will also be able to practice and conduct research for military (Marine Corps Base Quantico, Fort Belvoir Army Base, Naval Base Norfolk, and United States Army Research Laboratory).

Student Demand

Evidence of student demand is demonstrated through student survey results and direct email inquiries.

To assess the student demand for PhD-KINE, current students and alumni were surveyed about their interest in enrolling in a Doctor of Philosophy in Kinesiology. Students were only permitted to complete the survey on one instance.

Survey #1

This survey was conducted on September 18, 2019 and was comprised of Mason undergraduate students in the School of Recreation, Health and Tourism. Students completed the survey during ATEP 330 Emergency Care, ATEP 476 Practicum 4, KINE 360 Strength Training: Concepts and Applications, KINE 410 Exercise Physiology II, KINE 450 Research Methods (n=113). All of the students were Kinesiology majors with 56 juniors and 57 seniors completing the survey. Of the respondents, 52 (44%) answered that they would be "extremely likely" and "very likely" to enroll in the PhD-KINE if George Mason offered the program.

Survey #2

This survey was conducted on September 18, 2019 and was comprised of Mason graduate students in the School of Recreation, Health and Tourism in the Masters in Exercise Fitness and Health Promotion who completed the survey during EFHP 612 Scientific Foundation and Applications in Kinesiology and EFHP 613 Advanced Applied Biomechanics (n=32). All of the respondents indicated that they were currently pursuing a masters graduate degree with 11 (34%) students expressing that they would be "extremely likely" to enroll in the PhD-KINE if offered by George Mason.

Survey #3

This survey was conducted on August 12, 2019 and was comprised of Mason Athletic Training Masters level graduate students in the School of Recreation, Health and Tourism. Students completed the survey during ATEP 525 Athletic Training Foundations and ATEP 667 Athletic Training Practicum 3 (n=22). All of the respondents indicated that they were currently pursuing a masters graduate degree with 11 (53%) students expressing that they would be "extremely likely" or "very likely" to enroll in the PhD-KINE if offered by George Mason.

Survey #4

This survey was conducted on September 19, 2019 and was comprised of Mason Masters and students in the School of Recreation, Health and Tourism. Students completed the survey during EFHP 612 Scientific Foundation and Applications in Kinesiology, EFHP 613 Advanced Applied Biomechanics, EFHP 840 Doctoral Seminar in EFHP and EFHP 880 Grant Writing (n=17). All of the respondents indicated that they were currently pursuing a PhD graduate degree with 17 (100%) students expressing that they would be "extremely likely" to enroll in the PhD-KINE if offered by George Mason.

Survey #5

This survey was conducted on July15, 2019 and was comprised of Mason alumni from the School of Recreation, Health and Tourism (n=20). It was completed during an alumni event and mass email request. All of the students were graduates of Athletic Training and Exercise Science. 40% of alumni expressed they would be "extremely likely" in the proposed program if offered by George Mason.

Summary: Of the 204 people surveyed 99 (49%) expressed that they would be "extremely likely" or "very likely" to enroll in the PhD-KINE if offered by George Mason. The text below describes the results from the surveys for the five groups who were sampled. Complete surveys and responses for each of the groups are included in Appendix E.

STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA
SUMMARY OF PROJECTED ENROLLMENTS IN PROPOSED PROGRAM

Projected enrollment:

Year 1		**Year 2**		**Year 3**		**Year 4 Target Year (2-year institutions)**			**Year 5 Target Year (4-year institutions)**		
2020 – 2021		2021 – 2022		2022 – 2023		2023- 2024			2024 – 2025		
HDCT 4	FTES 3	HDCT 7	FTES 6	HDCT 11	FTES 8	HDCT 15	FTES 12	GRAD --	HDCT 16	FTES 12	GRAD 3

Assumptions:
Retention percentage: 85%
Full-time students 70%/ Part-time students 30%
Full-time students credit hours per semester: 9
Part-time students credit hours per semester: 6
Full-time students graduate in 4 years
Part-time students graduate in 6 years

Duplication

One public institution offers a similar or related degree program. The following university offers a doctoral degree in kinesiology and rehabilitation: Old Dominion University (ODU).

Old Dominion University (ODU)
Old Dominion University (ODU) offers a doctoral degree (PhD) in kinesiology and rehabilitation. The PhD in kinesiology and rehabilitation requires 51 credit hours and is designed to focus on individuals who are interested in becoming leaders, teachers and scholars with a focus on motor control and motor learning in individuals with and without physical or neurological impairments.

Similarities
The ODU program includes a core course, Motor Learning in Rehabilitation, with content that is partially covered in GMU's core course, Motor Learning. GMU's program includes courses in Qualitative Methods in Educational Research, and grant writing for health professionals, which

has areas covered in ODU research core and elective courses, Qualitative Research Resign in Education and Development of Grants and Contracts in Health Professions.

Differences

GMU's programs requires coursework in Neuromuscular Responses to Exercise, Advanced Applied Biomechanics, Measurement Techniques and Instrumentation, and Data Analytics in Exercise, Fitness and Health Promotion. ODU's program does not offer such curriculum. GMU's also require Advanced Applications of Quantitative Methods as part of the research methods core, whereas ODU's program does not require.

Table: Enrollments and Degrees Awarded at Comparable Programs in the Commonwealth

Enrollments	**Fall 2014**	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
Old Dominion University (31.0505)*	N/A	N/A	9	11	14
Degrees Awarded	**2014**	**2015**	**2016**	**2017**	**2018**
Old Dominion University (31.0505)	N/A	N/A	0	0	1

*The first year of ODU's degree program was Fall 2016.

Projected Resource Needs for the Proposed Program

Resource Needs

George Mason University and the School of Kinesiology have the faculty, classified support, equipment, library, and other resources necessary to launch the proposed PhD in Kinesiology. The following subsections detail the resources required to operate the program from its initiation in the Fall of 2020 through the target year of 2024 – 2025. Assessments of need for full-time faculty, part-time faculty, and adjunct faculty are based on the following ratio of student enrollment to faculty effort: 8 FTE of enrollment requires 1.0 FTE faculty for instruction. The proposed program will therefore require a total of 2.0 FTE to launch, increasing to 4.0 FTE by the target year of 2024 – 2025.

Full-time Faculty

The proposed program will have 6 faculty members dedicated to the program. The PhD in Kinesiology will require 2.0 FTE of full-time faculty instruction to launch, increasing to 4.0 FTE in the target year of 2024-2025. The PhD in Kinesiology program director will teach and perform academic advising. This will be accommodated by internal reallocation of resources.

Part-time Faculty
The proposed program will require 1.0 FTE of part-time faculty to launch, increasing to 3.0 FTE in the target year 2024-2025. The proposed program will have X faculty members affiliated to the program. Faculty will be divided between the PhD in Kinesiology and other programs at Mason.

Adjunct Faculty
The PhD in Kinesiology will not require any adjunct support to launch or maintain the program. However, qualified individuals may be used as adjunct instructors in special circumstances.

Graduate Assistants
The PhD in Kinesiology will not require any graduate assistants to launch or maintain the program.

Classified Positions
The proposed program will require .22 FTE of classified administrative support to launch and maintain the proposed program through the target year.

Targeted Financial Aid
No targeted financial aid will be required to launch or maintain the proposed program.

Equipment (including computers)
The proposed program will not require any new equipment costs to launch or maintain the proposed program.

Library
George Mason University routinely commits $3000 to the purchase of research journals and books for new doctoral degree programs. Currently the library is resourced with a variety of sports medicine and athletic training textbooks as well as a multitude of subscriptions to athletic training and healthcare related journals.

Telecommunications
The PhD in Kinesiology will not require additional telecommunications to launch or maintain the proposed program

Space
The PhD in Kinesiology will not require additional space to launch or maintain the proposed program.

Other Resources (specify)
No other resources will be required to launch or maintain the proposed program.

Resources Needs: Part A – D

Part A: Answer the following questions about general budget information.

- Has or will the institution submit an addendum budget request to cover one-time costs? Yes _____ No X
- Has or will the institution submit an addendum budget request to cover operating costs? Yes _____ No X
- Will there be any operating budget requests for this program that would exceed normal operating budget guidelines (for example, unusual faculty mix, faculty salaries, or resources)? Yes _____ No X
- Will each type of space for the proposed program be within projected guidelines? Yes X No _____
- Will a capital outlay request in support of this program be forthcoming? Yes _____ No X

Part B: Fill in the number of FTE positions needed for the program

	Program Initiation Year 2020 – 2021		**Expected by Target Enrollment Year 2024 – 2025**	
	On-going and reallocated	**Added (New)**	**Added (New)*** **	**Total FTE positions**
Full-time FTE*	1.45	0.00	0.00	1.45
Part-time FTE **	0.00	0.00	0.00	0.00
Adjunct faculty	0.00	0.00	0.00	0.00
Graduate assistants (HDCT)	0.00	0.00	0.00	0.00
Classified positions	0.22	0.00	0.00	0.22
TOTAL	1.67	0.00	0.00	1.67

Part C: Estimated resources to initiate and operate the program

	Program Initiation Year 2020 – 2021		Expected by Target Enrollment Year 2024- 2025	
Full-time faculty	1.45	0.00	0.00	1.45
salaries	$136,654	$0	$0	$136,654
fringe benefits	$46,326	$0	$0	$46,326
Part-time faculty (faculty FTE split with unit(s))	0.00	0.00	0.00	0.00
salaries	$0	$0	$0	$0
fringe benefits	$0	$0	$0	$0
Adjunct faculty	0.00	0.00	0.00	0.00
salaries	$0	$0	$0	$0
fringe benefits	$0	$0	$0	$0
Graduate assistants	0.00	0.00	0.00	0.00
salaries	$0	$0	$0	$0
fringe benefits	$0	$0	$0	$0
Classified Positions	0.22	0.00	0.00	0.22
salaries	$12,589	$0	$0	$12,589
fringe benefits	$5,741	$0	$0	$5,741

Total Personnel cost				
salaries	$149,243	$0	$0	$149,243
fringe benefits	$52,066	$0	$0	$52,066
Total personnel cost	$201,309	$0	$0	$201,309
Equipment	$0	$0	$0	$0
Library	$0	$0	$0	$0
Telecommunication costs	$0	$0	$0	$0
Other costs	$0	$0	$0	$0
TOTAL	**$201,309**	**$0**	**$0**	**$201,309**

ITEM NUMBER:
Master of Arts (MA), History of Decorative Arts

PURPOSE OF THE ITEM:
A proposal to close the Master of Arts (MA), History of Decorative Arts has been prepared for submission to the State Council of Higher Education for Virginia (SCHEV). Prior to SCHEV submission, Board action is required.

APPROPRIATE COMMITTEE:
Academic Programs, Diversity, and University Community Committee

BRIEF NARRATIVE:
George Mason University initiated the Master of Arts (MA) degree program in History of Decorative Arts in fall 2011. This program was designed in consultation with the Smithsonian Institution. The purpose of the program was to integrate the close study and formal analysis of works of art with substantive critical analysis and historical research.

In August 2016, the Director of the Smithsonian Associates informed the Dean of the College of Humanities and Social Sciences and the Chair of the Department of History and Art History of the Smithsonian Associates' intent to discontinue the partnership with Mason in the administration of the History of Decorative Arts program. The program agreement between Mason and the Smithsonian Associates was scheduled to expire in the spring of 2018. The Dean and the Department Chair complied with the request to allow the partnership to dissolve in 2018. No students are currently enrolled in the Master of Arts (MA) degree program in History of Decorative Arts.

REVENUE IMPLICATIONS:
The closure of the degree program is expected to be budget neutral.

STAFF RECOMMENDATION:
Staff recommend closure of this program.

George Mason University

Proposed Intent to Discontinue

George Mason University requests approval to discontinue the Master of Arts (MA) degree program in History of Decorative Arts (CIP code: 50.0799). The degree program is housed in the College of Humanities and Social Sciences.

Background

George Mason University initiated the Master of Arts (MA) degree program in History of Decorative Arts in fall 2011. This program was designed in consultation with the Smithsonian Institution. The purpose of the program was to integrate the close study and formal analysis of works of art with substantive critical analysis and historical research.

In August 2016, the Director of The Smithsonian Associates (TSA) informed the Dean of the College of Humanities and Social Sciences and the Chair of the Department of History and Art History of TSA's desire to discontinue the partnership with Mason in the administration of the History of Decorative Arts program. The program agreement between Mason and TSA was scheduled to expire in the spring of 2018. The Dean and the Department Chair complied with TSA's request to allow the partnership to dissolve in 2018. George Mason University's Board of Visitors approved the proposal to discontinue the program December 12, 2019.

Rationale for Intent to Discontinue

The Smithsonian Associates (TSA) decided to discontinue the partnership with Mason and formed a partnership with George Washington University's Columbian School of Arts and Sciences to provide the program. George Mason University had no grounds for preventing the dissolution of the partnership.

Critical Shortage Area

The Master of Arts (MA) degree program in History of Decorative Arts is not a critical shortage area.

Teach-out Plan

No students are currently enrolled in the Master of Arts (MA) degree program in History of Decorative Arts. All students enrolled in the program have either completed their degree or moved to the program at George Washington University. There will be no additional expense incurred to any student due to the discontinuation of this program.

<u>"Stopped Out" Students</u>
There are no "stopped out" students in the MA in History of Decorative Arts program.

ITEM NUMBER:
MS Management of Secure Information Systems Degree Program Discontinuance

PURPOSE OF THE ITEM:
A proposal to close the MS in Management of Secure Information Systems has been prepared for submission to the State Council of Higher Education for Virginia (SCHEV). Prior to SCHEV submission, Board action is required.

APPROPRIATE COMMITTEE:
Academic Programs, Diversity, and University Community Committee

BRIEF NARRATIVE:
The Business School is requesting permission to close the MS in Management of Secure Information Systems and to cease admissions as of summer 2020. The MS in Management of Secure Information Systems was developed to combine technology, management, and public policy into a program that would address threats to electronic information infrastructure. The program was designed in partnership with the School of Business, the Volgenau School of Engineering, and the Schar School of Policy and Government.

The program served experienced professionals in a cohort program. The program was run on Saturdays with courses that served only students enrolled in this program. As such, the delivery mode was inefficient, and cohort enrollment was not sufficient to support the program. With faculty and leadership turnover across the units the interest in leading, maintaining, and staffing this program waned by the partners. Without a critical mass of permanent faculty participating in this Saturday-deliver program format, it is not appropriate for the university to continue to offer this graduate degree. The faculty and administration determined that a better approach to offering the content of the MS in Management of Secure Information Systems content would be to redesign and update the curriculum, utilizing existing courses taught across units rather than courses delivered only on Saturdays for a small cohort of students. As such, the proposal is to terminate the MS in Management of Secure Information Systems degree program and to develop a new program with updated curriculum and a more flexible delivery mode.

REVENUE IMPLICATIONS:
The closure is expected to be budget neutral, given enrollment shifts to other programs.

STAFF RECOMMENDATION:
Staff recommend closure of this program.

George Mason University

Proposed Intent to Discontinue
George Mason University requests approval to discontinue the Master of Science (MS) degree program in Management of Secure Information Systems (MSIS) (CIP code: 43.0303). The degree program is housed in the School of Business.

Background
George Mason University initiated the Master of Science (MS) in Management of Secure Information Systems degree program in fall 2011. The program was designed to combine technology, management, and public policy into a program that would address threats to electronic information infrastructure.

In December 2018, Associate Deans from the School of Business, the Schar School of Policy and Government, and the Volgenau School of Engineering met to discuss the status of the MS degree program in Management of Secure Information Systems (MSIS). The deans unanimously agreed to discontinue the program based on low enrollment, faculty staffing challenges, and lack of leadership resulting from the program director's retirement announcement in November 2018. In fall 2019, the memorandum of understanding that addressed the financial agreement among the three Schools was dissolved with signatures approving the dissolution from each dean.

Rationale
There are several considerations that prompted the decision for the discontinuance of the MS degree program in MSIS. The first involves low enrollment. The program was designed to serve experienced professionals in a cohort format. The program was run on Saturdays with courses that served only students enrolled in this program. As such, the delivery mode was inefficient, especially given the enrollment numbers by cohort: in 2012, 27 students; in 2013, 19 students; in 2014, 18 students; in 2015, 32 students; in 2016, 21 students; in 2017, 17 students; and in 2018, 25 students.

A second factor prompting the discontinuance is the lack of engagement by partners in the program. The School of Business administered the program, and the costs for administration were taken out of program revenue. The remaining revenue from the program was split between the School of Business, the Schar School of Policy and Government, and the Volgenau School of Engineering according to the number of credits each School taught in the program. Over the course of the program's lifespan, interest in leading, maintaining, and staffing this program waned by the program partners. Without a critical mass of permanent faculty participating in this program's Saturday-delivery format, it became clear that it would not be appropriate or feasible for the University to continue to offer this graduate degree.

Finally, lack of leadership has contributed to the need to discontinue the MSIS program. With the retirement of the Program Director, the program has been without leadership for months. There are no plans to fill the vacancy. In summary, the faculty and administration determined that a better approach to offering the content of the MS in Management of Secure Information Systems content would be to redesign and update the curriculum, utilizing existing courses taught across units rather than courses delivered only on Saturdays for a small cohort of students.

As such, the proposal is to discontinue the MS in Management of Secure Information Systems degree program and to develop a new program with updated curriculum and a more flexible delivery mode.

Critical Shortage Area
The Master of Science (MS) degree program in Management of Secure Information Systems (MSIS) is not a critical shortage area.

Teach-out Plan
Only one student is currently enrolled in the MS in MSIS program. This student pursued a dual degree with the MS in Technology Management program. The student has completed all coursework uniquely associated with the MSIS degree and will complete the requirements for the MS in Technology Management in Spring 2020. No new students have entered this program since spring 2018.

"Stopped Out" Students
There are no stopped out students who are eligible to complete this program.

ITEM NUMBER:
Program Modification to the MEd Degree Program in Guidance and Counseling

PURPOSE OF ITEM:
A program modification proposal to change the name of the MEd in Guidance and Counseling to the MEd in Counseling has been prepared for submission to the State Council of Higher Education for Virginia (SCHEV). Board action is required prior to SCHEV submission.

APPROPRIATE COMMITTEE:
Academic Programs, Diversity, and University Community Committee

BRIEF NARRATIVE:
The MEd in Guidance and Counseling degree program prepares students to serve as entry-level school counselors or clinical mental health counselors. George Mason University seeks to modify the MEd in Guidance and Counseling by 1) changing the name of the degree program to the more commonly used program title, "Counseling," and 2) increasing credit requirements in the program's School Counseling Concentration and Clinical Mental Health Counseling Concentration to create a 60-credit Master of Education (MEd) degree program. Changing the program's name will make the program more recognizable to prospective students seeking to apply to entry-level counseling programs. The proposed increase in credit requirements will allow the MEd in Counseling to pursue accreditation by the Council for Accreditation Counseling and Related Educational Programs (CACREP) in School Counseling and Clinical Mental Health Counseling.

REVENUE IMPLICATIONS:
The proposed name change should incur no new expense to the College of Education and Human Development or the School of Education beyond those associated with web and printed materials.

STAFF RECOMMENDATION:
Staff recommends Board approval.

Description of Proposed Modified Program

Modification Background

George Mason University requests approval for a substantial modification of the Master of Education (MEd) in Guidance and Counseling. The proposed program will reside in the School of Education in the College of Education and Human Development. The target initiation date is summer 2020. If approved, the program will be delivered in a traditional format.

George Mason University seeks two modifications to the MEd in Guidance and Counseling:

1) add 15 credit hours to the current 45 credit hour program concentration in School Counseling and 8 credit hours to the current 52 credit hour concentration in Clinical Mental Health Counseling to create a 60-credit Master of Education degree program; and
2) change the title of the existing degree program.

The proposed modified program will allow Mason's Guidance and Counseling program to pursue accreditation by the Council for Accreditation Counseling and Related Educational Programs (CACREP) in School Counseling and Clinical Mental Health Counseling. The increase in program credit hours to 60 is required by CACREP. In March 2015, the Virginia Board of Counseling approved a proposal requiring that counseling professionals must graduate from a CACREP or CACREP affiliated program in order to be eligible for state licensure. The proposed modified program would offer specialty training in school counseling and clinical mental health counseling and would meet CACREP and state licensure curricular standards.

The purpose of the modified degree program is to prepare students to serve as entry-level school counselors or clinical mental health counselors. The graduate degree is considered the entry-level degree for licensed professionals in this field, thus the program prepares students to work as counselors in positions that require a master's degree and/or licensure. As described by the American Counseling Association (ACA), "Counseling is a professional relationship that empowers diverse individuals, families, and groups to accomplish mental health, wellness, education, and career goals."[1] Counseling may include prevention, assessment, and/or remediation to assist individuals, families, and/or communities in a variety of settings depending on the specialization.

There are two concentrations within the program that prepare students in similar ways but for somewhat different career paths. The School Counseling (SC) concentration prepares students to work in K-12 school settings as school counselors and to obtain licensure as a School Counselor. "School counseling programs support the Standards of Learning by providing guidance to students in their academic, career, and social-emotional development. School counselors collaborate with parents, teachers, administrators and others to promote learning and help students establish and achieve their education, career, and personal goals. School counselors provide leadership to ensure that students benefit from effective strategies and services aligned

1 American Counseling Association; https://www.counseling.org/aca-community/learn-about-counseling/what-is-counseling

with the Standards for School Counseling Programs in Virginia Public Schools."[2]

The Clinical Mental Health Counseling concentration prepares students to work as counselors in community agency settings (e.g., substance abuse, in home counseling, behavioral healthcare settings) or private practice, and to obtain licensure as a Licensed Professional Counselor (LPC). "Mental health counseling provides assessment and diagnosis of and treatment for mental illnesses, emotional problems, and substance-use issues to individuals and groups through psychotherapy, behavior modification, and counseling. Throughout the United States, several titles are used to identify people who practice in this discipline, including licensed professional counselor (LPC), licensed professional mental health counselor, licensed clinical professional counselor, licensed professional counselor of mental health, licensed clinical mental health counselor, and licensed mental health practitioner."[3]

The proposed modifications are in response to national factors influencing the counseling profession. The Institute of Medicine's recommendation is to use the CACREP clinical mental health program standards as the national mental health counseling standard needed to serve the veteran population and to be eligible for TRICARE (the health care program of the U.S. Department of Defense military health system) reimbursement. The Institute of Medicine report (2010) notes "Our nation's service members and their families have significant mental health services needs. In order to ensure that they receive the appropriate diagnosis and treatment, TRICARE should assure that all mental health providers, including counselors, are provided with a practice environment that facilitates high-quality care through appropriate scopes of practice, education on the particular problems and needs of the patient population, promotion of evidence-based practices, monitoring of outcomes, and application of quality improvement strategies."[4] This action may remove federal employment options for future graduates of entry-level counseling programs that are not CACREP accredited.

In 2010, the Virginia Board of Counseling submitted a Notice of Regulatory Action "requiring graduation from a CACREP or CACREP affiliated program" in order to be eligible for licensure as a professional counselor.[5] The recommendation underwent the legislative review process, and in March 2015, the recommendation was approved. While the governor did not sign this legislation, the Board is again (in 2019) entertaining a proposal to require a master's degree from a CACREP accredited program or an approved affiliate, such as the Council on Rehabilitation Education (CORE) in order to obtain the Licensed Professional Counselor (LPC) credential in Virginia.

Professionals are needed in the field who have the knowledge and training to provide holistic counseling that addresses a bio-psychosocial perspective of well-being across the life span. Such a perspective incorporates the medical, cognitive, mental, and psychological aspects, as well as the life domains of individuals, including education, health, career, social, and community

2 Virginia Department of Education; http://www.doe.virginia.gov/support/school_counseling/index.shtml

3 Provision of Mental Health Counseling Services under TRICARE; https://books.google.com/books?isbn=0309157196; page 28

4 http://www.nationalacademies.org/hmd/Reports/2010/Provision-of-Mental-Health-Counseling-Services- Under-TRICARE/Report-Brief-Provision-of-Mental-Health-Counseling-Services-Under- TRICARE.aspx?page=3

5 http://townhall.virginia.gov/L/viewpetition.cfm?petitionid=210

aspects. Graduates of the proposed modified program will be able to address the industry need for licensed counselors to serve individuals in school settings or in clinical mental health settings.

Accreditation

The existing MEd in Guidance and Counseling with a concentration in School Counseling is currently accredited by the National Council for the Accreditation of Teacher Education (NCATE). At the end of this current accreditation term, the School Counseling program will be pursuing accreditation with the Council for the Accreditation of Educator Preparation (CAEP). CAEP was created by the consolidation of the National Council for Accreditation of Teacher Education (NCATE) and the Teacher Education Accreditation Council. The modified degree program will begin in summer 2020, with graduates expected in Fall 2020. Based on this timeline, the program intends to apply for CACREP accreditation by submitting a self-study and related required documentation in Spring 2021. A site visit is anticipated to take place in Spring 2022 with a decision rendered in July 2022.

Faculty members have reviewed curriculum and made necessary changes or additions to program coursework in order to ensure compliance with all content areas required by CACREP. Faculty are also designing student learning outcome assessments, program assessments, professional disposition assessments, and student and alumni data as required by CACREP. CACREP requires coursework addressing the following areas for all programs: professional counseling orientation and ethical practice, social and cultural diversity, human growth and development, career development, counseling and helping relationships, group counseling and group work, assessment and testing, and research and program evaluation. Additionally, foundation, contextual dimensions, and practice are required for the two concentration areas, School Counseling or Clinical Mental Health Counseling. Faculty members have developed the proposed curriculum and specific courses to ensure compliance with all content areas required by CACREP.

Modified Degree Program

The current MEd in Guidance and Counseling is being modified in two ways: in total degree program credit hours and the name of the degree program. The current MEd in Guidance and Counseling is a 45-52 credit hour program with two concentrations. Curriculum changes are being proposed for a 60 credit hour total for the program. This requires an additional 15 credits added for School Counseling and 8 credits added for Clinical Mental Health Counseling. The additional credit hours added to the curriculum are needed to include coursework to meet accreditation standards and provide academic knowledge and training to prepare students to serve as entry-level school counselors and clinical mental health counselors.

Current and Proposed Curricula

MEd in Guidance and Counseling	MEd in Counseling
Core Courses (28 credits)	**Core Courses (33 credits)**
EDCD 525 Advanced Human Growth and Development (3 cr)	EDCD 525 Advanced Human Growth and Development (3 cr)
EDCD 601 Introduction to Research and Counseling (3 cr)	EDCD 601 Introduction to Research and Counseling (3 cr)
EDCD 602 Foundations in Counseling (3 cr)	EDCD 602 Foundations in Counseling (3 cr)
EDCD 603 Counseling Theories and Practices (3 cr)	EDCD 603 Counseling Theories and Practices (3 cr)
EDCD 604 Assessment and Appraisal in Counseling (3 cr)	EDCD 604 Assessment and Appraisal in Counseling (3 cr)
EDCD 608 Group Process and Analysis (4 cr)	EDCD 608 Group Process and Analysis (4 cr)
EDCD 610 Career and Educational Counseling (3 cr)	EDCD 610 Career and Educational Counseling (3 cr)
	EDCD 619 Trauma and Crisis Counseling (3 cr)
	EDCD 621 School, Family, and Community Collaboration (2 cr)
EDCD 628 Counseling and Social Justice (3 cr)	EDCD 628 Counseling and Social Justice (3 cr)
EDCD 660 Multicultural Counseling (3 cr)	EDCD 660 Multicultural Counseling (3 cr)

School Counseling Concentration (17 cr)	**School Counseling Concentration (27 cr)**
EDCD 606 Counseling Children and Adolescents (4 cr)	*EDCD 606 Counseling Children and Adolescents (3 cr)
EDCD 611 Introduction to Legal Issues in School Counseling (2 cr)	EDCD 611 Introduction to Legal Issues in School Counseling (3 cr)
	EDCD 613 Introduction to School Counseling (3 cr)
	EDCD 615 School-Based Mental Health (3 cr)
EDCD 626 Principles and Practices of School Counseling (3 cr)	EDCD 626 Principles and Practices of School Counseling (3 cr)
EDCD 755 Practicum in Counseling (3 cr)	EDCD 751 Practicum in School Counseling (3 cr)
EDCD 791 Internship in Counseling (3 cr)	**EDCD 794 Internship in School Counseling I (3 cr)
	**EDCD 795 Internship in School Counseling II (3 cr)

Electives (2 cr) selected from EDCD courses including EDCD 797, or permission of advisor	*Electives (3 cr) selected from EDCD courses including EDCD 797, or permission of advisor

Clinical Mental Health Counseling Concentration (24 cr)	**Clinical Mental Health Counseling Concentration (27 cr)**
EDCD 609 Advanced Counseling Skills Strategies (4 cr)	*EDCD 609 Clinical Mental Health Counseling (3 cr)
EDCD 652 Introduction to Substance Abuse Counseling (3 cr)	EDCD 652 Introduction to Substance Abuse Counseling (3 cr)
EDCD 654 Counseling, Ethics and Consultation in Community Agencies (3 cr)	*EDCD 654 Counseling and Ethics in Community Agencies (3 cr)
EDCD 656 Diagnosis and Treatment Planning for Mental Health Professionals (3 cr)	EDCD 656 Diagnosis and Treatment Planning for Mental Health Professionals (3 cr)
EDCD 658 Couples and Family Counseling (3 cr)	EDCD 658 Couples and Family Counseling (3 cr)
EDCD 755 Practicum in Counseling (3 cr)	EDCD 750 Practicum in Mental Health Counseling (3 cr)
EDCD 791 Internship in Counseling (3 cr)	**EDCD 792 Internship in Mental Health Counseling I (3 cr)
	**EDCD 793 Internship in Mental Health Counseling II (3 cr)
Electives (2 cr) selected from EDCD courses including EDCD 797, or permission of advisor	*Electives (3 cr) selected from EDCD courses including EDCD 797, or permission of advisor

*Signifies change to existing course (in name/content and/or in credit hours)
**Signifies new field experience course that replaces previous field experience course

Curriculum

The proposed MEd program in Counseling will consist of 60 credit hours. Three semesters of field placement will be required.

The proposed modified program has been designed to meet all standards set by Council for Accreditation Counseling and Related Educational Programs (CACREP) for entry-level programs. The 2016 CACREP Standards require Counseling and Counselor Education programs to provide a curriculum in foundations, contextual dimensions, and practice cognates in the respective entry-level specialty areas.

Coursework in the proposed modified program focuses on the following common core areas for entry-level professional counseling: professional counseling orientation and ethical practice, social and cultural diversity, human growth and development, career development, counseling and helping relationships, group counseling and group work, assessment and testing, and research and program evaluation. The proposed modified program will have two concentrations: School Counseling and Clinical Mental Health Counseling. Concentration coursework provides

students with knowledge related to the foundation, contextual dimensions, and practice for their particular practice area.

The field experience consists of 100 clock-hours for a clinical practicum and 600 clock-hours for a clinical internship (300 per semester). The field experiences enable students to apply the knowledge and skills gained in their coursework in real world settings under supervision. Students will engage in experiential learning to acquire the training and skills needed to provide counseling to clients and students in community agency or school settings. Students will receive on-site individual supervision and university-based group supervision during all field experiences.

EDCD 525 and EDCD 602 are open to non-degree students. If admitted to the program within six years of completing one or both courses, students may count these credits toward the master's degree program. Additionally, students may request to transfer up to 6 credits. Students must provide the syllabus from any course requested for transfer credit. Faculty will review the request to determine equivalency.

Program Requirements

Core Courses – 33 credit hours
EDCD 525 Advanced Human Growth and Development (3 credits)
EDCD 601 Introduction to Research and Counseling (3 credits)
EDCD 602 Foundations in Counseling (3 credits)
EDCD 603 Counseling Theories and Practices (3 credits)
EDCD 604 Assessment and Appraisal in Counseling (3 credits)
EDCD 608 Group Process and Analysis (4 credits)
EDCD 610 Career and Educational Counseling (3 credits)
EDCD 619 Trauma and Crisis Counseling (3 credits)
EDCD 621 School, Family, and Community Collaboration (2 credits)
EDCD 628 Counseling and Social Justice (3 credits)
EDCD 660 Multicultural Counseling (3 credits)

Concentration Areas - 24 credit hours
School Counseling Concentration: 15 credits
EDCD 606 Counseling Children and Adolescents (3 credits)
EDCD 611 Introduction to Legal Issues in School Counseling (3 credits)
EDCD 626 Principles and Practices of School Counseling (3 credits)
EDCD 613 Introduction to School Counseling (3 credits)
EDCD 615 School-Based Mental Health (3 credits)

Field Placement: 9 credits
EDCD 751 Practicum in School Counseling (3 credits)
EDCD 794 Internship in School Counseling I (3 credits)
EDCD 795 Internship in School Counseling II (3 credits)

Clinical Mental Health Counseling Concentration: 15 credits
EDCD 609 Clinical Mental Health Counseling (3 credits)
EDCD 652 Introduction to Substance Abuse Counseling (3 credits)
EDCD 654 Counseling and Ethics in Community Agencies (3 credits)
EDCD 656 Diagnosis and Treatment Planning for Mental Health Professionals (3 credits)
EDCD 658 Couples and Family Counseling (3 credits)

Field Placement: 9 credits
EDCD 750 Practicum in Mental Health Counseling (3 credits)
EDCD 792 Internship in Mental Health Counseling I (3 credits)
EDCD 793 Internship in Mental Health Counseling II (3 credits)

Elective Courses – 3 credits
All students select an elective course from Counseling and Development (EDCD) courses, including EDCD 797, with permission of an advisor. Elective topics include: At-Risk Youth, Creative Counseling, Counseling LGBTQ Individuals; Eating Disorders, Mindfulness Counseling, and Gestalt Counseling.

Total Credits – 60

Field Experiences
The process of obtaining a field experience site differs between the two concentrations. School Counseling concentration students submit their application materials to the field placement coordinator who works with school districts to place students in a school. Clinical Mental Health Counseling concentration students contact agencies directly to apply for a position. Agencies contacted must meet the program requirements. The program's Clinical Coordinator provides a list of possible sites and assists students as needed.

Practicum
Students in both the School Counseling and the Clinical Mental Health Counseling concentrations are required to complete 100 clock hours for practicum. The practicum must occur over an academic semester that is a minimum of 10 weeks. Weekly supervision is required with both an on-site supervisor and a faculty supervisor. The practicum must include 40 clock hours of direct service experience. These requirements meet the terms of practicum according to Council for Accreditation Counseling and Related Educational Programs (CACREP) standards.

Internship
Students in both the School Counseling and the Clinical Mental Health Counseling concentrations are required to complete 600 clock hours for internship. The internship occurs over two semesters (Internship I and Internship II) and 300 clock hours are completed each semester. Weekly interactions with an on-site supervisor and faculty supervisor are required. The internship requires 240 clock hours of direct counseling experience; 120 hours are recommended per semester although students are permitted to complete Internship I with a minimum of 90 direct hours and make up the remaining needed hours in Internship II (for a total of 240 across both semesters). These requirements meet the Council for Accreditation Counseling and Related Educational Programs (CACREP) standards for internship.

Students are strongly encouraged to enroll in summer courses to facilitate timely completion of the degree program.

See Appendix A for Sample Plans of Study.
See Appendix B for Course Descriptions.
See Appendix C for Field Placement Sites for Community Agencies.
See Appendix D for Field Placements for School Districts.

See Appendix E for CACREP requirements/standards for practicum and internship, 2016, pages 14 and 15.

Degree Program Title Modification

George Mason University is requesting to rename the existing MEd in Guidance and Counseling to an MEd in Counseling. The program was approved by SCHEV in 1973. Changing the name to the more commonly used program title, "Counseling," will make the program more recognizable to prospective students seeking to apply to entry-level counseling programs.

Advisory Boards

An advisory board is required by the Council for Accreditation Counseling and Related Educational Programs (CACREP). To best solicit feedback and address the particular needs and interests of stakeholders, the program has three advisory boards: (1) the Student and Alumni Advisory Board (SAAB); (2) the School Counseling Leadership Team (SCLT); and (3) the Community and Mental Health Counseling Advisory Board (CMHCAB). The SAAB is comprised of graduates and current students of the program and provides guidance to faculty on program processes, including the revision of the professional dispositions used by the program. The SCLT is comprised of counselor educators from local universities and supervisors of school counseling services from surrounding school districts. The CMHCAB is currently under development and will be made up of agency directors, counseling faculty members that teach clinical mental health counseling students, and the program's Clinical Coordinator.

See Appendix L for details on each of these advisory boards.

Student Assessment

Students who complete the proposed modified MEd in Counseling will possess knowledge and skills to serve as entry-level counselors. Those in the School Counseling concentration will be prepared to provide counseling, support, and educational services to K-12 students in schools. Those in the Clinical Mental Health Counseling concentration will be prepared to provide counseling, assessment, prevention, diagnosis, and treatment in a variety of settings including community mental health agencies, substance abuse treatment facilitates, and other clinical settings. Outcome measurements involve both direct and indirect assessment tools. Students will be assessed in each course through various mechanisms that include: class exercises, homework assignments, individual and/or group projects, papers, presentations, and examinations. Students

will regularly evaluate their own performance through self-reflection assignments addressing specific content learned throughout the curriculum. Professional dispositions will be introduced at the beginning of the program and evaluated at set intervals by instructors and field experience supervisors, as well as the students themselves.

In addition, the practicum and internship field experiences will provide opportunities for assessment of the combined learned skills obtained throughout the degree program. The field experience is considered a capstone of the program reinforcing the content via practical application and experiential learning. During their field experiences, students' skills and competencies are assessed by their on-site individual supervisor and university-based group supervisor.

Learning outcomes for the proposed modified program reflect the eight common core areas of Council for Accreditation Counseling and Related Educational Programs (CACREP) and include specific competencies and skills expected of students.

Learning Outcomes

The following are the learning outcomes for the proposed modified program. Students will be able to:

- Demonstrate knowledge of ethical practices and applicable ethical standards to their roles as clinical mental health counselors or school counselors and apply as appropriate.
- Demonstrate an understanding of multicultural and pluralistic characteristics within and among diverse groups.
- Demonstrate an understanding of strategies for identifying and eliminating barriers, prejudices, and processes of intentional and unintentional oppression and discrimination, including power and privilege.
- Demonstrate knowledge of systemic and environmental factors that affect human development, functioning, and behavior, as well as an understanding of ethical and culturally relevant strategies for promoting resilience and optimum development and wellness across the lifespan.
- Demonstrate knowledge of strategies and methods of identifying and using tools to assess abilities, interests, values, personality and other factors that contribute to career development, planning, and decision making .
- Demonstrate counselor characteristics and behaviors that influence the counseling process and develop personal model of counseling.
- Demonstrate the essential interviewing, counseling, and case conceptualization skills to provide counseling and treatment/intervention planning to clients/students from diverse backgrounds.
- Demonstrate an understanding of the dynamics associated with group process and development and the characteristics and functions of effective group leaders for leading diverse groups.
- Demonstrate the ability to use assessments relevant to academic/educational, career, personal, and social development for diagnostic and/or intervention planning purposes.
- Demonstrate an understanding of designs used in research and/or program evaluation, including how to analyze data.

In addition, coursework in the concentrations will provide the following learning outcomes. Students in the Clinical Mental Health Counseling concentration will be able to:

- Demonstrate an understanding of theories, principles, models, and documentation formats for mental health counseling, including biopsychosocial case conceptualization and treatment planning.
- Demonstrate techniques and interventions for prevention and treatment of a broad range of mental health issues, including relevant cultural factors.

Students in the School Counseling concentration will be able to:

- Demonstrate an understanding of school counselor roles as leaders, advocates, and systems change agents in P-12 schools and in multidisciplinary teams.
- Demonstrate knowledge of design and evaluation of school counseling programs that promote equity in student achievement and/or college access.

Students will be assessed on the knowledge and skills necessary to become ethical and effective counselors in a complex society with diverse populations. As required by CACREP, the program uses multiple time points (Formative and Summative) and a mix of knowledge and skill assessments.

Curriculum map for M.Ed. in Counseling

Learning Outcomes	**Core or Required Courses**	**Assessment Measures**
Demonstrate knowledge of ethical practices and applicable ethical standards to their roles as clinical mental health counselors or school counselors and apply as appropriate.	EDCD 654 Counseling and Ethics in Community Agencies EDCD 611 Introduction to Legal Issues in School Counseling EDCD 750 Practicum in Mental Health Counseling EDCD 751 Practicum in School Counseling	Formative: Ethical Decision-Making Interview and Model Ethical Decision-Making Case Study Summative: Site Supervisor Evaluation
Demonstrate an understanding of multicultural and pluralistic characteristics within and among diverse groups.	EDCD 660 Multicultural Counseling EDCD 750 Practicum in Mental Health Counseling EDCD 751 Practicum in School Counseling	Formative: Multicultural Research Paper Summative: University Supervisor Evaluation
Demonstrate understanding of strategies for identifying and eliminating barriers, prejudices, and processes of intentional and unintentional oppression and discrimination, including power and privilege.	EDCD 602 Foundations in Counseling EDCD 628 Counseling and Social Justice	Formative: Social Justice Paper Summative: Freire Analysis Paper
Demonstrate knowledge of	EDCD 525 Advanced Human	Formative:

systemic and environmental factors that affect human development, functioning, and behavior, as well as an understanding of ethical and culturally relevant strategies for promoting resilience and optimum development and wellness across the lifespan.	Growth and Development EDCD 619 Trauma and Crisis Counseling	Research Paper Summative: Traumatic Experience Article Review
Demonstrate knowledge of strategies and methods of identifying and using tools to assess abilities, interests, values, personality and other factors that contribute to career development, planning, and decision making .	EDCD 604 Assessment and Appraisal in Counseling EDCD 610 Career and Educational Counseling	Formative: Research Paper Summative: Traumatic Experience Article Review
Demonstrate counselor characteristics and behaviors that influence the counseling process and develop personal model of counseling.	EDCD 609 Clinical Mental Health Counseling EDCD 606 EDCD 750 Practicum in Mental Health Counseling EDCD 751 Practicum in School Counseling	Formative: Tape Review Assignment Summative: Tape Review Assignment
Demonstrate the essential interviewing, counseling, and case conceptualization skills to provide counseling and treatment/intervention planning to clients/students from diverse backgrounds.	EDCD 792 Internship in Mental Health Counseling I EDCD 794 Internship in School Counseling I EDCD 793 Internship in Mental Health Counseling II EDCD 795 Internship in School Counseling II	Formative: Case Conceptualization Presentation Summative: Case Conceptualization Presentation
Demonstrate an understanding of the dynamics associated with group process and development and the characteristics and functions of effective group leaders for leading diverse groups.	EDCD 608 Group Process and Analysis EDCD 793 Internship in Mental Health Counseling II EDCD 795 Internship in School Counseling II	Formative: Group Facilitation Summative: Group Facilitation
Demonstrate the ability to use assessments relevant to academic/educational, career, personal, and social development for diagnostic	EDCD 604 Assessment and Appraisal in Counseling EDCD 610 Career and Educational Counseling	Formative: Career Assessment Review Summative: Career Development and

and/or intervention planning purposes.		Assessment Paper
Demonstrate an understanding of designs used in research and/or program evaluation, including how to analyze data.	EDCD 601 Introduction to Research and Counseling EDCD 793 Internship in Mental Health Counseling II EDCD 795 Internship in School Counseling II	Formative: Methods Paper Summative: Program Evaluation
Demonstrate an understanding of theories, principles, models, and documentation formats for mental health counseling, including biopsychosocial case conceptualization and treatment planning.	EDCD 609 Clinical Mental Health Counseling EDCD 792 Internship in Mental Health Counseling I	Formative: Advanced Counseling Skills Paper Summative: Conceptualization Presentation
Demonstrate techniques and interventions for prevention and treatment of a broad range of mental health issues, including relevant cultural factors.	EDCD 656 Diagnosis and Treatment Planning for Mental Health Professionals EDCD 793 Internship in Mental Health Counseling II	Formative: Treatment Plan Assignment Summative: Program Evaluation
Demonstrate an understanding of school counselor roles as leaders, advocates, and systems change agents in P-12 schools and in multidisciplinary teams.	EDCD 613 Introduction to School Counseling EDCD 794 Internship in School Counseling I	Formative: Interview Assignment Summative: Case Conceptualization Presentation
Demonstrate knowledge of design and evaluation of school counseling programs that promote equity in student achievement and/or college access.	EDCD 613 Introduction to School Counseling EDCD 794 Internship in School Counseling I	Formative: Evidence-Based School Counseling Intervention Plan Summative: Program Evaluation

Employment Skills/Workplace Competencies

The proposed modified program will offer graduates opportunities for entry level employment. Graduates will meet the increasing need for school counselors and mental health counselors.

All graduates of the proposed modified program will be able to:

- Understand and work with clients/students on issues related to human growth and development across the lifespan.
- Utilize and critique relevant research to improve counseling practice.
- Build rapport and create effective helping relationships with clients/students.

- Understand and utilize appropriate counseling theories.
- Understand and utilize appropriate assessments in counseling practice .
- Facilitate group counseling interventions.
- Provide appropriate assessment, prevention, and intervention related to trauma and crisis exposures for clients/students.
- Provide career and education counseling to clients/students.
- Collaborate among relevant stakeholders, including schools, families, and communities.
- Provide appropriate and culturally sensitive counseling to clients/students of diverse backgrounds.
- Identify and address relevant social justice concerns that impact client/student wellbeing.

Graduates of the School Counseling concentration will be able to:

- Assist students in their academic development, career development, and social/ emotional development.
- Provide services through the following 8 delivery modes outlined by the Virginia Department of Education:[6]
    - Counseling Curriculum
    - Small Group Counseling
    - Individual Counseling
    - Crisis Response
    - Individual Student Planning
    - Consultation
    - Collaboration
    - Referral

Graduates of the Clinical Mental Health Counseling concentration will be able to:

- Engage in the following activities as outlined by the Virginia Board of Counseling:[7]
    - Assessment and diagnosis using psychotherapy techniques;
    - Appraisal, evaluation and diagnostic procedures;
    - Treatment planning and implementation;
    - Case management and recordkeeping;
    - Professional counselor identity and function; and
    - Professional ethics and standards of practice.

Justification for Proposed Modified Program

Rationale for the Program

Primary factors driving the need for the proposed modified degree program include: counselor job outlook, shortage of qualified mental health counselors, Virginia school counselor funding,

6 http://www.doe.virginia.gov/support/school_counseling/index.shtml

7 https://www.dhp.virginia.gov/counseling/counseling_laws_regs.htm

the program's decision to seek CACREP accreditation, and Virginia counseling standards. The proposed program will prepare individuals in two professions: school counseling and mental health counseling.

Job Outlook

According the Bureau of Labor Statistics (BLS) Occupational Outlook Handbook (2019),[8] the job outlook from 2018 to 2028 for School and Career Counselors is faster than average growth (8%). The Substance Abuse, Behavioral Disorder, and Mental Health Counselors the job outlook is considered much faster than average growth (22%). A continued need for the proposed modified program is therefore anticipated as graduates enter the workforce.

Shortage of Qualified Mental Health Counselors

The BLS job outlook reflects concerns that have been raised over the past 10-15 years related to the shortage of qualified counselors. The shortage of mental health care providers is described as follows in U.S. News & World Report:

> Two disturbing trend lines are currently crossing in the area of mental health care. One line, tracking demand for such care, is rapidly rising. In the U.S., nearly 1 in 5 people has some sort of mental health condition, according to the Jo*urnal of the American Medical Association*. The disease burden – the impact of a health problem as measured by financial cost, death rates, disability and other measures – of mental health and substance use disorders was higher than for any other condition in 2015, *JAMA* reported.
>
> The other trend line, measuring the number of mental health care providers in practice, is barely holding steady. A 2016 report released by the Health Resources and Services Administration projected the supply of workers in selected behavioral health professions to be approximately 250,000 workers short of the projected demand in 2025[9].

Virginia School Counselor Funding

There is increasing attention at the state level on the importance of school counselors, particularly as schools see mass shootings, suicides, and self-harm[10]. The General Assembly approved $12 million to support adding school counselors to Virginia schools[11]. Several school districts in the Northern Virginia region have indicated they will use local funds to hire more school counselors with the aim of addressing counselor to student ratios. Virginia's current ratio is one counselor for every 425 students, while the American School Counselor Association (ASCA) recommends one counselor for every 250 students[12].

8 https://www.bls.gov/ooh/

9 https://health.usnews.com/health-care/patient-advice/articles/2018-05-25/whats-the-answer-to-the-shortage-of-mental-health-care-providers

10 https://www.insidenova.com/news/education/state-looks-to-add-more-school-counselors/article_76f959ea-0f74-11e9-9713-afd4a08844b1.html

11 https://www.wvtf.org/post/school-counselor-funding-way-not-nearly-enough#stream/0

12 https://www.insidenova.com/news/education/state-looks-to-add-more-school-counselors/article_76f959ea-0f74-11e9-9713-afd4a08844b1.html

Decision to Seek Accreditation

There has been a national push to better align counselor preparation programs and licensure requirements so that they are more similar among states in the U.S. As such, many university counseling program have decided to seek CACREP-accreditation as a way to identifying their programs meets a set of minimum standards. CACREP has also lobbied various states (including the Commonwealth of Virginia) to make graduation from a CACREP program a requirement to achieve counseling licensure in Virginia. As such, it is in the best interest of our students that the program achieve accreditation from CACREP.

Virginia Counseling Standards

Virginia requires a master's degree to practice independently as a counselor, as do most states. Counseling licensure requirements differ for the two concentrations offered at GMU.

Students graduating from the Clinical Mental Health Counseling concentration will be prepared to seek licensure as Licensed Professional Counselors (LPCs). The LPC designation is governed by the Virginia Board of Counseling. The Board requires "60 semester hours…of graduate study," including 12 course content areas and 600 hours of internship.[13] In March of 2015, the Virginia Board of Counseling approved the use of CACREP standards as the standard of training for Virginia Counselors.[14] While this measure was not finalized, the Board continues to consider similar requirements.

Students graduating from the School Counseling concentration will be prepared to seek licensure as School Counselors. School Counseling licensure is governed by the Virginia Department of Education (DOE). DOE requires that applicants have a "master's degree from a regionally accredited college or university in a state-approved school counselor preparation program that shall include at least 100 clock hours of internship and practicum experiences in the preK-6 setting and 100 clock hours of internship and practicum experiences in the grades 7-12 setting."[15]

In summary, the clear need for counselors, as described above, will be addressed through the proposed modified MEd degree program in Counseling with concentrations in School Counseling and Clinical Mental Health Counseling. The graduates of the program will be prepared to help address mental health concerns in both clinical/agency settings and in school settings. The proposed modified program will address the school counseling and mental health needs in Virginia, as well as in other practice locations in U.S. and possibly abroad.

Student Demand

Student enrollment in the proposed modified MEd degree in Counseling program is expected to remain about the same as student enrollment in the existing MEd degree in Guidance and Counseling. It is anticipated that interest in the program may increase given the alignment with CACREP requirements and increasing student interest in attending a CACREP-accredited program. Faculty teaching in the existing degree program will remain the same for the proposed

13 https://www.dhp.virginia.gov/counseling/counseling_laws_regs.htm

14 https://www.dhp.virginia.gov/counseling/minutes/2015/Board_draft_11132015.pdf

15 https://law.lis.virginia.gov/admincode/title8/agency20/chapter23/section670/

modified degree program. It is expected that student enrollment in the modified degree program will remain at a level appropriate to faculty resources.

STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA
SUMMARY OF PROJECTED ENROLLMENTS IN PROPOSED PROGRAM

Projected enrollment:

Year 1		Year 2		Year 3		Year 4 **Target Year (2-year institutions)**			Year 5 **Target Year (4-year institutions)**		
2020 - 2021		2021- 2022		2022 - 2023		2023 - 2024			2024 - 2025		
HDCT 46	FTES 29	HDCT 85	FTES 54	HDCT 124	FTES 79	HDCT 165	FTES 105	GRAD ____	HDCT 167	FTES 106	GRAD 40

Assumptions
Retention percentage: 85%
Full-time students 55% Part-time students 45%
Full-time students credit hours per semester: 9
Part-time students credit hours per semester: 6
Full-time students graduate in 3 years Part-time students graduate in 4 years

Duplication

Eight public institutions in Virginia offer similar or related degree programs. Two of these offer graduate degrees in the field of Counseling, five offer graduate degrees in the field of Counselor Education, and one offers a graduate degree in the field of Counseling and Human Development.

William and Mary
The College of William and Mary offers a Master's of Education (MEd) in Counseling. The program requires 60 credit hours for School Counseling and Clinical Mental Health Counseling and 63 credit hours for Couples, Marriage and Family Counseling. The focus of the program is to prepare graduates to practice in public schools or in related educational and mental health settings. There are three concentrations offered: School Counseling; Couples, Marriage and Family Counseling; and Clinical Mental Health Counseling (with an Addictions Specialty option).

Similarities
One of the similarities between the program at William and Mary and the program at George Mason is that they both include a 600 hour Internship.

Differences

One difference between the two programs is that William and Mary does not include electives in their course of study. At William and Mary there is the option for a specialty in Addictions Counseling as well as online options for Clinical Mental Health and School Counseling. This is not the case at George Mason. Additionally, William and Mary's program includes a 150 hour Practicum which is different than that at George Mason.

James Madison University (JMU)

JMU offers two programs: a Master's of Education (MEd) in School Counseling and a Master's of Arts (MA) in Clinical Mental Health Counseling. The MEd program in School Counseling requires 54 credit hours. The focus of the program is to train students to become successful school counselors. The collective objectives of the Counseling Programs and specific objectives of School Counseling Program are as follows: Professional Counseling Orientation and Ethical Practice, Social and Cultural Diversity, Human Growth and Development, Career Development, Helping Relationships, Group Counseling and Group Work, and Assessment and Testing.

Similarities

One of the similarities between the program at James Madison University and the program at George Mason is that they both include a 100hr Practicum and a 600hr Internship.

Differences

The program at James Madison University involves small, experiential classes that rarely include more than eight to ten students; this is different than the program at George Mason. James Madison's program is not CACREP accredited and only requires 54 credits total. At George Mason the credit hours required are 60. An additional difference between the two programs is that students at James Madison take a Diagnosis and Treatment course.

JMU's MA degree program in Clinical Mental Health Counseling requires 60 credit hours and leads to the awarding of both the MA and the Educational Specialist degrees. The focus of the program is to train students to become Licensed Professional Counselors in community mental health centers, community agencies, mental health facilities, and private practice settings.

Similarities

A similarity between the programs is that at both, there is an option to take 3 credits of electives.

Differences

There are differences with regard to the courses offered in the two schools. One, at James Madison students take a Supervision and Consultation course, and two, they also take 3 clinical courses (including techniques, process, and counseling strategies and crisis interventions). This is not the case at George Mason. There is also an option at James Madison for an Educational Specialist which could include a research and/or Thesis work.

Old Dominion University (ODU)

ODU offers a Master's of Science (MSEd) in Education with a concentration in Counseling. The focus of the program is to produce counselors dedicated to reducing disparities in society based on race, gender, class, and sexual orientation, and other social group membership. The program

requires 60 credits with 6 of the courses specific to the specialization. JMU offers two specializations: Clinical Mental Health Counseling and School Counseling.

Similarities
One of the similarities between the program at Old Dominion University and the program at George Mason is that they both include a 100 hour Practicum a 600 hour Internship.

Differences
At Old Dominion, the Core Curriculum is exactly the same for both Specializations; this is not the case at George Mason. Another difference is that the additional 6 courses (including the internship) needed, at Old Dominion, are specialization specific.

Radford University
Radford offers a Master's of Science (MS) degree program in Counseling and Human Development. The focus of the program is to provide the skills and knowledge necessary for becoming a knowledgeable, thoughtful, skillful, and caring counselor. The program is intensely clinical and involves significant student engagement in situated learning or clinical practice. The program requires 48 credits with 18 of the credits being specific to the specialization. Radford's program offers two specializations: Clinical Mental Health Counseling and School Counseling.

Similarities
One of the similarities between the program at Radford University and the program at George Mason is that they both include a 60 credit hour Clinical Mental Health Counseling program.

Differences
Differences exist between the two programs with regard to credit hours and course offerings. At Radford University the School Counseling program requires 48 credit hours. At George Mason the requirement is 60 credit hours. Another difference that that there is no Practicum requirement in Clinical Mental Health Counseling at Radford. Radford utilizes 2 Practicum courses for SC and 2 Internship courses for SC; elementary school and middle/high school. This is different than the 1 Practicum and 1 Internship course offering at George Mason.

The University of Virginia (UVA)
UVA offers a Master's of Education (MEd) in Counselor Education with a concentration in School Counseling. The focus of the program is to prepare ethical, culturally competent school counselors who address individual and systemic barriers to educational achievement and personal development in the context of a comprehensive school counseling program. The program requires 34 credit hours of course work in eight foundational areas. Students must also take 24 credit hours of courses specific to school counseling. In addition, student complete a 100-hour school-based practicum and a 600-hour Internship placement.

Similarities
One of the similarities between the program at The University of Virginia and the program at George Mason is that they both include a 100 hour Practicum and a 600 hour Internship.

Differences
A difference between the two programs is that at UVA, there is no Clinical Mental Health Counseling concentration.

Virginia Commonwealth University (VCU)
VCU offers a 60-credit hour Master's of Education (MEd) in Counselor Education. The focus of the program is to provide students with the specialized knowledge and skills required for placement in elementary, middle and high schools, as well as postsecondary institutions. VCU's program offers concentrations in College counseling and student affairs, School Counseling, and Couples and family counseling.

Similarities
One of the similarities between the program at Virginia Commonwealth University and the program at George Mason is that they both include a 600 hour Practicum/Internship.

Differences
SC students at VCU take a Mental Disorders, Diagnosis and Treatment Planning course. This is not the case at George Mason.

Virginia State University (VSU)
VSU offers a Master's of Science (MS) degree program and a Master's of Education (MEd) degree program. The programs are designed to professionally train and prepare professional counselors in the specialized tracks of School Counseling Prek-12, and Community Counseling.

Virginia Tech (VT)
VT offers a 60-credit hour Master's of Arts (MAEd) in Education with a concentration in School Counseling or Clinical Mental Health Counseling. The focus of the program is to help counselors shape the future of the counseling profession through teaching, supervision, advocacy, and research. The program believes strongly in the researcher-practitioner model and the students receive a foundation in research methods that help to design and conduct research that can be translated into practice.

Similarities
One of the similarities between the program at Virginia Tech and the program at George Mason is that they both include a 600 hour Internship.

Differences
A difference between the two programs is that the Core Curriculum is the same for both concentrations at VT. This is not the case at George Mason.

Enrollments and Degrees Awarded of Comparable Programs in the Commonwealth

Enrollments	**Fall 2014**	**Fall 2015**	**Fall 2016**	**Fall 2017**	**Fall 2018**
College of William and Mary	58	58	57	50	74
James Madison University	42	45	48	46	53
Old Dominion University	153	150	136	144	137
Radford University	75	52	62	65	61
University of Virginia	37	52	45	46	40
Virginia Commonwealth University	99	85	65	60	72
Virginia State University	94	81	53	41	42
Virginia Tech	44	28	28	31	37
Degrees Awarded	**2014**	**2015**	**2016**	**2017**	**2018-19**
College of William and Mary	30	24	34	23	27
James Madison University	28	32	28	28	21
Old Dominion University	66	53	43	44	42
Radford University	43	29	23	16	27
University of Virginia	6	31	20	23	20
Virginia Commonwealth University	42	40	29	24	34
Virginia State University	38	27	15	19	11
Virginia Tech	22	14	14	13	15

Projected Resources for Proposed Modified Program

Resource Needs

George Mason University and the College of Education and Human Development have the resources needed to initiate and sustain the proposed modified MEd degree in Counseling. The program will have the faculty, staff, equipment, space, and library resources to launch and maintain the proposed modified program. The program will have 6.75 FTE full-time .05 FTE part-time and 1.75 FTE adjunct faculty committed to the program in the program initiation year as well as in the target year.

Full-time Faculty
Six full-time (1.0 FTE) and one 0.75 FTE Counseling faculty members dedicated to teach the required courses within the proposed modified program. All faculty will teach 50% or more of their teaching load in the proposed modified degree program. All of the faculty members are 9-month faculty appointments and are available to teach in the summer. The total FTE for the program is 6.75 and the total salary cost for full-time faculty is $550,718 with fringe benefits cost of $186,693 for a total or $737,411.

Part-time Faculty
The Dean of the College of Education and Human Development will devote .05 FTE teaching effort to the program for a salary cost of $17,417 and $5,904 in fringe for a total expense of $23,322.

Adjunct Faculty
The proposed program will require 1.75 FTE in adjunct faculty effort. Adjuncts in the College are paid at a rate of $4,365 in salary and $319 in fringe per three credit course, for a total expense of $30,555 in salary and $2,231 in fringe.

Graduate Assistants
There are no graduate assistants used for the proposed modified degree program.

Classified Positions
The existing Office Manager in the Counseling Program will support the proposed modified degree program with an effort of .73 FTE. The cost for this effort is $33,266 in salary and $2,428 in fringe for a total of $35,695.

Targeted Financial Aid
No targeted financial aid will be offered to initiate and sustain the proposed modified degree program.

Equipment (including computers)
No new equipment is needed to initiate and sustain the proposed modified degree program. The equipment available, including computers, is sufficient for the proposed modified program.

Library
No new library resources will be required to initiate and sustain the proposed modified program. The library has sufficient and appropriate journals, books, on-line journals to support the proposed modified degree program.

Telecommunications
No new or additional funds will be needed to initiate and sustain the proposed modified degree program.

Space
No new or additional space is required to initiate or sustain the proposed modified degree program. The program has adequate space for classrooms, meetings, and offices.

Other Resources (specify)
None.

ITEM NUMBER:
MS in Computer Forensics Degree Program Name Change to MS in Digital Forensics

PURPOSE OF ITEM:
In March 2017, the Board of Visitors approved a motion to change the name of the MS in Computer Forensics to the MS in Digital Forensics and Cyber Analysis. SCHEV guidance was to focus the name to "Digital Forensics." The name change proposal for the MS in Computer Forensics to MS in Digital Forensics has been prepared for submission to the State Council of Higher Education for Virginia (SCHEV). Board action is required prior to SCHEV submission.

APPROPRIATE COMMITTEE:
Academic Programs, Diversity, and University Community Committee

BRIEF NARRATIVE:
Computer forensics is a dynamic discipline driven by an evolving, technology-advancing discipline. The term "computer forensics" is a dated term, no longer used in the field. To remain a relevant and competitive program, it is critical that the MS in Computer Forensics' name be changed. The focus and intent of the program remains the same, but the content has expanded to address the changes in the digital forensics discipline and industry. "Digital Forensics" more accurately represents the state of both the program and the industry. Since 2008, forensics investigators have moved beyond the sole investigation of computers. "Digital" represents a larger scope encompassing mobile devices (phones), tablets, malware, network traffic, memory, embedded systems, cyber-physical systems, the Internet of Things, etc. Changing the title of the MS from Computer Forensics to "Digital Forensics" speaks to the breadth of the topics covered in the degree program.

REVENUE IMPLICATIONS:
The proposed name change should incur no new expense to the School or the Department beyond those associated with web and printed materials.

STAFF RECOMMENDATION:
Staff recommends Board approval.

Institution
George Mason University

Nature of the Proposed Change
George Mason University is requesting approval for the following technical program change: To change the name of the Master of Science (MS) degree program in Computer Forensics (CIP code: 43.0406) to the Master of Science (MS) degree program in Digital Forensics (CIP code: 43.0403).

Background
In 2008, George Mason University received approval from State Council of Higher Education in Virginia (SCHEV) to offer a Master of Science degree program in Computer Forensics. A temporary CIP code of 11.9999 was assigned. In February 2011, a CIP code change to 43.0116 (Cyber/Computer Forensics and Counterterrorism) was approved for the MS in Computer Forensics in order to comply with federal regulations regarding STEM-based programs. No program changes were made as a result of the new CIP code designation. In August 2019, the university was notified by SCHEV that the CIP code for the MS in Computer Forensics program was changed to 43.0403 as directed by SCHEV's Policy Analytics Unit.

In 2016, the faculty of the Department of Electrical and Computer Engineering in the Volgenau School of Engineering initiated meetings to discuss the merits of a name change for the Master of Science (MS) in Computer Forensics. Subsequent to these meetings, the Digital Forensics Advisory Committee, as part of the Electrical and Computer Engineering Department, recommended the MS in Computer Forensics program name change to "Digital Forensics" to ensure contemporary nomenclature within the field. Unanimous consensus to change the name was obtained on October 7, 2016 and was subsequently approved by the Dean's office of the Volgenau School of Engineering on January 25, 2017. The program name change was approved by the Board of Visitors of George Mason University on December 12, 2020.

Rationale for the Proposed Change
Computer forensics is a dynamic discipline driven by an evolving, technology-advancing discipline. The term "computer forensics" is a dated term, no longer used in the field. To remain a relevant and competitive program, it is critical that the MS in Computer Forensics' name be changed. The focus and intent of the program remains the same, but the content has expanded to address the changes in the digital forensics discipline and industry.

When the MS in Computer Forensics program was approved for fall 2009, "computer forensics" was the accepted term for the content and focus of the field. Since then, the industry as a whole has changed dramatically. For example, mobile devices are not considered "computers" by name, but their ubiquity has rendered them as a major component in forensic investigations today. Similarly, data storage and processing which has evolved into digital "cloud" management is now a centerpiece of forensic interest. With the proliferation of advanced persistent threats and cybercrime, the domain of digital forensics has evolved to include malware analysis, digital profiling, and digital warfare. Where forensic investigators previously focused on extraction of discrete evidentiary items from physical computer sources, practitioners today are expected to collect, analyze, and synthesize data from multiple devices and sources both local and remote.

This new landscape is reflected in the MS degree program's curriculum and should be reflected in its name as well.

"Digital Forensics" more accurately represents the state of both the program and the industry. Since 2008, forensics investigators have moved beyond the sole investigation of computers. "Digital" represents a larger scope encompassing mobile devices (phones), tablets, malware, network traffic, memory, embedded systems, cyber-physical systems, the Internet of Things, etc. The concepts within digital forensics use a common forensic process, but the collection and analysis of evidence is tailored to each of these specific genres, not just the traditional computer. The MS degree program covers forensic investigation of all digital items. The requested title reflects this mission. The intent of the program has not changed, but rather has adapted to the rapidly changing technology advances. Changing the title of the MS from Computer Forensics to "Digital Forensics" speaks to the breadth of the topics covered in the degree program.

Examples of the updated nomenclature can be found in multiple industries, within the Federal government as well as in the Commonwealth of Virginia. The Fairfax County Police Department's Computer Forensics Unit changed its name to the Cyber and Forensics Bureau Digital Forensics Unit. The FBI's Digital Evidence Section, responsible for digital/cyber forensics, changed its name to the Digital Forensic Analysis Section. The function of these groups has not changed. However, the updated departmental names more accurately reflect the broader scope inclusive of computers, mobile devices, embedded systems, cyber-physical systems, etc.

Substituting "digital" forensics for "computer" forensics will align with industry terminology and allow prospective students to more easily locate the program in traditional Internet-based searches. The name change will also facilitate recruitment—particularly international recruitment—as students often look past the existing degree program due to their perception that computer forensics is only for law enforcement and pertinent to U.S. citizens. Furthermore, the Digital Forensics name is well-recognized within the industry and will provide a broader range of job options for graduates.

Curriculum

There have been no changes to the curriculum as a result of the proposed name change. The proposed name change reflects the curriculum which is no longer limited to "computers." No substantial changes will be made to the program as a result of the name change. The focus of the program remains the same and the curriculum requirements and the number of credit hours required for the degree program will remain the same.

From its initiation, the program has provided a foundation in digital forensics with emphasis on digital media, network-based evidence, intrusion response and analysis, and fraud, law, and ethics forming a core curriculum of 21 credits. Students may elect to form a concentration in Penetration Testing/Reverse Engineering by taking 9 credit hours in this area, or a 9-credit restricted elective component drawn from courses in relevant domains. Over the program's life, courses have incorporated analysis components as the field has evolved.

Program Requirements

Core Courses: 21 credits

CFRS 500 Introduction to Forensic Technology and Analysis
or ISA 562 Information Security Theory and Practice (3 credits)
CFRS 510 Digital Forensics Analysis (3 credits)
CFRS 660 Network Forensics (3 credits)
CFRS 661 Digital Media Forensics (3 credits)
CFRS 663 Operations of Intrusion Detection for Forensics
or CFRS 664 Incident Response Forensics (3 credits)
CFRS 760 Legal and Ethical Issues in IT
or CFRS 770 Fraud and Forensics in Accounting (3 credits)
CFRS 790 Advanced Computer Forensics (3 credits)

Concentration in Penetration Testing/Reverse Engineering: 9 Credits

CFRS 761 Malware Reverse Engineering (3 credits)
CFRS 767 Penetration Testing in Computer Forensics(3 credits)
CFRS 772 Forensic Artifact Extraction
or CFRS 775 Kernel Forensics and Analysis (3 credits)

Restricted Electives: 9 credits

Students who do not choose the concentration select 3 courses from the list of concentration courses and/or the following courses.
CFRS 590 Special Topics in Computer Forensics (3 credits)
CFRS 663 Operations of Intrusion Detection for Forensics (3 credits)
CFRS 664 Incident Response Forensics (3 credits)
CFRS 698 Independent Reading and Research (3 credits)
CFRS 710 Memory Forensics (3 credits)
CFRS 720 Digital Audio Video Forensics (3 credits)
CFRS 725 Linux Forensics (3 credits)
CFRS 730 Forensic Deep Packet Inspection (3 credits)
CFRS 737 Cloud Forensics (3 credits)
CFRS 760 Legal and Ethical Issues in IT (3 credits)
CFRS 762 Mobile Device Forensics (3 credits)
CFRS 763 Registry Forensics - Windows (3 credits)
CFRS 764 Mac Forensics (3 credits)
CFRS 768 Digital Warfare (3 credits)
CFRS 769 Anti-Forensics (3 credits)
CFRS 770 Fraud and Forensics in Accounting (3 credits)
CFRS 771 Digital Forensic Profiling (3 credits)
CFRS 773 Mobile Application Forensics and Analysis (3 credits)
CFRS 780 Advanced Topics in Computer Forensics (3 credits)
ECE 511 Microprocessors (3 credits)
ECE 611 Advanced Microprocessors (3 credits)
ECE 612 Real-Time Embedded Systems (3 credits)
ECE 642 Design and Analysis of Computer Communication Networks (3 credits)

ECE 646 Cryptography and Computer Network Security (3 credits)
ECE 746 Advanced Applied Cryptography (3 credits)
FRSC 510 Basic Crime Analysis (3 credits)
ISA 650 Security Policy (3 credits)
ISA 652 Security Audit and Compliance Testing (3 credits)
ISA 656 Network Security (3 credits)
ISA 674 Intrusion Detection (3 credits)
ISA 785 Research in Digital Forensics (3 credits)
TCOM 662 Advanced Secure Networking (3 credits)

Total Credits – 30 graduate credit hours

Resources

The resources to change the name of this program are minimal. No business cards or other stationery are associated with this degree program. Other resources associated with the renaming are limited to revision of the departmental web page. There are no additional costs to revise the webpage and the change can be completed with general webpage updates. No new resources will be requested from the state in order to rename the degree program.

ACADEMIC PROGRAM FIFTH-YEAR REVIEW

Data source for Actual: GMU IRR. Data source for Projected: SCHEV Program Proposals

Enrollment/Degree Production Data BA in Human Development and Family Science						
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Actual Enrollment (Fall)	7	18	34	53	67	69
Actual FTE (annual)	7.1	19.4	30.7	53.8	64.2	33.2
Projected Enrollments	20	38	59	88	124	
Projected FTE	18	34	53	79	111	
Actual Degrees Conferred	0	1	5	10	25	0
Projected Degrees Conferred					20	

Program Status: Developing

As the Human Development and Family Science (HDFS) discipline continues to evolve with limited introduction in the secondary education space, students often "discover" the BA program and declare the HDFS major after an introductory college course, post-transfer, or later in their academic career. The phenomenon of students entering the program as upper classman has limited overall enrollment numbers, while explaining how the projected number of program completers has been exceeded.

The following measures are underway to increase enrollment and strengthen the BA in Human Development and Family Science program:

- HDFS 200 has recently been added to the Mason Core to introduce this universally relevant discipline to students while increasing degree enrollment early in their academic careers.
- The recent renaming of the School of Education (from "Graduate School of Education") will allow students to locate the program more readily, and will assist in College efforts to market the program to undergraduates.
- The NOVA-Mason ADVANCE program will facilitate seamless pathways from the VCCS AA in Liberal Arts to the Mason BA in HDFS.
- The status of the program's final internship project has been elevated to represent a Mason IMPACT project.

Finally, the BA in HDFS program is a conduit for students to pursue graduate study in several Mason programs (e.g., Early Childhood Education, Elementary Education, Counseling and Development, Psychology, Social Work). The HDFS faculty are dedicated to this interdisciplinary program and are committed to continuing their efforts to recruit quality students.

Enrollment/Degree Production Data BS in Kinesiology						
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Actual Enrollment (Fall)	0	210	255	269	331	378
Actual FTE (annual)	83.7	222.8	260.9	289.1	330.9	197.7
Projected Enrollments	25	45	65	85	86	
Projected FTE	24	43	62	82	82	
Actual Degrees Conferred	4	38	49	50	67	0
Projected Degrees Conferred					18	

Program Status: Strong

The BS in Kinesiology has significantly exceeded projections for steady-state enrollment and degree production since its inception. Faculty are currently exploring options to enhance the curriculum: to retain a comprehensive core aligned with accreditation standards while allowing flexibility of choice for students to then identify areas of disciplinary specialization and interest. Program growth has allowed and necessitated increased student contact within the local communities for internship placements and facilitated job opportunities for our graduates. To maintain the integrity of the program and satisfactory student progress with continued enrollment growth, faculty have increased the number of core course sections. Additionally, the college has dedicated resources for and is currently seeking to add full time faculty. Following a peer-review by the Committee on Accreditation for the Exercise Sciences (CoAES) in Spring 2019, accreditation was reaffirmed for a 10-year period by the Commission on Accreditation of Allied Health Education Programs (CAAHEP).

Enrollment/Degree Production Data BS in Atmospheric Sciences						
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Actual Enrollment (Fall)	0	13	15	21	17	21
Actual FTE (annual)	1.8	13.3	16.7	17.5	15.9	10.5
Projected Enrollments	21	38	61	92	114	
Projected FTE	20	36	58	87	109	
Actual Degrees Conferred	0	2	2	6	1	0
Projected Degrees Conferred					11	

Program Status: Developing

The BS in Atmospheric Science is in its fourth year of full operation, having only begun in earnest in 2015-16. Substantial growth is anticipated over the next several years, but likely not at the rate implied in the proposal projection. The rate of degree conferral is on pace as projected: 11 total degrees from program initiation to present. The latest

enrollment figures indicate the growth of the program—the enrollment in Fall 2019 (21) is 62% higher than the enrollment in Fall 2015.

The faculty have noted the slow growth of the program and several steps are being taken to improve undergraduate recruiting, including: web page redesign; more aggressive campaigning to area high schools, including a long-term plan to build a network of high school science teachers with whom department faculty can interact; recruiting SAT registrants; faculty participation in area programs that increase awareness of climate change; new courses that focus on big data to improve employment prospects for graduates; online course development; and an increase in internship opportunities.

Enrollment/Degree Production Data BS in Cyber Security Engineering						
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Actual Enrollment (Fall)	0	105	188	295	371	490
Actual FTE (annual)	12.4	101.0	192.2	307.4	385.2	261.7
Projected Enrollments	30	54	78	102	107	
Projected FTE	29	51	74	97	101	
Actual Degrees Conferred	0	0	0	23	41	0
Projected Degrees Conferred					22	

Program Status: Strong

Enrollment/Degree Production Data BS in Mechanical Engineering						
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Actual Enrollment (Fall)	12	137	225	326	374	378
Actual FTE (annual)	20.8	130.1	220.3	315.1	359.0	187.9
Projected Enrollments	40	72	104	136	142	
Projected FTE	36	65	94	122	128	
Actual Degrees Conferred	0	1	1	34	55	0
Projected Degrees Conferred					26	

Program Status: Strong

Enrollment/Degree Production Data MS in Data Analytics Engineering						
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Actual Enrollment (Fall)	40	137	255	331	423	512
Actual FTE (annual)	32.0	96.0	156.8	215.4	283.0	178.7
Projected Enrollments	20	28	52	64	79	
Projected FTE	11	20	28	32	41	
Actual Degrees Conferred	1	27	67	119	152	0
Projected Degrees Conferred					18	

Program Status: Strong

Enrollment/Degree Production Data PHD in Bioengineering						
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Actual Enrollment (Fall)	0	9	17	20	17	20
Actual FTE (annual)	2.0	4.5	9.5	12.7	10.6	5.9
Projected Enrollments	6	11	16	21	21	
Projected FTE	4	7	9	12	12	
Actual Degrees Conferred	0	0	0	1	2	0
Projected Degrees Conferred					5	

Program Status: Developing

The PhD in Bioengineering is still a young program building momentum, rather than a new program grafted onto an existing group of faculty. As such, the Volgenau School of Engineering (VSE) considers actual enrollments and FTEs to be very reasonable when compared to projected enrollments and FTEs.

- Cumulative actual enrollments from 2014 to 2019 are 84% of expected.
- Cumulative actual FTEs from 2014 to 2019 are 89% of expected.

Furthermore, an MS in Bioengineering, launched only one year ago following its approval by SCHEV, is the usual source of students for the PhD in Bioengineering. That MS program is coming into its own with seven students currently enrolled, and its growth will support an expanded PhD program.

With respect to degrees conferred, a recent survey indicates that time to PhD completion in VSE is typically 5 to 7 years. This suggests that the projected number of PhDs graduated so soon after the program launch—actual degrees conferred between 2014 and 2019 are 60% of projected—was overly optimistic. VSE considers the department's progress to be steady and acceptable. The PhD in Bioengineering has VSE's full support.

Enrollment/Degree Production Data MA in Computer Game Design						
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Actual Enrollment (Fall)	3	3	4	2	3	3
Actual FTE (annual)	1.6	1.9	2.7	1	1.8	0.8
Projected Enrollments	10	25	30	35	45	
Projected FTE	6	12	15	25	30	
Actual Degrees Conferred	0	0	3	0	0	0
Projected Degrees Conferred					30	

Program Status: Developing

The MA in Computer Game Design has met several challenges since its inception in 2014. The faculty has been focused on the success of the robust BA program without increasing faculty numbers sufficiently to further develop the MA. The small base of students and cross-listed courses have allowed the MA program to run with very little cost. The program has great potential and is currently experiencing heightened interest. There are currently 14 graduate applicants for spring and fall 2020; that number is expected to increase. Additionally, new instructional positions will be added to support program growth. Computer Game Design is a rising field within the technological sphere. This program has significant potential for multidisciplinary employment preparation. While projecting slow growth as the faculty is built, the College strongly supports the program.

Enrollment/Degree Production Data MS in Management						
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**
Actual Enrollment (Fall)	34	48	56	72	40	37
Actual FTE (annual)	51.5	66.8	80.1	105.3	51.2	33.1
Projected Enrollments	30	31	32	33	34	
Projected FTE	38	39	40	41	42	
Actual Degrees Conferred	0	26	31	37	55	0
Projected Degrees Conferred					31	

Program Status: Strong

Since initiation, the MS in Management has consistently met or exceeded projections for steady-state enrollment and degree production. The program management team is currently exploring three options to increase accessibility and demand: 1) creating a Bachelors Accelerated Master's program; 2) allowing fall semester and spring semester starts for domestic, international, and INTO Mason students; and 3) refreshing the curriculum.

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

PROMOTION AND/OR TENURE

LAST NAME	FIRST NAME	EFFECTIVE DATE	PROMOTION/TENURE
Brkic	**Courtney**	12/12/2019	Y/ N

Title: Professor without Term
Local Academic Unit: English (CHSS)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

CONFERRAL OF EMERITUS/EMERITA STATUS

LAST NAME	FIRST NAME	EFFECTIVE DATE
Bemak	**Frederic**	2/2/2020

Title: Professor Emeritus of Education
Local Academic Unit: College of Education and Human Development

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Chung	**Rita C.**	2/2/2020

Title: Professor Emerita of Education
Local Academic Unit: College of Education and Human Development

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Conlan	**Timothy**	2/2/2020

Title: University Professor Emeritus of Policy and Government
Local Academic Unit: Schar School of Policy and Government

Fuller	**Stephen**	2/2/2020

Title: University Professor Emeritus of Policy and Government
Local Academic Unit: Schar School of Policy and Government

Rutledge	**Amelia**	12/12/2019

Title: Associate Professor Emerita
Local Academic Unit: English (CHSS)

Tichy	**Susan**	12/12/2019

Title: Professor Emerita
Local Academic Unit: English (CHSS)

GEORGE MASON UNIVERSITY

Office of the Dean

College of Education and Human Development
4400 University Drive, MS 2F1, Fairfax, Virginia 22030
Phone: 703-993-2004; Fax: 703-993-2001

To: S. David Wu, Provost and Executive Vice President
Anne Holton, Interim President

From: Mark R. Ginsberg, Dean
College of Education and Human Development

Subject: Emeritus Designation for Dr. Fred Bemak

Date: October 28, 2019

I am writing to request that Dr. Fred Bemak be awarded the title of **Professor Emeritus of Education, effective February 2, 2020**. This request has the unanimous and enthusiastic support of the CEHD P&T Committee, the group formally elected to represent the full college faculty on such questions.

Dr. Bemak is professor of education in the Counseling and Development program in the Division of Child, Family, and Community Engagement. He joined the CEHD faculty in 2000. He has been a dedicated and highly effective teacher, serving on doctoral dissertation committees and mentoring hundreds of master's students. Dr. Bemak served as the academic program coordinator for the Counseling and Development program, and under his leadership the program has developed into a world-renowned program with a commitment to social justice.

Dr. Bemak's research focuses on social justice counseling and psychology, cross-cultural issues in psychology and counseling, youth and families at-risk, and immigrants' and refugees' psychosocial adjustment and mental health. He has co-authored six books and published peer-reviewed journal articles in prestigious journals and book chapters in major psychology and counseling reference books. He has also shared his expertise through extensive consulting and training activities.

Dr. Bemak is the founder of the Diversity Research and Action Consortium and the founder of Counselors Without Borders, an international organization based at Mason and housed in the College of Education and Human Development that he has led since its inception. He also has served as president of the American Counseling Association Counselors for Social Justice Division. He received the State Council of Higher Education of Virginia (SCHEV) Outstanding Faculty Award and the Kitty Cole Human Rights Award from the American Counseling Association. He is a fellow of the American Counseling Association and the American Psychological Association.

Dr. Bemak is a dedicated and respected teacher and scholar who has positively influenced his many students and those he has served through his tireless service. His contributions are clearly worthy of appointment to the honored status of Professor Emeritus.

Approval ✓ Disapproval __ _____
S. David Wu, Provost and Executive Vice President

Approval ✓ Disapproval __ _____
Anne Holton, Interim President

This memo certifies that the criteria have been met by this Emeritus candidate according to the Faculty Handbook requirements: full-time Associate or Full Professor with ten or more years of continuous academic service; nominated by the home unit with the Dean, Provost, and President's recommendations.

GEORGE MASON UNIVERSITY

Office of the Dean

College of Education and Human Development
4400 University Drive, MS 2F1, Fairfax, Virginia 22030
Phone: 703-993-2004; Fax: 703-993-2001

To: S. David Wu, Provost and Executive Vice President
Anne Holton, Interim President

From: Mark R. Ginsberg, Dean
College of Education and Human Development

Subject: Emerita Designation for Dr. Rita Chi-Ying Chung

Date: October 28, 2019

I am writing to request that Dr. Rita Chi-Ying Chung be awarded the title of **Professor Emerita of Education, effective February 2, 2020**. This request has the unanimous and enthusiastic support of the CEHD P&T Committee, the group formally elected to represent the full college faculty on such questions.

Dr. Chung is professor of education in the Counseling and Development program in the Division of Child, Family and Community Engagement. She joined the CEHD faculty in 2000. She has been a dedicated and highly effective teacher, serving on doctoral committees and mentoring hundreds of master's students. Her contributions to multicultural and social justice counseling have been instrumental in developing the program into a world-renowned program with a commitment to social justice.

Her research focuses on multicultural, cross-cultural, and social justice issues in counseling; cross cultural disaster counseling; child trafficking; the psychological impact of racism; and immigrant and refugee trauma. She has co-authored two books and published extensively with peer-refereed articles in prestigious journals and book chapters in major psychology and counseling reference books. She has shared her expertise through extensive consulting and training activities.

Dr. Chung's service has been exceptional at all levels and has included serving as president of Counselors for Social Justice, as a presidential appointee of the American Counseling Association Human Rights Committee, on Mason's Diversity Inclusion Leadership Council, and on the CEHD Diversity Inclusion Leadership Council. Numerous awards include the Outstanding Faculty Award from the State Council of Higher Education for Virginia (SCHEV), the Kitty Cole Human Rights Award from the American Counseling Association, and Mason's Presidential Medal for Faculty Excellence in Diversity and Inclusion. She is a fellow of the American Counseling Association and the American Psychological Association.

Dr. Chung is a dedicated and respected teacher and scholar who has positively influenced her many students and those she has served through her tireless service. Her contributions are clearly worthy of appointment to the honored status of Professor Emerita.

Approval ✓ Disapproval __ _____
S. David Wu, Provost and Executive Vice President

Approval ✓ Disapproval __ _____
Anne Holton, Interim President

This memo certifies that the criteria have been met by this Emeritus candidate according to the Faculty Handbook requirements: full-time Associate or Full Professor with ten or more years of continuous academic service; nominated by the home unit with the Dean, Provost, and President's recommendations.

GEORGE MASON UNIVERSITY

Schar School of Policy and Government

3351 Fairfax Drive, MS 3B1, Arlington, Virginia 22201
Phone: 703-993-2280; Fax: 703-993-8215

To: S. David Wu, Provost and Executive Vice President
Anne Holton, Interim President

From: Mark J. Rozell, Dean MJR
Schar School of Policy and Government

Subject: Emeritus Designation for Professor Timothy J. Conlan

Date: October 29, 2019

This memo nominates Dr. Timothy J. Conlan as University Professor Emeritus of Policy and Government. Professor Conlan joined the Mason faculty in 1987 as an Assistant Professor, was granted tenure in 1990, promoted to Full Professor in 2000, and awarded University Professor in 2007. He is one of the most widely respected and accomplished faculty at the Schar School with a long list of awards and honors, publications in highly rated journals, four books, two co-edited volumes, and numerous book chapters, monographs and conference presentations. His expertise in the areas of federalism, national and state policy-making, and budgeting is illustrated by his membership in National Academy of Sciences panels, work with the National Association of Governors, the Council of State Governments, the Brookings Institution, and the National Science Foundation – just to name a few.

Additionally, Professor Conlan is a talented teacher and sought-after dissertation advisor. Throughout his 33-year career at Mason, Professor Conlan has consistently taught undergraduate, master's and Ph.D. courses in a range of subject areas including Congress, intergovernmental relations, and public policy. His courses are known to be challenging and his student evaluations are high. He has chaired and served on a number of dissertation committees in Political Science, Public Policy, and Environmental Science and Policy.

Professor Conlan's service record to the School (and formerly to the Department of Public and International Affairs), to the University, and to the Political Science and Public Administration professions is nothing less than exemplary. He has served in leadership positions in APSA and ASPA. He is a Fellow of the National Academy of Public Administration, a distinction that is valued within that profession. Professor Conlan served as Acting Director of the MPA Program and as Co-Director of the Graduate Program in Political Science.

Professor Conlan represents the generation of faculty that worked tirelessly over their careers to bring George Mason from the largely commuter campus of the mid-1980's to the Research One university it is today.

It gives me great pleasure to nominate Dr. Timothy J. Conlan for consideration as University Professor Emeritus of Policy and Government, effective February 2, 2020.

Approval ✓ Disapproval ___

S. David Wu, Provost and Executive Vice President

Approval ✓ Disapproval ___

Anne Holton, Interim President

This memo certifies that the criteria have been met by this Emeritus candidate according to the Faculty Handbook requirements: full-time Associate or Full Professor with ten or more years of continuous academic service, nominated by the home unit with the Dean, Provost, and President's recommendations.

GEORGE MASON UNIVERSITY

Schar School of Policy and Government

3351 Fairfax Drive, MS 3B1, Arlington, Virginia 22201
Phone: 703-993-2280; Fax: 703-993-8215

To: S. David Wu, Provost and Executive Vice President
Anne Holton, Interim President

From: Mark J. Rozell, Dean MJR
Schar School of Policy and Government

Subject: Emeritus Designation for Professor Stephen S. Fuller

Date: October 29, 2019

This memo nominates Dr. Stephen S. Fuller as University Professor Emeritus of Policy and Government. Professor Fuller joined George Mason University in 1994 after a distinguished 25-year stay at George Washington University. Professor Fuller made a quick impact at The Institute of Public Policy, serving multiple years as Director of the Ph.D. in Public Policy program, and was named University Professor in 2001. In 2002, Professor Fuller became the Dwight Schar Faculty Chair and Director of the highly esteemed Center for Regional Analysis.

As the Director of the Center for Regional Analysis (CRA), Professor Fuller was a leading authority on Washington-area economics and housing, and an influential and respected figure in the community. In fact, he was appointed to serve on the Joint Advisory Board of Economists by Governor McAuliffe, and additionally served on the Governor's Advisory Board of Economists under Governors Kaine, Warner, Allen and Wilder.

After stepping down from the CRA, Dr. Fuller was called upon to continue at Mason and founded The Stephen S. Fuller Institute. The Fuller Institute produces research and reports on the critical conditions and trends impacting the Washington region's economy, such as its monthly "Washington Economy Watch." There are probably few people alive on the planet who know more than Fuller about the Greater Washington economy.

It gives me great pleasure to nominate Dr. Stephen S. Fuller for consideration as University Professor Emeritus of Policy and Government, effective February 2, 2020.

Approval ✓ Disapproval ___ _____
S. David Wu, Provost and Executive Vice President

Approval ✓ Disapproval ___ _____
Anne Holton, Interim President

This memo certifies that the criteria have been met by this Emeritus candidate according to the Faculty Handbook requirements: full-time Associate or Full Professor with ten or more years of continuous academic service, nominated by the home unit with the Dean, Provost, and President's recommendations.

GEORGE MASON UNIVERSITY
College of Humanities and Social Sciences
4400 University Drive, MS 3A3, Fairfax, Virginia 22030
Phone: 703-993-8720 Fax: 703-993-8714

To: S. David Wu, Provost and Executive Vice President
Anne Holton, Interim President

From: Ann Ardis, Dean
College of Humanities and Social Sciences

Subject: Emerita Designation for Amelia Rutledge

Date: September 24, 2019

On the recommendation of the Department of English, I am pleased to recommend Dr. Amelia Rutledge for appointment as Associate Professor Emerita, effective upon approval of the BOV.

Dr. Rutledge taught in Mason's English Department from 1974 until her retirement in May 2017. As one of the department's Medieval Studies scholars, she taught graduate and undergraduate courses in English and Honors, including a large number of Mason Core courses. Dr. Rutledge was a key member of the literature and folklore faculty. She was one of the departments most rigorous and sought-after instructors.

Dr. Rutledge is a well-respected scholar of J.R.R. Toklien, Arthurian Legend, Fairy Tale, and Science Fiction. She has maintained a strong publication record in these fields and has served on MA thesis committees in literature and the MAIS in Folklore Studies.

In addition to her work as a teacher and scholar, Dr. Rutledge was an outstanding academic citizen of the English Department and College of Humanities and Social Sciences (and earlier, for the College of Arts and Sciences). She has served as the English department's Honors Program coordinator, Department Summer Administrator, Assistant Dean of the College of Arts and Sciences, and Acting Associate Dean of the Graduate School.

Dr. Rutledge has served the department, college and university in an exemplary manner and is deserving of the title Emerita Associate Professor.

Approve ✓ Disapprove ___ _____ 10/3/19
S. David Wu, Provost and Executive Vice President — Date

Approve ✓ Disapprove ___ _____ 10/9/19
Anne Holton, Interim President — Date

This memo certifies that the criteria have been met by this Emeritus candidate according to the Faculty Handbook requirements: full-time Associate or Full Professor with ten or more years of continuous academic service, home unit and/or Dean recommendation, Provost recommendation, and the President's recommendation.

GEORGE MASON UNIVERSITY
College of Humanities and Social Sciences
4400 University Drive, MS 3A3, Fairfax, Virginia 22030
Phone: 703-993-8720 Fax: 703-993-8714

To: S. David Wu, Provost and Executive Vice President
Anne Holton, Interim President

From: Ann Ardis, Dean
College of Humanities and Social Sciences

Subject: Emerita Designation for Susan Tichy

Date: September 24, 2019

On the recommendation of the Department of English, I am pleased to recommend Dr. Susan Tichy for appointment as Professor Emerita, effective upon approval of the BOV.

Dr. Tichy taught in Mason's graduate and undergraduate creative writing programs from 1988 until her retirement in May 2019. In those years, the MFA developed from a respected regional program to a nationally and internationally recognized program, and the BFA degree was designed and implemented. In addition to poetry workshops from beginner to MFA thesis, her teaching encompassed modern and contemporary poetry, traditional and innovative poetic form, women's poetry, visual poetry, poetry *from* and *as* research, as well as poetry at its intersections with history, visual arts, land art, and walking art. In her time at Mason, Dr. Tichy directed approximately 70 MFA thesis committees.

Dr. Tichy's poems, essays, and mixed-genre works have appeared in more than 75 anthologies and journals in the U.S., Britain, and Australia, and have been recognized by numerous awards, including a fellowship from the National Endowment for the Arts, a Pushcart Prize, a Chad Walsh Prize, the Indiana Review Poetry Prize, the Runes Poetry Prize, and the Quarter After Eight prize for innovative prose.

Dr. Tichy has served the department, college and university in an exemplary manner and is deserving of the title Emerita Professor.

Approve ✓ Disapprove ____ _____ 10/3/19
S. David Wu, Provost and Executive Vice President — Date

Approve ✓ Disapprove ____ _____ 10/9/19
Anne Holton, Interim President — Date

This memo certifies that the criteria have been met by this Emeritus candidate according to the Faculty Handbook requirements: full-time Associate or Full Professor with ten or more years of continuous academic service, home unit and/or Dean recommendation, Provost recommendation, and the President's recommendation.

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

ELECTIONS OF NEW TENURED FACULTY

LAST NAME	FIRST NAME	EFFECTIVE DATE
Roess	**Amira**	12/12/2019

Title: Professor without Term
Classification: Tenured (without term) - Instructional
Local Academic Unit: Global and Community Health (CHHS)

Office of the Provost
4400 University Drive, MSN 3A2
Fairfax, Virginia 22030
Phone: 703.993.8770; Fax: 703.993.8871

Procedural Checklist for New Faculty
Being appointed to Tenured (Without Term) Positions

This form must be submitted, in hard copy, to the Provost Office by the Dean/Director immediately upon receipt of a signed offer letter.

Dr. Amira Roess, Faculty - Global and Community Health

Faculty Member's Name and Title

Global and Community Health

Local Academic Unit

☐ Reference checks have been conducted. Yes

☐ Sexual harassment prevention training has been scheduled for October 11, 2019.

Date

One-half page justification for appointment, to include a description of the benefit of this hire for the department, school, etc., as well as the rationale for selecting this candidate over others.

Dr. Roess is being recruited from a full and open cluster recruitment the College opened during the 2018-2019 academic year. This cluster recruitment targeted mid- to senior career faculty who has exemplary research and public health credential to support the College's transition to public health. During her 15-year career, Dr. Roess has taught graduate courses in public health and mentored students in both professional and research academic degree programs. She also served as the Director of the Doctorate in Public Health Degree Program. In addition, Dr. Roess has a sustained positive trajectory of extramural funded research exceeding $5 million. She leads multidisciplinary international research teams and has a demonstrated commitment to involving students in her research.

Germaine M. Louis 11-18-19

Dean/Director Date

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

APPOINTMENT OF FACULTY

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Ainsworth	**Melissa**	8/25/2019	1 year

Title: Term Assistant Professor
Classification: Term - Instructional
Local Academic Unit: College of Education and Human Development

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Barreto	**Alexandre De Barros**	11/4/2019	1 year

Title: Research Assistant Professor
Classification: Term - Research
Local Academic Unit: Systems Engineering and Operations Research (VSE)

Cassavell	**Frank**	8/25/2019	1 year

Title: Term Instructor
Classification: Term - Instructional
Local Academic Unit: Biomedical Sciences Program (COS)

Dunayer	**Kevin**	8/25/2019	3 years

Title: Term Assistant Professor
Classification: Term - Instructional
Local Academic Unit: Theater (CVPA)

Eddo	**Oladipo**	8/25/2019	1 year

Title: Term Visiting Assistant Professor
Classification: Term - Instructional
Local Academic Unit: College of Education and Human Development

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ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

APPOINTMENT OF FACULTY

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Fedri	**Melanie**	10/25/2019	< 1 year

Title: Term Assistant Professor
Classification: Term - Instructional
Local Academic Unit: Honors College

Note(s): Additional Title: Experiential Learning Coordinator

Morell	**Michael**	8/25/2019	1 year

Title: Distinguished Visiting Professor
Classification: Term - Research
Local Academic Unit: Schar School of Policy and Government

Park	**Jung Yeon**	1/10/2020	> 3 years

Title: Assistant Professor
Classification: Tenure Track - Instructional
Local Academic Unit: College of Education and Human Development

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Rautenberg	**Carlos**	8/25/2019	3 years

Title: Assistant Professor
Classification: Tenure Track - Instructional
Local Academic Unit: Mathematical Science (COS)

Sklarew	**Jennifer**	8/25/2019	1 year

Title: Term Assistant Professor
Classification: Term - Instructional
Local Academic Unit: Environmental Science and Policy (COS)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

APPOINTMENT OF FACULTY

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Tong	**Daniel Quansong**	8/25/2019	3 years

Title: Associate Professor
Classification: Tenure Track - Instructional
Local Academic Unit: Atmospheric, Oceanic and Earth Sciences (COS)

Wilson	**Mark**	8/25/2019	3 years

Title: Term Assistant Professor
Classification: Term - Instructional
Local Academic Unit: Forensic Science Program (COS)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

APPOINTMENT OF ADMINSTRATIVE AND PROFESSIONAL FACULTY

LAST NAME	FIRST NAME	EFFECTIVE DATE
Adams	**Alexandra**	8/12/2019

Title: Athletic Trainer Resident
Classification: At will - Admin/Professional
Local Academic Unit: Intercollegiate Athletics

Arnold	**Lester**	7/1/2019

Title: Vice President for Human Resources/Payroll and Faculty/Staff Life, Chief Human Resource Officer
Classification: At will - Admin/Professional
Local Academic Unit: Human Resources and Payroll

Barr	**Michelle**	9/25/2019

Title: Salesforce Communications Analyst
Classification: At will - Admin/Professional
Local Academic Unit: Office of the Provost

Belony	**Enock**	10/7/2019

Title: Talent Acquisition Consultant
Classification: At will - Admin/Professional
Local Academic Unit: Human Resources and Payroll

Carney	**Thomas**	10/14/2019

Title: Coordinator of Residential Academic Engagement
Classification: At will - Admin/Professional
Local Academic Unit: Housing and Residence Life (UL)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

APPOINTMENT OF ADMINSTRATIVE AND PROFESSIONAL FACULTY

LAST NAME	FIRST NAME	EFFECTIVE DATE
Curran	**Zachary**	8/19/2019

Title: Director of Basketball Operations, Men's Basketball
Classification: At will - Admin/Professional
Local Academic Unit: Intercollegiate Athletics

Dave	**Apurva C.**	10/10/2019

Title: Senior Science Officer
Classification: At will - Admin/Professional
Local Academic Unit: Office of Research, Innovation and Economic Impact

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Dorfman	**Tory**	10/21/2019

Title: Counselor
Classification: At will - Admin/Professional
Local Academic Unit: Counseling and Psychological Services (UL)

Dracos	**William**	8/10/2019

Title: Associate Vice President, Business Services
Classification: At will - Admin/Professional
Local Academic Unit: Office of the Senior Vice President

Duesterdick	**Debra Dickenson**	8/12/2019

Title: Vice President of Finance
Classification: At will - Admin/Professional
Local Academic Unit: Office of the Senior Vice President

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

APPOINTMENT OF ADMINSTRATIVE AND PROFESSIONAL FACULTY

LAST NAME	FIRST NAME	EFFECTIVE DATE
Dugger	**Sharolyn**	10/25/2019

Title: MAP Clinical Social Worker
Classification: At will - Admin/Professional
Local Academic Unit: Social Work (CHHS)

Gardner	**Maura J.**	8/25/2019

Title: Associate Director, Advancement Operations
Classification: At will - Admin/Professional
Local Academic Unit: Advancement and Alumni Relations

Goldin	**Steven**	5/27/2019

Title: Director, Strategic Real Estate Initiatives
Classification: At will - Admin/Professional
Local Academic Unit: Office of the Senior Vice President

Greenwood	**James**	9/10/2019

Title: Assistant Coach, Men and Women Swimming and Diving
Classification: At will - Admin/Professional
Local Academic Unit: Intercollegiate Athletics

Hammer	**Michael**	10/25/2019

Title: Data Analyst
Classification: At will - Admin/Professional
Local Academic Unit: College of Health and Human Services

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

APPOINTMENT OF ADMINSTRATIVE AND PROFESSIONAL FACULTY

LAST NAME	FIRST NAME	EFFECTIVE DATE
Kennedy	**Gregory P.**	9/10/2019

Title: Director of the Athletics Annual Fund
Classification: At will - Admin/Professional
Local Academic Unit: Intercollegiate Athletics

Knapp	**Melanie O.**	1/25/2020

Title: Associate Director
Classification: At will - Admin/Professional
Local Academic Unit: Antonin Scalia Law School

Kopatich	**Tyler**	7/1/2019

Title: Director of Basketball Operations, Women's Basketball
Classification: At will - Admin/Professional
Local Academic Unit: Intercollegiate Athletics

Kuchera	**Stephen**	10/10/2019

Title: Associate Director for Business Services
Classification: At will - Admin/Professional
Local Academic Unit: Mason Recreation (UL)

Kuver	**Shyama**	9/10/2019

Title: Assistant Director for Contemporary Student Services
Classification: At will - Admin/Professional
Local Academic Unit: University Life

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

APPOINTMENT OF ADMINSTRATIVE AND PROFESSIONAL FACULTY

LAST NAME	FIRST NAME	EFFECTIVE DATE
Le	**Quyen**	8/25/2019

Title: Director, Accounts Payable
Classification: At will - Admin/Professional
Local Academic Unit: Office of the Senior Vice President

Metress	**Molly**	7/29/2019

Title: Assistant Director, Athletic Communications
Classification: At will - Admin/Professional
Local Academic Unit: Intercollegiate Athletics

Mitchell	**Permon**	10/10/2019

Title: Associate Director of Mason LIFE
Classification: At will - Admin/Professional
Local Academic Unit: College of Education and Human Development

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Morrisroe	**Keith**	10/14/2019

Title: Associate Athletic Director, Events and Game Operations
Classification: At will - Admin/Professional
Local Academic Unit: Intercollegiate Athletics

Murray	**Clifton**	10/27/2019

Title: Director of Talent Acquisition
Classification: At will - Admin/Professional
Local Academic Unit: Human Resources and Payroll

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

APPOINTMENT OF ADMINSTRATIVE AND PROFESSIONAL FACULTY

LAST NAME	FIRST NAME	EFFECTIVE DATE
Nickas	**Timothy**	8/26/2019

Title: Assistant Coach, Men and Women Track and Field
Classification: At will - Admin/Professional
Local Academic Unit: Intercollegiate Athletics

O'Neill	**Douglass T.**	9/30/2019

Title: Assistant Director of Occupational Health and Safety
Classification: At will - Admin/Professional
Local Academic Unit: Office of the Senior Vice President

Perez	**Melissa**	9/10/2019

Title: Associate Director, Export Compliance and Secure Research
Classification: At will - Admin/Professional
Local Academic Unit: Office of Research, Innovation and Economic Impact

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Rieve	**Emily**	11/11/2019

Title: Counselor
Classification: At will - Admin/Professional
Local Academic Unit: Counseling and Psychological Services (UL)

Shchepina	**Olga**	10/10/2019

Title: Associate Director, Post Award Services
Classification: At will - Admin/Professional
Local Academic Unit: College of Humanities and Social Sciences

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ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

APPOINTMENT OF ADMINSTRATIVE AND PROFESSIONAL FACULTY

LAST NAME	FIRST NAME	EFFECTIVE DATE
Vargas	**Jhessyka**	10/28/2019

Title: Assistant Director for College Readiness
Classification: At will - Admin/Professional
Local Academic Unit: Early Identification Program (UL)

Williams	**Aiyana**	8/5/2019

Title: Athletic Trainer Resident
Classification: At will - Admin/Professional
Local Academic Unit: Intercollegiate Athletics

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

APPOINTMENT/REAPPOINTMENT OF DEANS/DIRECTORS AND DEPARTMENT CHAIRS/SCHOOL DIRECTORS

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Platt	**Brian**	8/25/2019	1 year

Title: Department Chair
Local Academic Unit: History and Art History (CHSS)

Willis	**James**	8/25/2019	1 year

Title: Interim Chair
Local Academic Unit: Criminology, Law and Society (CHSS)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

RENEWALS AND REAPPOINTMENTS

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Atkinson	**R. Price**	1/10/2019	1 year

Title: Senior Research Associate
Classification: Research
Local Academic Unit: Communication (CHSS)

Baldelli	**Elisa F.**	12/10/2019	1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: Center for Applied Proteomics and Molecular Medicine (COS)

Note(s): Additional Title: Molecular Biologist

Berlin	**F. Brett**	8/25/2019	1 year

Title: Term Instructor
Classification: Instructional
Local Academic Unit: Volgenau School of Engineering

Bilitza	**Dieter**	11/10/2019	1 year

Title: Research Professor
Classification: Research
Local Academic Unit: Physics and Astronomy (COS)

Breno	**Alex J.**	9/12/2019	< 1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: Criminology, Law and Society (CHSS)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

RENEWALS AND REAPPOINTMENTS

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Bruno	**Irene**	8/25/2019	5 years

Title: Term Professor
Classification: Instructional
Local Academic Unit: Information Sciences and Technology (VSE)

Buckley	**Martha**	10/20/2019	1 year

Title: Research Assistant Professor
Classification: Research
Local Academic Unit: Center for Ocean-Land-Atmosphere Studies (COS)

Cook	**John Frederick O.**	1/25/2019	1 year

Title: Research Assistant Professor
Classification: Research
Local Academic Unit: Communication (CHSS)

Debus-Sherill	**Sara A.**	9/25/2019	< 1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: Criminology, Law and Society (CHSS)

Deneva	**Iulia S.**	9/2/2019	1 year

Title: Research Assistant Professor
Classification: Research
Local Academic Unit: Physics and Astronomy (COS)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

RENEWALS AND REAPPOINTMENTS

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Dolci	**Stefano**	11/10/2019	1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: Collision Safety and Analysis (COS)

Edkins	**Teresa**	6/25/2019	1 year

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: College of Education and Human Development

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Faughnan	**Janet**	8/25/2019	3 years

Title: Term Instructor
Classification: Instructional
Local Academic Unit: School of Business

Note(s):
This record supersedes previous appointment reported in the February 2019 Board Book.

Finn	**T. Andrew**	8/25/2019	3 years

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: Communication (CHSS)

Gallay	**David**	8/25/2019	3 years

Title: Term Assistant Professor
Classification: Instructional
Local Academic Unit: School of Business

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

RENEWALS AND REAPPOINTMENTS

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Garcia	**Toni C.**	8/25/2019	3 years

Title: Term Instructor
Classification: Instructional
Local Academic Unit: School of Business

Note(s):
This record supersedes previous appointment reported in the February 2019 Board Book.

Huang	**Liling**	8/25/2019	1 year

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: Electrical and Computer Engineering (VSE)

Hunt	**Lucas**	9/25/2019	1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: Physics and Astronomy (COS)

Knudson	**Erik**	8/25/2019	3 years

Title: Term Assistant Professor
Classification: Instructional
Local Academic Unit: Mechanical Engineering (VSE)

Lehman	**Caitlin**	10/10/2019	1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: National Center for Biodefense and Infectious Diseases (COS)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

RENEWALS AND REAPPOINTMENTS

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Lerch	**Jennifer**	7/25/2019	< 1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: Criminology, Law and Society (CHSS)

Lin	**Shih-Chao**	9/1/2019	1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: National Center for Biodefense and Infectious Diseases (COS)

Loerch	**Andrew**	8/25/2019	5 years

Title: Term Professor
Classification: Instructional
Local Academic Unit: Systems Engineering and Operations Research (VSE)

Maddox	**Tamara**	8/25/2019	5 years

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: Computer Science (VSE)

Magni	**Ruben**	11/10/2019	1 year

Title: Research Assistant Professor
Classification: Research
Local Academic Unit: Center for Applied Proteomics and Molecular Medicine (COS)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

RENEWALS AND REAPPOINTMENTS

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
McCord	**Theodore**	8/25/2019	1 year

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: History and Art History (CHSS)

Mullen	**Abigail**	8/25/2019	3 years

Title: Term Assistant Professor
Classification: Instructional
Local Academic Unit: History and Art History (CHSS)

Murphy	**Amy**	12/10/2018	1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: Criminology, Law and Society (CHSS)

Neaves	**Tonya**	6/25/2019	3 years

Title: Research Assistant Professor
Classification: Research
Local Academic Unit: Schar School of Policy and Government

Note(s): Additional Title: Director of Extramural Projects

Nelson	**Mary**	6/25/2019	1 year

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: College of Science

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

RENEWALS AND REAPPOINTMENTS

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Park	**Chung-Kyu**	9/25/2019	1 year

Title: Research Assistant Professor
Classification: Research
Local Academic Unit: Collision Safety and Analysis (COS)

Rafatirad	**Setareh**	8/25/2019	3 years

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: Information Sciences and Technology (VSE)

Reagle	**Colin J.**	8/25/2019	3 years

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: Volgenau School of Engineering

Reichert	**Rudolf**	9/15/2019	1 year

Title: Research Assistant Professor
Classification: Research
Local Academic Unit: Collision Safety and Analysis (COS)

Ren	**Ling**	9/25/2019	< 1 year

Title: Research Assistant Professor
Classification: Research
Local Academic Unit: Environmental Science and Policy (COS)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

RENEWALS AND REAPPOINTMENTS

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Russo	**Paul**	12/1/2019	1 year

Title: Research Assistant Professor
Classification: Research
Local Academic Unit: Center for Applied Proteomics and Molecular Medicine (COS)

Soundararajan	**Shvetha**	8/25/2019	3 years

Title: Term Assistant Professor
Classification: Instructional
Local Academic Unit: Computer Science (VSE)

Starr	**Don**	8/25/2019	3 years

Title: Term Assistant Professor
Classification: Instructional
Local Academic Unit: Art (CVPA)

Sutter	**Caroline**	6/25/2019	5 years

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: Nursing (CHHS)

Note(s): Additional Title: Co-Director of MAP Clinics

Sutter	**Rebecca**	6/25/2019	5 years

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: Nursing (CHHS)

Note(s): Additional Title: Co-Director of MAP Clinics

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

RENEWALS AND REAPPOINTMENTS

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Tahan	**Fadi**	9/15/2019	1 year

Title: Research Assistant Professor
Classification: Research
Local Academic Unit: Collision Safety and Analysis (COS)

Toronjo Roberts	**Heather**	9/25/2019	< 1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: Criminology, Law and Society (CHSS)

Wang	**Leyu**	9/25/2019	1 year

Title: Research Assistant Professor
Classification: Research
Local Academic Unit: Collision Safety and Analysis (COS)

Wilkins	**Terry**	8/25/2019	< 1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: Criminology, Law and Society (CHSS)

Wise	**Sandra**	8/25/2019	< 1 year

Title: Research Associate (Instructor)
Classification: Research
Local Academic Unit: Criminology, Law and Society (CHSS)

Note(s): Additional Title: Interviewer

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

RENEWALS AND REAPPOINTMENTS

LAST NAME	FIRST NAME	EFFECTIVE DATE	APPT LENGTH
Zhong	**Yutao**	8/25/2019	3 years

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: Computer Science (VSE)

Zylstra	**Alexandria**	8/25/2019	3 years

Title: Term Associate Professor
Classification: Instructional
Local Academic Unit: School of Business

Note(s):
This record supersedes previous appointment reported in the February 2019 Board Book.

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

SEPARATIONS

LAST NAME	FIRST NAME	TYPE	EFFECTIVE DATE
Augustyn	**Kevin**	Resignation	12/08/2019

Title: Director of Development
Classification: At will - Admin/Professional
Local Academic Unit: Office of University Advancement and Alumni Relations

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Bemak	**Frederic**	Retirement	01/24/2020

Title: Professor without Term
Classification: Tenured (without term) - Instructional
Local Academic Unit: Graduate School of Education (CEHD)

Bighamian	**Ramin**	Resignation	05/24/2019

Title: Assistant Professor
Classification: Tenure track - Instructional
Local Academic Unit: Mechanical Engineering (VSE)

Boies	**Chris**	Resignation	12/01/2019

Title: Assistant Vice President, Business Services
Classification: At will - Admin/Professional
Local Academic Unit: Facilities

Brewster	**Robin**	Resignation	01/09/2020

Title: Term Assistant Professor
Classification: Term - Instructional
Local Academic Unit: Nursing (CHHS)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

SEPARATIONS

LAST NAME	FIRST NAME	TYPE	EFFECTIVE DATE
Brooks	**Tait**	Resignation	11/15/2019

Title: Community Director
Classification: At will - Admin/Professional
Local Academic Unit: Housing and Residence Life (UL)

Brown Leonard	**Jeannie**	Resignation	01/09/2020

Title: Dean of Student Academic Affairs, Advising and Retention
Classification: At will - Admin/Professional
Local Academic Unit: Student Academic Affairs, Advising and Retention

Note(s): Dr. Brown Leonard has accepted a Vice Provost position with Kansas State University.

Chung	**Rita**	Retirement	01/24/2020

Title: Professor without Term
Classification: Tenured (without term) - Instructional
Local Academic Unit: College of Education and Human Development

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Coester	**William**	Retirement	10/24/2019

Title: Director, Human Resources and Planning
Classification: At will - Admin/Professional
Local Academic Unit: Schar School of Policy and Government

Conko	**Gregory P.**	Resignation	11/01/2019

Title: Deputy Director
Classification: At will - Admin/Professional
Local Academic Unit: Antonin Scalia Law School

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

SEPARATIONS

LAST NAME	FIRST NAME	TYPE	EFFECTIVE DATE
Conlan	**Timothy**	Retirement	01/09/2020

Title: University Professor
Classification: Tenured (without term) - Instructional
Local Academic Unit: Schar School of Policy and Government

Davis	**Justin B.**	Resignation	10/31/2019

Title: Research Assistant Professor
Classification: Term - Research
Local Academic Unit: Center for Applied Proteomics and Molecular Medicine (COS)

Graff	**Heidi**	Resignation	10/24/2019

Title: Associate Professor
Classification: At will - Admin/Professional
Local Academic Unit: College of Education and Human Development

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Harris-Love	**Michelle L.**	Resignation	05/24/2019

Title: Associate Professor without Term
Classification: Tenured (without term) - Instructional
Local Academic Unit: Bioengineering (VSE)

Howell	**Keith**	Retirement	01/09/2020

Title: Professor without Term
Classification: Tenured (without term) - Instructional
Local Academic Unit: Global and Community Health (CHHS)

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

SEPARATIONS

LAST NAME	FIRST NAME	TYPE	EFFECTIVE DATE
Hurley	**Jana M.**	Resignation	11/15/2019

Title: Interim Chief Housing Officer
Classification: At will - Admin/Professional
Local Academic Unit: Housing and Residence Life (UL)

Mallon	**Sean**	Contract expiration	12/02/2019

Title: Associate Vice President for Entrepreneurship and Innovation
Classification: At will - Admin/Professional
Local Academic Unit: Office of the Provost

McCollough	**Aaron**	Resignation	10/09/2019

Title: Director, Mason Publishing Group
Classification: At will - Admin/Professional
Local Academic Unit: University Libraries

Northrup	**Jason**	Resignation	07/26/2019

Title: Associate Director
Classification: At will - Admin/Professional
Local Academic Unit: Disability Services (UL)

Pryor	**Austin**	Resignation	10/11/2019

Title: Associate Director, Orientation and New Student Programs
Classification: At will - Admin/Professional
Local Academic Unit: University Life

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

SEPARATIONS

LAST NAME	FIRST NAME	TYPE	EFFECTIVE DATE
Ross	**Jodi**	Resignation	11/01/2019

Title: Assistant Director for Training and Student Engagement
Classification: At will - Admin/Professional
Local Academic Unit: University Life

Sepela	**Sean**	Contract expiration	08/28/2019

Title: Aquatic Operations Manager
Classification: At will - Admin/Professional
Local Academic Unit: Freedom Aquatic and Fitness Center

Shifflett	**Thomas**	Retirement	10/09/2019

Title: Director of Database Application Services
Classification: At will - Admin/Professional
Local Academic Unit: Technology Systems Division

Teague	**Adrienne L.**	Resignation	11/24/2019

Title: Director, Alumni Relations
Classification: At will - Admin/Professional
Local Academic Unit: Advancement and Alumni Relations

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

OTHER ANNOUNCEMENTS

LAST NAME	FIRST NAME	TYPE
Aistars	**Sandra**	Title Change

Title: Director of Copyright Research & Policy, CPIP
Local Academic Unit: Antonin Scalia Law School

Note(s): Retained Title-Clinical Assistant Professor

Austin	**Marc T.**	Title Change

Title: Executive Director for Professional Education and Academic Ventures
Local Academic Unit: Office of the Provost

Note(s): Previous Title:Executive Director for Academic Ventures

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Baker	**Pamela**	Title Change

Title: Director, Special Education and DisAbility Research
Local Academic Unit: College of Education and Human Development

Note(s): Retained Title-Associate Professor without Term

Broeckelman- Post	**Melissa**	Title Change

Title: Basic Course Director
Local Academic Unit: Communication (CHSS)

Note(s): Retained Title-Associate Professor without Term

Broshears	**Robert S.**	Title Change

Title: Program Director of Master of Science in Accounting
Local Academic Unit: School of Business

Note(s): Retained Title-Term Instructor

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

OTHER ANNOUNCEMENTS

LAST NAME	FIRST NAME	TYPE
Bryant	**Adrienne**	Title Change

Title: Director of Programming
Local Academic Unit: College of Visual and Performing Arts

Note(s): Previous Title:Programming Manager

Burtch	**Nathan R.**	Conversion

Title: Term Assistant Professor
Local Academic Unit: Geography and Geoinformation Science (COS)

Note(s): Dr. Burtch has converted to a 12-month Research Extended Appointment.

Butler	**Thomas C.**	Title Change

Title: Senior Associate Registrar
Local Academic Unit: Office of the Registrar

Note(s): Previous Title:Associate Registrar, Operations and Degree Compliance

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Caswell	**Shane**	Leave with Pay

Title: Professor
Local Academic Unit: College of Education and Human Development

Note(s): Professor Caswell has been awarded a Faculty Study Leave for Spring Semester 2020.

Deans	**Penny Candace**	Title Change

Title: Program Director of Master of Technology Management
Local Academic Unit: School of Business

Note(s): Retained Title-Term Associate Professor

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

OTHER ANNOUNCEMENTS

LAST NAME	FIRST NAME	TYPE
Di	**Liping**	Title Change

Title: CSISS Director
Local Academic Unit: Center for Spatial Information Science and Systems (COS)

Note(s): Retained Title-Professor without Term

Eby	**Kimberly**	Title Change

Title: Associate Provost for Faculty Affairs and Development
Local Academic Unit: Office of the Provost

Note(s): Previous Title:Associate Provost for Faculty Development and Enrichment
Retained Title-Associate Professor without Term

Emerson	**Jill**	Title Change

Title: Assistant Dean of Student Affairs & Marketing
Local Academic Unit: School of Policy, Government and International Affairs

Note(s): Previous Title:Assistant Dean of Admissions, Student Affairs, and Communications

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Evans Cuellar	**Alison**	Title Change

Title: Director of Research, Population Health Center
Local Academic Unit: Health Administration and Policy (CHHS)

Note(s): Retained Title-Professor without Term

Gallay	**David**	Title Change

Title: Director of Minor Programs
Local Academic Unit: School of Business

Note(s): Retained Title-Term Assistant Professor

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

OTHER ANNOUNCEMENTS

LAST NAME	FIRST NAME	TYPE
Grady	**Victoria**	Title Change

Title: Program Director of Master of Science in Management (MSM)
Local Academic Unit: School of Business

Note(s): Retained Title-Term Assistant Professor

Horstmeyer	**Derek M.**	Title Change

Title: Concentration Director, Financial Planning & Wealth Management
Local Academic Unit: School of Business

Note(s): Retained Title-Term Assistant Professor

Hutchison	**Amy C.**	Title Change

Title: Director of Division of Elementary, Literacy, Multicultural, and Secondary Education
Local Academic Unit: College of Education and Human Development

Note(s): Retained Title-Associate Professor without Term

Ishtiaq	**Akifa**	Title Change

Title: Assistant Director for Counseling and Special Programs
Local Academic Unit: Office of Student Financial Aid

Note(s): Previous Title:Financial Aid Counselor

Johnsen-Neshati	**Kristin**	Title Change

Title: Assistant Dean
Local Academic Unit: College of Visual and Performing Arts

Note(s): Retained Title-Associate Professor without Term

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

OTHER ANNOUNCEMENTS

LAST NAME	FIRST NAME	TYPE
Johnson	**Devon V.**	Leave with Pay

Title: Associate Professor without Term
Local Academic Unit: Criminology, Law and Society (CHSS)

Note(s): Professor Johnson has been awarded a Faculty Study Leave for Spring Semester 2020. Correct error reported in October 2019 BOV Book.

Kelly	**T. Mills**	Title Change

Title: Interim Director, Roy Rosenzweig Center for History and New Media
Local Academic Unit: History and Art History (CHSS)

Note(s): Retained Title-Professor without Term

Langfred	**Claus W.**	Title Change

Title: Program Director of Executive Masters in Business Administration
Local Academic Unit: School of Business

Note(s): Retained Title- Associate Professor Without Term

Letiecq	**Bethany**	Leave with Pay

Title: Associate Professor
Local Academic Unit: College of Education and Human Development

Note(s): Professor Letiecq has been awarded a Faculty Study Leave for Spring Semester 2020.

Mainkar	**Avinash V.**	Title Change

Title: BUS 498 Coordinator
Local Academic Unit: School of Business

Note(s): Retained Title-Term Assistant Professor

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

OTHER ANNOUNCEMENTS

LAST NAME	FIRST NAME	TYPE
Malone	**Christine**	Title Change

Title: Assistant Dean, Student Academic Affairs
Local Academic Unit: Antonin Scalia Law School

Note(s): Previous Title:Director, Student Academic Affairs

Manno	**Laura**	Title Change

Title: Director of Strategic Academic and Research Space Planning
Local Academic Unit: Office of the Provost

Note(s): Previous Title:Associate Architect Planner

McWilliams	**Stephen**	Title Change

Title: Executive Director for Finance and Planning
Local Academic Unit: Office of the Provost

Note(s): Previous Title:Business Development and Implementation Manager

---

Morris	**Christopher K.**	Tenure Track Contract Extension

Title: Assistant Professor
Local Academic Unit: Sociology and Anthropology (CHSS)

Murray	**Kevin**	Title Change

Title: Acting Director of the School of Theater
Local Academic Unit: Theater (CVPA)

Note(s): Previous Title:Program Manager

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

OTHER ANNOUNCEMENTS

LAST NAME	FIRST NAME	TYPE
Parker	**Cindy W.**	Title Change

Title: Assistant Area Chair of Management
Local Academic Unit: School of Business

Note(s): Retained Title-Term Associate Professor

Rinker	**Cortney Lynne**	Leave with Pay

Title: Associate Professor without Term
Local Academic Unit: Sociology and Anthropology (CHSS)

Note(s): Professor Rinker has been awarded a Faculty Study Leave for Spring Semester 2020.

Robinson	**Gregory**	Title Change

Title: Director of Graduate Studies
Local Academic Unit: Music (CVPA)

Note(s): Retained Title-Associate Professor without Term

Shumadine	**Kimberly**	Title Change

Title: Director, Mason Student Services Center
Local Academic Unit: Enrollment Central (Provost)

Note(s): Previous Title:Associate Director Of Enrollment Central

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Starr	**Don**	Title Change

Title: Associate Director
Local Academic Unit: Art (CVPA)

Note(s): Additional Title:Term Assistant Professor

ANNOUNCEMENT

Academic Programs, Diversity, and University Community Committee

December 12, 2019

OTHER ANNOUNCEMENTS

LAST NAME	FIRST NAME	TYPE
Sutter	**Caroline**	Title Change

Title: Director of Training, Population Health Center
Local Academic Unit: Nursing (CHHS)

Note(s): Retained Title-Term Associate Professor

Sutter	**Rebecca**	Title Change

Title: Director of Clinicals, Population Health Center
Local Academic Unit: Nursing (CHHS)

Note(s): Retained Title-Term Associate Professor

Vandebrooke	**Kirk**	Title Change

Title: Assistant Vice President
Local Academic Unit: University Life

Note(s): Previous Title:Executive Director

Venigalla	**Mohan**	Conversion

Title: Associate Professor without Term
Local Academic Unit: Civil, Environmental and Infrastructure Engineering (VSE)

Note(s): Dr. Venigalla has converted to a 12-month Research Extended Appointment.

Zenkov	**Kristien**	Leave with Pay

Title: Professor without Term
Local Academic Unit: College of Education and Human Development

Note(s): Professor Zenkov has been awarded a Faculty Study Leave for Spring Semester 2020.

Faculty and Academic Standards Committee

December 12, 2019

SUMMARY OF FACULTY ACTIONS AND ANNOUNCEMENTS

APPOINTMENT OF FACULTY

	Term		Tenure Track			
	9-month	**12-month**	**9-month**	**12-month**	**Research**	**Grant Funded**
Instructor	1	0	0	0	0	0
Assistant Professor	4	3	2	0	1	1
Associate Professor	0	0	1	0	0	0
Professor	1	0	0	0	1	0
Administrative/Professional	0	32	0	0	0	1
Totals	6	35	3	0	2	2

RENEWALS/REAPPOINTMENTS

	Term		Tenure Track			
	9-month	**12-month**	**9-month**	**12-month**		**Total**
Instructor	3	13	0	0		16
Assistant Professor	4	11	0	0		15
Associate Professor	9	4	0	0		13
Professor	2	1	0	0		3
Administrative/Professional	0	0	0	0		0
Totals	18	29	0	0		47

SEPARATIONS

Resignation	**Retirement**	**Contract Expiration**	**Deceased**		**Total**
16	6	2	0		24

OTHER ANNOUNCEMENTS

Leave with pay	**Leave w/o pay**	**Title Change**	**Conversion**	**Tenure Track Contract Extension**	**Total**
5	0	32	2	1	40

*Summary Excludes Postdoctoral Research Fellows and Research Staff

ITEM NUMBER:
George Mason University Off-site Campus Organizational Naming

PURPOSE OF THE ITEM
George Mason University has prepared an organizational change proposal to submit to the State Council of Higher Education for Virginia (SCHEV) to name its off-site Prince William Campus "George Mason University Science and Technology Campus." Prior to SCHEV submission, Board action is required.

APPROPRIATE COMMITTEE:
Academic Programs, Diversity and University Community Committee

BRIEF NARRATIVE:
The purpose of the proposed naming of the Prince William Campus to the "George Mason Science and Technology Campus" is to accurately reflect the breadth of programming and activities offered at the site. Board of Visitors' approval for the name change was awarded March 26, 2015. A proposal to SCHEV, however, was not made at that time. SCHEV's requirement that Board of Visitors' approval be awarded within two years of SCHEV submission has expired. New approval by the Board is required.

The Prince William Campus was established in 1997 with the opening of its first academic building. The campus was established on 120 acres of land donated to George Mason University for the purpose of establishing a new campus located within the Prince William County Innovation Park, an area dedicated to be the home of research and technology companies. Over the next 17 years, the campus grew from one to eight buildings, including three academic/ research buildings, a Biosafety Level 3 (BSL3) scientific research lab, an aquatic and fitness center, a multi-art performance center and a graduate-student residence hall. In 2015, university administration recommended to the Board of Visitors that the Prince William Campus be named the "George Mason University Science and Technology Campus."

REVENUE IMPLICATIONS:
No additional expenses are required to implement the proposed name change. No new resources will be requested from the Commonwealth to initiate or sustain the organizational changes to name the Prince William Campus the "George Mason University Science and Technology Campus."

STAFF RECOMMENDATION:
Staff recommends Board approval.

RESOLUTION
OF THE
BOARD OF VISITORS OF GEORGE MASON UNIVERSITY

Whereas, Prince William County Economic Development promotes the County as the place "Where Technologies Converge," and

Whereas, Prince William County is home to 8,000 businesses and is the location of choice for life sciences companies and forensic research facilities, such as American Type Culture Collection, Coming Life Sciences, Logistech, Virginia Forensics Laboratory, FBI Northern Virginia Resident Agency and Ceres Nanosciences, and

Whereas. the City of Manassas created a "Technology Zone" as part of its economic development strategy, and

Whereas, the City of Manassas is the location of technologically innovative companies such as Lockheed Martin, BAE Systems, Micron Technology and Aurora Flight Sciences, and

Whereas, George Mason University's campus and the Prince William County Technology site – Innovation Park – are both conveniently located off Prince William Parkway with ready access to Interstate 66, State Route 28, and the Manassas Regional Airport, and

Whereas, the campus is a 134-acre comprehensive academic facility that hosts a breadth of disciplines and community activities, and

Whereas, the campus includes many of the University's highly recognized scientific and technological research initiatives, such as the Institute for Advanced Biomedical Research, the Center for Applied Proteomics and Molecular Medicine, and the National Center for Biodefense and Infectious Diseases, and

Whereas, the Prince William County Board of Supervisors donated 120 acres for the establishment of this campus to serve as an academic and research institution to support their economic development initiatives and serve as the anchor institution for northern Virginia's largest technology business site, Innovation Park, and

Whereas, the campus is home to the Governor's School @ Innovation Park, with focus on science, technology, engineering and mathematics, and

Whereas, the university plans to grow the program offerings and research initiatives in various science and technology disciplines in this campus, and

Whereas, the identification of this campus with scientific and technological academic endeavors, and the development of related businesses and organizations adjacent to the campus, will enhance the reputation of the University and contribute to the economic vitality of Prince William County and the City of Manassas, therefore,

BE IT RESOLVED:

That the campus in Prince William County is hereby officially designated as the "George Mason University Science and Technology Campus."

Adopted:_____

_____
Secretary
Board of Visitors
George Mason University

_____
Date

GEORGE MASON UNIVERSITY
BOARD OF VISITORS

Audit Committee
December 12, 2019
Merten Hall, Fairfax Campus

A G E N D A

I. Call to Order

II. Approval of Audit Committee Minutes

A. Approval of Committee Minutes for October 10, 2019 Meeting **(ACTION)**

III. New Business

A. Auditor of Public Accounts Discussion

IV. Compliance Matters

A. Institutional Compliance Update

B. Office of Federal Contract Compliance Programs Audit

C. Research Compliance Update

V. Reports

A. Report of Approved Waivers of Contractual Conflicts of Interest

B. Office of University Audit Summary Report

VI. Adjournment

AUDIT COMMITTEE
OF THE BOARD OF VISITORS

October 10, 2019
Merten Hall

MINUTES

PRESENT: Chair Rice; Vice Chair Moreno; Visitors Blackman and Kazmi.

Faculty Representative Davis; Faculty Liaison Douthett; Student Representative Gelbvaks; President Holton; Operations Manager Kelly; Senior Vice President Kissal; Student Representative Layton; Interim Controller and Associate Controller McGinnis; Associate University Counsel Schlam; Vice President and Chief Information Officer Smith; Vice President for Compliance, Diversity and Ethics Williams; Assistant Vice President-Safety, Emergency, and Enterprise Risk Management Zobel; University Auditor Dittmeier; Associate University Auditor Watkins; Assistant University Auditor Sanders; and Senior Auditor Kim.

I. Chair Rice called the meeting to order at 10:20 a.m.

II. Closed Session:

Visitor Kazmi **MOVED** and Visitor Blackman **SECONDED** that the Committee go into Closed Session under the provisions of Section 2.2-3705.2.4 to discuss critical infrastructure vulnerability assessment information. There was no discussion.

MOTION CARRIED UNANIMOUSLY BY VOICE VOTE.

Visitor Blackman **MOVED** and Vice Chair Moreno **SECONDED** that the committee go back into public session and it was further moved that by **ROLL CALL VOTE** affirm that only public business matters lawfully exempted from the open meeting requirements under the Freedom of Information Act were heard, discussed, or considered in the Closed Session, and that only such business matters that were identified in the motion to go into Closed Session were heard, discussed, or considered in the Closed Session.

Roll call was taken with all present members responding in the affirmative.

III. Old Business

A. Compliance Update

Ms. Kissal provided an update on management's actions regarding the structure and resourcing of the university's compliance operations. A well-recognized consultant was engaged to assist in proposing recommendations

for developing a more comprehensive institutional compliance oversight structure that would integrate the enterprise compliance, risk management, and assurance needs for a growing R1 university. The Committee discussed conceptual recommendations and noted that such an approach is likely to provide the Board and management with a more direct and comprehensive view of risk and compliance information through, among other things, better coordination of second line of defense elements. As the recommendations are further developed, they will be brought back to the Committee. The Committee noted there may be a need to expand or clarify the Committee's responsibilities to include: further oversight, and safeguards to preserve University Audit's independent, direct functional reporting to the Committee.

IV. Approval of Minutes

Chair Rice called for a motion to approve the minutes of the May 2, 2019 Audit Committee meeting. The motion was **MOVED** by Vice Chair Moreno and **SECONDED** by Visitor Kazmi.

MOTION CARRIED UNANIMOUSLY BY VOICE VOTE.

V. New Business

A. Approval of Audit Committee Charter

The Committee discussed the Audit Committee Charter, noting that University Counsel had confirmed the charter is aligned with the university's by-laws. Visitor Kazmi **MOVED** and Vice Chair Moreno **SECONDED** that the Audit Committee Charter be approved.

MOTION CARRIED UNANIMOUSLY BY VOICE VOTE.

B. Approval of Office of University Audit Charter

Mr. Dittmeier reviewed with the Committee the Office of University Audit Charter. He also confirmed the organizational independence of the Office of University Audit. After discussion, the Committee concurred with Mr. Dittmeier's organizational independence confirmation. Visitor Kazmi **MOVED** and Visitor Blackman **SECONDED** that the Office of University Audit Charter be approved.

MOTION CARRIED UNANIMOUSLY BY VOICE VOTE.

VI. Reports

A. Office of University Audit Summary Report

Mr. Dittmeier reviewed with the Committee the Office of University Audit Summary Report. He described the audit report and seven audit memos issued since the last meeting. Management continues to make progress to

remediate 16 outstanding audit issues. He reviewed the status of in-progress and planned audit and investigative projects. Mr. Dittmeier also introduced Mr. Kim as recently joining the University Audit team; he has over five years of public accounting and information technology auditing experience, and holds the Certified Public Accountant professional certification.

The Committee discussed the adequacy of University Audit's current staffing levels in light of the university's overall risk profile and potential implications likely to arise from the university's efforts to develop institutional compliance oversight integrated with enterprise risk management and University Audit. As part of these efforts, implications on University Audit's staffing should be assessed in connection with any organizational change proposals.

The Committee discussed the status of six specific outstanding audit issues and the nature and timing of management's specific remediation actions.

B. Review of Office of University Audit Planning

Mr. Dittmeier reviewed with the Committee the Office of University Audit's process for determining audit priorities in a flexible, risk-based manner using a frequently refreshed audit risk assessment. The Committee concurred with this approach for establishing risk-based audit plans.

VII. Adjournment

Chair Rice declared the meeting adjourned at 11:17 a.m.

Respectfully submitted,

Edward R. Dittmeier
Secretary pro tem

ITEM NUMBER: III.A. Auditor of Public Accounts Discussion

PURPOSE OF ITEM: Brief the Audit Committee regarding the upcoming financial statement audit for the year ended June 30, 2019.

NARRATIVE: The Commonwealth's Auditor of Public Accounts is responsible for auditing the accounts of every state department, officer, board, commission, institution, or other agency handling any state funds. Among other things, the Auditor of Public Accounts determines that state agencies are providing and reporting appropriate information on financial and performance measures.

David Rasnic is representing the Auditor of Public Accounts.

ACTION: Receive briefing and discuss.

ITEM NUMBER: IV.A. Institutional Compliance Update

PURPOSE OF ITEM: Brief the Audit Committee regarding the university's process for monitoring compliance with laws and regulations

NARRATIVE: Carol Kissal, Senior Vice President for Administration and Finance, will provide an update following the Committee's prior discussions regarding the university's process for monitoring compliance with laws and regulations.

ACTION: Receive briefing and discuss.

ITEM NUMBER: IV.B. Office of Federal Contract Compliance Programs Audit

PURPOSE OF ITEM: Brief the Audit Committee regarding the status of a regulatory audit being performed by the US Department of Labor.

NARRATIVE: Lester Arnold, Vice President for Human Resources and Payroll, will provide an update regarding an ongoing audit by the US Department of Labor's Office of Federal Contract Compliance Programs.

ACTION: Receive briefing and discuss.

OFCCP Audit Update

Lester Arnold, Vice President
Human Resources/Payroll

WHO IS THE OFCCP?

The Office of Federal Contract Compliance Programs (OFCCP) is an agency of the U.S. Department of Labor. OFCCP is responsible for ensuring that employers doing business with the Federal government comply with the laws and regulations requiring nondiscrimination.

HOW DO THEY ENSURE COMPLIANCE?

To ensure federal contractors are meeting legal requirements, the OFCCP conducts compliance evaluations and complaint investigations that audit all facets of the employment process – sourcing, hiring, promoting, transferring, laying off, firing, and compensating.

MASON AUDIT

Began in September 2018

Cooperation and collaboration throughout the audit process.

OFCCP conducted two 2-day site visits (10/16-17, 11/20-21) to review personnel files and meet with diverse Mason managers and employees.

Mason has retained outside legal counsel to advise and guide us throughout the process.

Communication with OFCCP – explain how Mason determines pay in general, particularly for faculty.

- Educate the agency on how we set and maintain faculty salaries
- Explain how pay factors are utilized in determining pay

MASON AUDIT - CONTINUED

The Department of Human Resources & Payroll; the Office of Compliance, Diversity and Ethics; and University Counsel are working closely together to ensure we deliver a unified message.

Follow up action:

- Continued interaction w/ OFCCP on the audit
- Wait for official communication with potential findings, if any, which will determine next steps

Questions/Comments?

ITEM NUMBER: IV.C. Research Compliance Update

PURPOSE OF ITEM: Brief the Audit Committee regarding the university's research compliance programs.

NARRATIVE: Deborah Crawford, Vice President for Research, Innovation, and Economic Impact, will provide an update regarding the university's research compliance programs.

ACTION: Receive briefing and discuss.

Assuring the Responsible Conduct of Research (RCR)

Deborah L. Crawford, PhD
Vice President for Research, Innovation & Economic Impact

BoV Audit Committee
December 12, 2019 Meeting

Rules of the Road

Professional Self-Regulation

Government Regulation

Institutional Policies

Personal Responsibility

See https://ori.hhs.gov/ori-introduction-responsible-conduct-research

Mason Units Responsible for RCR Compliance

Mason's College & Schools Deans, Associate Deans for Research, Directors, Department Chairs, Faculty Community

Office of Research, Innovation and Economic Impact VPR team, incl. Research Integrity & Assurance group

RCR Policies & Regulations

Research Misconduct
Fabrication|Falsification|
Plagiarism

Financial Management of Sponsored Projects
Effort Reporting|
Fraud| Subrecipient Monitoring

Disclosing & Managing Outside Interests in Sponsored Research
(Personal, Financial, Intellectual) Conflicts of Interest & Commitment| Improper Foreign Influence

Managing Controlled Research
Classified|
Controlled Unclassified (including PII, PHI)

RCR Policies & Regulations

Protecting Human Subjects In Research
Institutional Review Board (IRB)

Animal Welfare in Research
Institutional Animal Care & Use Committee (IACUC)

Research Data Management*
Open|Controlled

Export Controls & Economic Sanctions

Related Policies & Regulations

HIPAA*
(University Life)

Managing Conflicts of Interest & Commitment*
(Compliance, Diversity & Ethics)

Environmental Health & Safety*
Lab Safety|Select Agents (SVP)

Student Progression & Mentoring*
(Graduate Education)

REAL Consequences of Failure to Comply

POST-TRIBUNE | SUBURBS

Purdue professor, wife plead guilty to defrauding $1.3M from Science Foundation

By MEREDITH COLIAS-PETE
POST-TRIBUNE | OCT 21, 2019 | 1:25 PM

HUMAN SUBJECTS RESEARCH CONCERNS LED TO AWARD TERMINATION WITH NEARLY $630,000 RETURNED

An NSF-funded PI's research was suspended after her university's Institutional Review Board (IRB) determined there was serious non-compliance with regulations governing research with human subjects. The PI's non-compliance included conducting human subjects research without IRB approval and allowing recruited subjects to participate in research without informed consent.

The university restricted the use of the collected research data and rendered inaccessible an online publication of a conference poster that contained the affected human subjects research data. The PI resigned from the university and the university requested to change the PI on the award, but NSF declined to allow the substitution. The university closed its portion of the collaborative award, resulting in nearly $630,000 of remaining funds returned to NSF. Our investigation continues regarding the collaborator's portion of the award and research project.

USCHOOLS/ISTOCKPHOTO

Duke University settles research misconduct lawsuit for $112.5 million

By Science News Staff | Mar. 25, 2019 , 1:50 PM

Former VT professor found guilty of fraud, false statements, obstruction

Ongoing Work

- Continuously monitor and update regulatory/policy environment
- Embrace automation
- Provide rigorous RCR training to faculty, students and administrators
- Recruit for research compliance oversight as research portfolio grows
- Support comprehensive strategy for institutional compliance

MEMORANDUM

TO: George Mason University Board of Visitors

THRU: Anne Holton, President, George Mason University

FROM: George Mason University Office of the President
Elizabeth Woodley, University Ethics Officer and Policy Manager

RE: Contractual Conflict of Interest Waivers

Pursuant to the Board of Visitors Resolution of August 1, 2014, the following is a report of existing Contractual Conflict of Interest Waivers at George Mason University between 12/1/2018 and 12/1/2019:

I. Waivers granted by the University Ethics Officer and Policy Manager pursuant to Virginia Code § 2.2-3106.C.2, stating that the dual employment of immediate family members is in the best interest of the University:

1. Jessica Adams, Fiscal Training Manager, Fiscal Services and Robert Wayne Adams, Senior Academic Affairs Coordinator, CHHS
2. Paul Ammann, Associate Professor, Computer Science and Rebecca Hartley, Assistant Vice President, Research Integrity and Assurance
3. Eric G. Anderson, Associate Professor of English, CHSS and E. Shelley Reid, Director for Teaching Excellence, Stearns Center for Teaching and Learning
4. Ann Ardis, Dean, CHSS and Phillip Mink, Term Assistant Professor, Director of Pre-Law Advising/Instructor, Business, Schar School of Policy and Government
5. Giorgio Ascoli, Professor, Bioengineering, VSE and Rebecca Goldin, Professor, Mathematical Sciences, COS
6. Jennifer Atkinson, Professor of English, CHSS and Eric Pankey, Professor of English, CHSS
7. Leila Austin, Term Assistant Professor, Foundations, School of Business and Marc Austin, Executive Director for Academic Ventures, Academic Innovation and New Ventures
8. Foteini Baldimtsi, Assistant Professor, Computer Science, VSE and Socrates Dimitriadis, Term Professor, Computer Science, VSE
9. Kenneth Ball, Dean, Volgenau School of Engineering and Sandra Ball, Clinic Nurse, Student Health Services
10. Pamela Baker, Director, Special Education and disAbility Research/Associate Professor, CEHD and Robert Baker, Professor and Director, SRTM, CEHD

11. Joan Bristol, Associate Professor, History and Art History, CHSS and Randolph Scully, Associate Professor, History/M.A. History Program Director, History and Art History, CHSS
12. Zofia Burr, Dean, Honors College and Alok Yadav, Associate Professor of English, CHSS
13. Chris Burrell, Production Manager, Hylton Performing Arts Center, CVPA and Diane Burrell, Operations Coordinator, Hylton Performing Arts Center, CVPA
14. Michael Buschmann, Department Chair and Professor, Bioengineering, VSE and Caroline Hoemann, Professor, Bioengineering, VSE
15. Henry N. Butler, Dean and Professor of Law, Antonin Scalia Law School and Paige V. Butler, Deputy Director, LEC, Antonin Scalia Law School
16. Xiaomei Cai, Associate Professor, Department of Communication, CHSS and Xiaoquan Zhao, Professor and Director, PhD Program, Department of Communication, CHSS
17. Mark Camphouse, Director of Concert Bands, School of Music, CVPA and Elizabeth A Curtis, Executive Director, Mason Community Arts Academy, CVPA
18. Amanda Caswell, Associate Professor Athletic Training, CEHD and Shane Caswell, Professor, School of Kinesiology, CEHD
19. Ylenia Chiari, Assistant Professor, Biology, COS and Scott Ryan Glaberman, Assistant Professor, Environmental Science and Policy, COS
20. John Cicchetti, Associate Director, Support and Community Outreach, University Life and Kaitlin Cicchetti, Director of Advancement, University Life
21. Cody Clarke, Development Coordinator, CVPA and Brianna St. Clair, Scheduling Coordinator, University Events
22. John Cook, Research Assistant Professor, Communication Instruction, CHSS and Wendy M Cook, Manager, Digital Communication and Research, 4C, Department of Communication, CHSS
23. Caroline Cox, Associate Technical Director, Arts Support Umbrella, CVPA and Sean Cox, Assistant Director of Event Services, Student Centers
24. Aurali Dade, Associate Vice President, Research Operations and Damon Dade, Adjunct Faculty
25. Ying Dang, Senior J2EE Engineer, Web Applications/Services, ITS and Haoxin Song, Senior Network Engineer, Network and Security Engineering, ITS
26. Ed Daniels, Director, Human Resources and Administration, Facilities and Tara Daniels, Business Office Manager, ICA General Administration, Intercollegiate Athletics
27. Rick Davis, Dean, CVPA and Julie Thompson, Executive Director, Center for the Arts
28. Suzanne de Janasz, Term Visiting Professor of Management and Conflict Analysis and Resolution and Maury Peiperl, Dean, School of Business
29. Mark DelVecchio, Senior Research Engineer, VSE and Mollie DelVecchio, Clinic Nurse, Student Health Services
30. Nikki Dinh, Senior Database Analyst, Database/Middleware/ERP Support, ITS and Robert Peraino, Advisory Systems Engineer, Enterprise Infrastructure Service, ITS
31. Carlotta Domeniconi, Associate Professor, Computer Science, VSE and Sean Luke, Professor, Computer Science, VSE
32. Kevin Dunayer, Assistant Professor of Theater and Event Production, CVPA and Laurel Dunayer, Costume Shop Supervisor, CVPA

33. May Elleisi-Salem, Education Support Specialist, Office of Undergraduate Student Services, VSE and Ossama Salem, Chair, Civil, Environmental and Infrastructure Engineering, VSE
34. Elisabeth Epstein, Term Assistant Professor, Biology, COS and Neil Epstein, Associate Professor, Mathematical Sciences, COS
35. Joyce French, Director, Office of Risk Management and Roderick French, Adjunct Professor, School of Business
36. Boris Gafurov, Assistant Professor, CEHD and Anya Evmenova, Associate Professor, CEHD
37. Sarah Todd Gallagher, Associate Director of Community Relations, Fairfax, Community and Local Government Relations and Stephen Gallagher, Indoor Cycling Instructor, Fitness Department
38. Colby Grant, Operations Coordinator, Science and Technology Campus, Executive Office and Megan Grant, Fiscal and Grants Technician, National Center for Biodefense and Infectious Disease, College of Science
39. Matthew Green, Assistant Director, Schar School of Policy and Government and Alice Magelssen-Green, Development Coordinator, CVPA
40. Yali Guo, Grants Administrator, Division of Special Education and disAbility, CEHD and Guoqing Diao, Associate Professor, Statistics, Volgenau School of Engineering
41. Donald Paul Haspel, Assistant Professor of English, CHSS and Linda H. Mason, Professor and Endowed Director, Kellar Institute for Human disAbilities, CEHD
42. Houman Homayoun, Associate Professor, Electrical and Computer Engineering, VSE and Setareh Rafatirad, Associate Professor, Information Sciences and Technology, VSE
43. Joy Hughes, Professor, VSE; Senior Advisor, East Asia, Office of the Provost and Kenneth Lee, Chief Statistician, CVPA
44. Douglas Irvin-Erickson, Assistant Professor, S-CAR and Yasemin Irvin-Erickson, Assistant Professor, Criminology, Law & Society Department, CHSS
45. Farhana Islam, Department Secretary, Sociology and Anthropology, CHSS and Khondkar Islam, Associate Chair, Undergraduate Studies, Information Sciences and Technology, VSE
46. Kristen V Jennette, Vmware Engineer; Cloud, Compute & Storage Operations, ITS and Shawn Jennette, Computer Systems Engineer; Cloud, Compute & Storage Engineering, ITS
47. Cing-Dao (Steve) Kan, Professor/Director, Center for Collision Safety and Analysis, COS and Chi Yang, Professor, Department of Physics and Astronomy, COS
48. Setarra Kennedy, Academic Program Coordinator, Arts Management, CVPA and Charles Nicholson, Senior Brand Manager, Communications and Marketing
49. Amir Ali Khan, Research Assistant Professor Bioengineering, VSE, and Sana Khan, Graduate Teaching Assistant, Civil, Environmental and Infrastructure Engineering, VSE
50. Karen King, Assistant Professor, Business Foundations, School of Business and Michael Allen King, Assistant Professor, ISOM, School of Business
51. Christopher Koper, Associate Professor, Criminology, Law and Society, CHSS and Cynthia Lum, Professor and Director of the Center for Evidence-Based Crime Policy, Criminology, Law and Society, CHSS
52. Davis Kuykendall, Adjunct Professor, Psychology, CHSS and Lauren Kuykendall, Assistant Professor, Psychology, CHSS

53. Alison Landsberg, Professor, History and Art History and Matthew Karush, Professor, History and Art History
54. Clare Laskofski, Director of Accounting and Treasury Operations, Fiscal Services and Mike Laskofski, Associate Vice President of Research Operations, Office of Sponsored Programs
55. David Lattanzi, Associate Professor, Civil, Environmental and Infrastructure Engineering, VSE and Elisabeth Lattanzi, Assistant Professor, Mechanical Engineering, VSE
56. Kurt Lazaroff, Director of Academic Services/ Assistant Professor, Bachelor of Individualized Study, CHSS and Sandra Tarbox, Director of Student Financial Aid, Student Financial Aid
57. Yi-Ching Lee, Assistant Professor, Department of Psychology, CHSS and Benoit Van Aken, Associate Professor, Department of Chemistry and Biochemistry, COS
58. B. Jean Brown Leonard, Dean, Student Academic Affairs, Retention, and Transitions and Charles Leonard, Instructor, Honors College
59. Stephanie Lessard-Pilon, Associate Professor, Smithsonian-Mason School of Conservation and James McNeil, Associate Professor, Smithsonian-Mason School of Conservation
60. Fei Li, Associate Professor, Computer Science, VSE and Qi Wei, Associate Professor, Bioengineering, VSE
61. Vera Lichtenberg, Director of Mason Game Institute/ Assistant Director Potomac Arts Academy and Scott M. Martin, Director Computer Game Design Program Virginia Serious Game Institute (VSGI); Associate Professor, CVPA
62. Stu Mackenzie, CINA Science Manager, Office of the Provost and Tricia Mackenzie, Head, Resource Description and Metadata Services, University Libraries
63. Tamara Maddox, Term Associate Professor, Computer Science, VSE and John Otten, Instructor, Computer Science, VSE
64. Chun Hin Mak, Budget Analyst, Office of Budget and Planning and Monica Mak, Division Fiscal, Academic, and Student Services Coordinator, CEHD
65. Michael Malouf, Associate Professor, English, CHSS and Kristina Olson, Associate Professor of Italian, Modern and Classical Languages, CHSS
66. Brian Mark, Professor, Electrical and Computer Engineering, VSE and Karen Sauer, Professor, Physics and Astronomy, COS
67. Robert Matz, Dean, Mason Korea and Teresa Michals, Associate Professor, English, CHSS
68. Abigail G Mullen, Term Assistant Professor, History and Art History, CHSS and Lincoln Mullen, Assistant Professor, History and Art History, CHSS
69. Donielle Nolan, Sustainability Program Manager, Office of Sustainability and Matthew Nolan, Technical Director, Computer Game Design, CVPA
70. Olivia O'Neill, Associate Professor, Management, School of Business and Tiago Requeijo, Assistant Professor, Finance, School of Business
71. Audra Parker, Associate Professor, Division of Elementary, CEHD and Kristien Zenkov, Professor, Secondary Education/Literacy and Reading, CEHD
72. Tyler G. Parowski, Hylton Performing Arts Center ticket office and Karen L. Parowski, Hylton Performing Arts Center ticket office

73. Allison Ward Parsons, Associate Professor, School of Education, CEHD and Seth Parsons, Associate Professor, School of Education, CEHD
74. Tom Perdiou, Associate Director, Office of Student Financial Aid and Laurie Schintler, Associate Professor and MS Transport Policy Director, Schar School of Policy and Government
75. Dieter Pfoser, Professor and Chair, Geography and Geoinformation Science, COS and Nektaria Tryfona, Educational Initiatives Director, COS
76. Gregory Pirog, HRIS Programmer Analyst, Human Resources/Payroll and Megan Pirog, Degree Audit and Award Coordinator, Registrar
77. Kelly Reid, Office and Program Administrator, Student Centers and Linda Reid, Administrative Assistant, Student Centers
78. Evelyn Sander, Professor, Mathematical Sciences, COS and Thomas Wanner, Professor, Mathematical Sciences, COS
79. Amber Saxton, Sustainability Program Manager, Campus Efficiency, Office of Sustainability and Regis Saxton, Research Administration Manager, Office of Sponsored Programs
80. Daniel Sklarew, Professor, Environmental Science and Policy, COS and Jennifer Sklarew, Assistant Professor, Environmental Science and Policy, COS
81. Kelly Hayward Stone, Customer Service Center Supervisor, Customer Service, Facilities and Rebecca Hayward Stone, Project Coordinator, Learning Space Design, ITS
82. Heather Streckfus-Green, Assistant Professor, School of Art, CVPA and Peter Streckfus-Green, Associate Professor, English, CHSS
83. Alex Tabarrok, Professor, Economics/General Director, Center for Study of Public Choice and Monique van Hoek, Professor, School of Systems Biology, COS
84. Margaret P. Weiss, Assistant Professor, School of Education, CEHD and Oliver Weiss, Adjunct Professor, Sport Management, CEHD
85. Kerone Wetter, Assistant Director, Marketing and Communications, College of Science and Ryan Wetter, Senior Grants and Finance Analyst - Lead, College of Science
86. Julie Zobel, Assistant Vice President, Safety, Emergency, and Risk Management and Robert Zobel, Adjunct Faculty, VSE

II. Waivers approved by the President of George Mason University and the Vice President for Research or Senior Vice President for Administration and Finance pursuant to Virginia Code § 2.2-3106:

1. Jeffrey Bassett; Hideko Bassett (independent contractor); waiver period: 6/9/2019 – 6/9/2024
2. Nathan Burtch; University of Maryland, College Park; waiver period: 5/28/2019 – 8/16/2019
3. Kate Bryan; Social & Scientific Systems; waiver period: 11/7/2019 – 11/7/2020
4. Yali Chen; Virongy, LLC; waiver period: 1/17/2018 – 1/17/2020
5. Kevin Clark; Google LLC; waiver period: 2/19/2019 – 4/1/2020
6. Mychelle DeWoolfson; Oakleaf Farm, LLC; waiver period: 3/22/2108 – 3/22/2019

7. Liping Di; General Science and Technology Solutions, Inc.(GSTS); waiver period: 5/1/2016 – 4/30/2019
8. Nancy Dunham; University of Pennsylvania; 4/18/2019 – 4/18/2020
9. Elham Sahraei Esfahani; Massachusetts Institute of Technology (MIT); waiver period: 7/12/2018 – 7/12/2021
10. Bassam Haddad; Arab Studies Institute – Research and Education Methodologies (ASI-REM); waiver period: 7/1/2019 – 6/30/2021
11. Kenneth Hintz; FirstGuard Technologies (FGT); waiver period: 11/25/2014 – 11/25/2019
12. Margret Hjalmarson; HDR Inc.; waiver period: 1/25/2019 – 1/25/2020
13. Sisc Johnson; Auto Park, Inc.; waiver period: 1/25/2019 – 1/25/2020
14. James Jones; American Council on Education (ACE); waiver period: 2/19/2019 – 2/19/2024
15. Peggy Kamin; Aireco Inc.; 1/25/2019 – 1/25/2020
16. Dmitri Klimov; Parabon Nanolabs (PNL); waiver period: 5/14/2018 – 7/1/2019
17. Lauren Long; Wells Fargo Bank; waiver period: 6/17/2019 – 6/17/2024
18. Nance Lucas; George Washington University; waiver period: 6/13/2019 – 6/13/2020
19. Kelvin Manurs; Arm & Arm, Inc.; waiver period: 4/18/2019 – 4/18/2020
20. Bernd-Peter Paris; Airbus SE; waiver period: 1/25/2019 – 12/31/2019
21. Pam Patterson; George Washington University; waiver period: 2/26/2019 – 2/26/2020
22. Emanuel Petricoin; Perthera, Inc.; waiver period: 9/1/2018 – 9/1/2019
23. Emanuel Petricoin; Ceres Nanosciences, Inc.; waiver period: 6/1/2019 – 6/1/2021
24. Justin Ramsdell; National Center for Victims of Crime (NCVC); waiver period: 4/9/2019 – 4/9/2020
25. Amarda Shehu; Catholic University of America; waiver period: 10/10/2018 – 5/31/2023
26. Sita Slavov; National Bureau of Economic Research (NBER); waiver period: 3/18/19 – 3/18/2024
27. Darlene Smucny; University of Maryland University College; waiver period: 5/6/2019 – 5/6/2021
28. Xinyuan Wang; CyberRock, Inc.; waiver period: 2/16/2018 – 8/31/2019
29. Ali Weinstein; Inova Health System; waiver period: 10/26/2017 – 11/30/2020
30. Catherine Winkert; Monumental Sports & Entertainment: waiver period: 1/25/2019 – 1/25/2024

Pursuant to the Board of Visitors Resolution of February 4, 2015, the following is a report of information regarding Dr. Elizabeth F. "Beth" Cabrera during the fiscal year beginning July 1, 2018:

I. Total payment to Dr. Beth Cabrera by the University: $ 10,100

II. All graduate, professional and continuing education courses of instruction for which Dr. Beth Cabrera was compensated and the amount of compensation for each course of instruction:

Leadership Training and Development (Fall 2018)	$ 7,600
Engaging and Succeeding in Negotiations (Spring 2019)	$ 2,500

Details are available at the Board's request.

Office of University Audit

Report to the Audit Committee of the Board of Visitors

December 12, 2019

EXECUTIVE SUMMARY

- No audit reports have been issued since the last meeting.

- Remediation of 14 audit issues is in progress as of November 2019:
  - Most of these issues have current target remediation dates in the next nine months (through June 2020).

- Audit Plan status:
  - Substantially on track with 3+6 Audit Plan reviewed at the prior meeting.

- Status of fraud, waste, and abuse investigations:
  - One investigation was completed since the prior meeting; it was isolated in nature with negligible impact to the University.
  - One investigation is in progress.

- Audit staffing:
  - The audit team remains stable with no changes since the prior Committee meeting.
  - The appropriate level and mix of audit resources will be assessed in connection with the recommendations to integrate audit with structures for institutional compliance and enterprise risk management.
  - Co-sourced resources remain available to provide supplemental skilled expertise when needed. Through November 20, 2019, approximately 450 hours (0.3 FTE) of co-sourced resources have been used in FY20.

TABLE OF CONTENTS

Topic

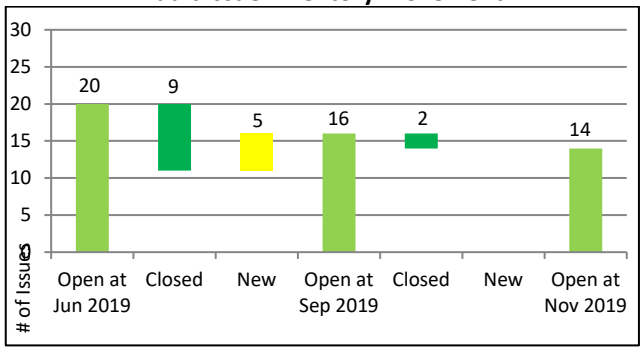
SUMMARY OF AUDIT REPORTS

- No reports have been issued since the prior Committee meeting.

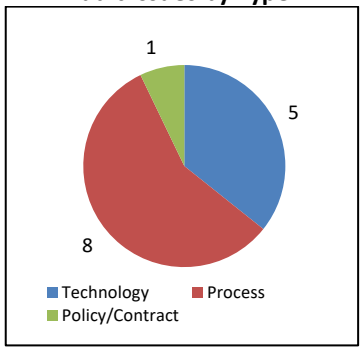
SUMMARY STATUS OF AUDIT ISSUES AS OF NOVEMBER 20, 2019

There were 14 open audit issues as of November 20, 2019. Remediation of two audit issues was completed by management since September 2019.

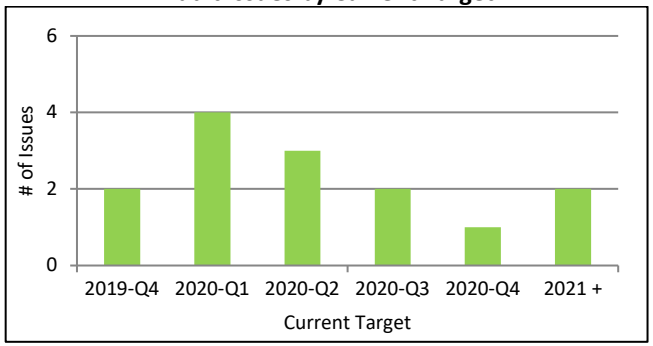
Audit Issue Inventory Movement



Audit Issues by Type



Audit Issues by Current Target



Audit Report	Report Date	Open at Jun 2019	New	Closed	Open at Sep 2019	New	Closed	Open at Nov 2019
Student Fiscal Services	7/19/19	0	3	(2)	1	-	(1)	0
Core Campus Construction Project: Payments and Change Orders	7/2/19	0	2	(2)	0	-	-	0
Faculty Study Leave Programs	4/18/19	3	-	-	3	-	-	3
Spending of Funding Budgeted for Institutional Reserves and Strategic Initiatives	4/15/19	1	-	-	1	-	-	1
Monitor Employee Card Access Security	12/13/18	1	-	(1)	0	-	-	0
DHS CINA Cooperative Agreement	10/30/18	2	-	(2)	0	-	-	0
Supplemental Payroll Payments	9/5/18	2	-	-	2	-	(1)	1
Office of the University Registrar	3/7/18	4	-	-	4	-	-	4
Use of Wiley edu Employees to Process Certain Registration Transactions	10/16/17	1	-	-	1	-	-	1
Administrative Management of Sponsored Programs	10/11/17	1	-	-	1	-	-	1
IT Governance and Project Prioritization	8/7/17	3	-	(2)	1	-	-	1
Information Security Management: Boundary Protection	9/9/13	1	-	-	1	-	-	1
Enterprise Project Management Framework and System	3/28/13	1	-	-	1	-	-	1
		20	5	(9)	16	0	(2)	14

STATUS OF AUDIT PLAN AS OF NOVEMBER 20, 2019

The 3+6 Audit Plan as of November 20, 2019 (bottom bars) is compared with the status as of the prior report to the Committee (top bars). (Note: The status of work is shown as follows: completed = orange bars, in progress = green bars, and planned = yellow bars)

Topic	Description	9 30 12 31 3 31 6 30
Aligned with University-Level Risk Areas		
Controlled Unclassified Information (CUI) Data and Security Environment	• Monitor management's project to establish IT environment for handling CUI data and ensure compliance with federal regulations. Validate selected areas once established.	
Information Security Program	• Monitor projects to further strengthen security of Mason's entire technology environment; assess security over highly privileged accounts.	
Data and Security Risk Assessment: Colleges – Validation Procedures	• Validate selected management assertions regarding information security risks in college-managed technology environments.	
Academic Innovation and New Ventures Initiatives	• Monitor development and implementation of major academic innovation and venture initiatives.	
Performance of Online Education Arrangements	• Assess performance of online education programs supported by arrangement with Wiley.	
Disclosure and Evaluation of Personal Interests	• Assess processes for ensuring outside activities, including financial interests, are disclosed and evaluated.	
Student Experience Redesign	• Monitor management's multi-year redesign and implementation of processes to improve the student lifecycle experience, including coaching and advisory delivery and deployment of constituent relationship management technology.	
Construction Payments and Change Orders	• Monitor and assess payments related to in-progress Core Campus construction projects.	
Additional Areas		
Drug and Alcohol Abuse Prevention	• Assess management's processes and programs to prevent drug and alcohol abuse.	
Gift Acceptance Processes	• Assess processes to implement 2019 policy revisions.	
Issue Validation Procedures	• Validate management has remediated audit issues in a comprehensive and sustainable manner.	
Hotline Investigations Referred by OSIG	• Investigate allegations of fraud, waste, or abuse received from the Commonwealth's Office of the State Inspector General.	

STATUS OF INVESTIGATIONS AS OF NOVEMBER 20, 2019

One investigation was completed since the prior Committee meeting; it was isolated in nature with negligible impact to the University. One investigation is in progress.

Nature of Allegation	Type	Status	Remarks
Potential diversion of resources	Abuse	Completed	
Potential personal use of university credit card and other matters	Fraud	In Progress	

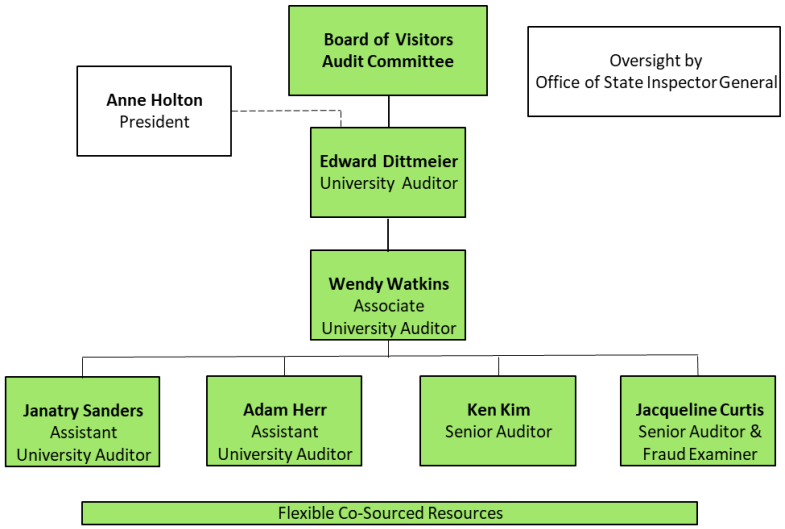
Summary of Types:

- Fraud = Intentional deception which could result in a benefit to the perpetrator, others, or the Commonwealth or could cause detriment to others or the Commonwealth. Fraud includes a false representation of a matter of fact, whether by words or by conduct, by false or misleading statements, or by concealment of that which should have been disclosed, which deceives or is intended to deceive. E.g., falsifying financial records to cover up theft.
- Waste = Careless expenditure, mismanagement, use, or squandering of Commonwealth resources to the actual or potential detriment of the Commonwealth. Includes unnecessary costs due to inefficient or ineffective practices, systems, or controls. E.g., unnecessary spending of state funds for no business purpose.
- Abuse = Excessive or improper use of something contrary to natural or legal rules for its use. Intentional destruction, diversion, manipulation, misapplication, mistreatment, or misuse of Commonwealth resources. Excessive use as to abuse one's position or authority. E.g., Use of state assets for non-state business.

STAFFING

The audit team remains stable with no changes since the prior Committee meeting. The appropriate level and mix of audit resources will be assessed in connection with the recommendations to integrate audit with structures for institutional compliance and enterprise risk management. Co-sourced resources remain available to provide supplemental skilled expertise when needed.

Organization



Staffing

Core Audit Team	Plan	Actual a/o July 2019	Actual a/o Nov 2019
Audit Leadership	2	2	2
Auditors by Expertise:			
Operational Audit	2	1	1
IT Audit	1	1	2
Fraud Audit	1	1	1
Total Audit Professional Employees	6	5	6
Cosourced FTE* Supported by Permanent Budget	0.8		0.3
Total Audit Professionals Supported by Permanent Budget	6.8	5.0	6.3
Cosourced FTE* Supported by FY19 Temporary Budget	0.5		
Audit Professionals Supported by FY19 Budget	7.3	5.0	6.3

Note: * = Cosourced FTE are estimated based on actual hours provided by cosourced resources and a 1,500 hour/FTE rate.

APPENDIX: AUDIT ISSUE DETAILS AS OF NOVEMBER 20, 2019

#	Audit Report	Audit Issue	Status of Management Action	Original Target	Current Target
1	**Report Name:** Supplemental Payroll Payments **Report Date:** 9/5/18 **Management:** Renate Guilford, Associate Provost, Academic Administration, Office of the Provost	**Clarify Supplemental Pay Guidelines for Contract Courses:** Supplemental Pay Procedures are not interpreted to cover contract course arrangements. Contract course arrangements are often informally documented (i.e., limited to certain Banner data and course budget information). Formal contractual arrangements are not made with course instructors, even though contract course arrangements fall outside the typically faculty contract. Lack of clarity or misinterpretation of Mason policy may result in irregularities or unjustified faculty workloads (i.e., where faculty or staff are over-extending with contract course work, to the detriment of other primary or secondary job roles) and inequitable or inappropriate pay practices.	The Provost's Office is revising and strengthening the language in the Supplemental Pay Procedures related to compensation for the various types of offerings associated with contract courses. All offerings are being reviewed, along with contracts/agreements with vendors and instructors.	1/31/19	11/30/19
2	**Report Name:** Office of the University Registrar **Report Date:** 3/7/18 **Management:** Michelle Marks, Vice President for Academic Innovation and New Ventures, Office of the Provost	**Implement Banner Transactional and Activity Logging:** Mason's ability to monitor transactional data and log activity of staff and third party vendors at various levels within Banner is limited. OUR management identified areas where limited or no monitoring exists due to a lack of transactional and activity history, including: student attributes; registration permits and overrides; student holds; academic standing; visa status; segregation of duties or unauthorized transactions; grading activity; and the Banner tables that control the majority of student data where an erroneous or unapproved change can have a significant impact.	The OUR monitors select transactions captured in Banner (e.g., consortium grades, grade changes and substitution/waivers). Following significant exploration of various technical solutions including an "audit vault," the use of Splunk, additional MicroStrategy reports, etc., the OUR has determined that it is currently not possible, using current technology, to report on data elements that are not logged by the ERP system related to specified transactions. OUR management will continue to search for additional potential solutions and provide an update by December 2019.	10/31/18	12/15/19
3	**Report Name:** Administrative Management of Sponsored Programs **Report Date:** 10/11/17	**Plan for Scalable Research Administration to Enable Future Growth in Research:** In our view, Mason's current research administrative processes are not adequate nor scalable to support the nature and extent of research administrative and compliance obligations likely to result from substantial future growth in the volume and value of research awards. A 50% growth of the overall research portfolio,	Management continues to work to develop a comprehensive, scalable plan for research administration to accrue efficiencies offered by contemporary enterprise systems that support research, to adequately support the administrative needs of Mason researchers, and to provide research administrative support best delivered centrally. This plan is being developed in concert	7/1/18	1/15/20

#	Audit Report	Audit Issue	Status of Management Action	Original Target	Current Target
	Management: Deborah Crawford, Vice President of Research, Office of the Provost	to ~$150 million, might require an additional $2.4 million of expenditures (determined on a straight-line basis) to support research administration and compliance activities. As management plans for such growth and sustaining its R1-Highest Research Activity classification, we believe there should be concurrent, comprehensive planning for the appropriate mix of people, process, and technology resources to effectively satisfy the current and future nature and extent of research administrative and compliance obligations while enabling faculty and researchers to remain focused on conducting research. In conducting such planning, management should consider multiple areas, including: • Alignment, including ensuring that academic unit plans for growing research (and providing appropriate administrative support) are fully aligned with Mason's strategic plans and goals. • Information technology, including systems, reporting capabilities, and interface automation which impact work process effectiveness and efficiency. • Organizational structures, including the appropriate mix of academic unit and centralized employees, job roles, workloads, time dedicated to research administration activities, and reporting relationships for academic unit research administrators. • Resourcing, including the appropriate level and mix of automation as well as academic unit and centralized employees.	with the update of Mason's Strategic Plan and by a working group of stakeholders that includes representatives from Mason's Information Technology Services (ITS), Office of Sponsored Programs (OSP), Research Development, Integrity, and Assurance (RDIA), the Research Council, and the OSP Advisory Group. Management expects to enter a Request for Information or Request for Proposal process regarding research administration technology by December 2019. Management has selected a product suite that will meet its research administration requirements and is currently working with Purchasing to procure the technology.		
4	**Report Name:** Use of Wiley edu LLP Employees to Process Certain Registration Transactions **Report Date:** 10/6/17 **Management:** Marilyn Smith, Vice President & Chief Information	**Develop Comprehensive Plan to Strengthen Technology Environment:** Management recognizes that Mason's existing technology environment presents certain risks to the accomplishment of strategic objectives and to robustly controlling transaction processing. Management should develop and review with executive management a comprehensive plan, with timelines and resource needs, to improve the capability of the existing technology environment to respond flexibly to changes in business models, products and services, processes,	Management continues to make progress on a number of projects to strengthen Mason's overall technology environment. An experienced, senior information technology executive employed by management as an internal consultant completed an assessment of Mason's IT system infrastructure and architecture, and recommended areas for organization and process standardization and improvement. Management is evaluating these recommendations and planning next steps; once established,	7/15/18	1/15/20

#	Audit Report	Audit Issue	Status of Management Action	Original Target	Current Target
	Officer, Information Technology Services	and operations while robustly addressing the risks presented.	implementation of these plans will be monitored through management's regular processes.		
5	**Report Name:** Office of the University Registrar **Report Date:** 3/7/18 **Management:** Michelle Marks, Vice President for Academic Innovation and New Ventures, Office of the Provost	**Align Mason Administration of Degree Programs with State Council of Higher Education for Virginia Administrative Requirements:** Mason has degree and certificate programs that have not been established to conform to State Council of Higher Education for Virginia (SCHEV) requirements. SCHEV requirements limit one degree or certificate program at each level (certificate, bachelors, etc.) per classification of instructional programs (CIP) code. The purpose of the CIP code is to provide SCHEV with a classification scheme to track, assess, and report fields of study and program completion activities at the state and federal level. Prior to our audit, management in the Office of University Registrar and the Office of the Provost had identified this issue; they are working to identify impacted programs and developing solutions to align all programs appropriately.	The Office of Accreditation and Program Integrity (OAPI) has made substantial progress in resolving discrepancies in certificate program inventories. Resolution depends on actions by SCHEV subsequent to analyses provided by Mason. Such analyses have been provided to support 61 certificate programs; analyses for a further 26 certificate programs and 49 undergraduate or graduate degree programs are in progress. SCHEV approved a new policy for certificate and program approvals. SCHEV is evaluating and refining the certificate and program approval processes and procedures surrounding the new approval policy to be effective by January 2020. OAPI is overseeing future changes in program inventory. Going forward, the Office of the University Registrar will not activate or inactivate any certificate or degree program without the express written consent of the OAPI.	9/30/18	1/31/20
6	**Report Name:** Faculty Study Leave Programs **Report Date:** 4/18/19 **Management:** Renate Guilford, Associate Provost, Academic Administration, Office of the Provost	**Re-evaluate the Roles and Responsibilities of the Provost's Office and the Academic Units in the Leave Process:** The Provost's Office should work with the academic units to re-evaluate the efficiency and effectiveness of the current process, including the related roles and responsibilities. Management should consider distributing more fully the administrative and transaction processing responsibilities to the Academic Units, Human Resources, and Fiscal Services; while reserving oversight responsibilities, including procedures to implement Faculty Handbook requirements and monitoring academic unit adherence to such procedures, with the Provost's Office. As part of this re-evaluation,	The Provost's Office, with support of the Vice President of Research, will evaluate the funding model for study leaves in conjunction with the new budget model for Indirects and determine if centrally supported awards is appropriate going forward. The Associate Provost for Academic Administration, Vice President of Research and a Budget Office representative will discuss proposed options with the Academic Unit representatives for FY2021 implementation.	3/31/20	3/31/20

#	Audit Report	Audit Issue	Status of Management Action	Original Target	Current Target
		the Provost's Office should determine the best use of the centrally allocated study leave budgets, including potentially a permanent allocation to the academic units or another purpose considered more impactful to Mason's mission.			
7	**Report Name:** Spending of Funding Budgeted for Strategic Initiatives and Institutional Reserves **Report Date:** 4/15/19 **Management:** Carol Kissal, Senior Vice President for Administration and Finance	**Develop an Effective Process to Track Actual Spending of Distributed Budgeted Funds:** The Office of Budget & Planning should establish a process to track actual spending of resources budgeted for strategic initiatives or institutional reserves to ensure funds are used as intended.	The university is conducting initiatives to enhance the budget and planning governance structure to ensure continued alignment with Mason's strategic plan and the annual budget development process. A process has been established requiring recipients of budgeted funds, including those related to strategic initiatives, to provide the Office of Strategic Budget & Planning a report on the use of those funds. Full implementation is expected by April 1, 2020.	6/1/19	4/1/20
8	**Report Name:** Enterprise Project Management Framework and System **Report Date:** 3/28/13 **Management:** Charles Spann, Executive Director, Information Technology Services	**Metrics Based Project Management:** A cost estimation and tracking mechanism is not in place to determine and track time and costs to complete IT projects. Such a mechanism can support improved comparative analysis, decision making about future projects, and project monitoring and control.	Through a project, Information Technology Services management continues to re-assess the appropriate process for making decisions regarding sizing and undertaking IT projects, including the appropriate level of consideration for time and cost, and tracking and reporting actual performance; expected completion June 30, 2020.	9/30/13	6/30/20
9	**Report Name:** Office of the University Registrar **Report Date:** 3/7/18 **Management:** Frank Strike, Vice President, Facilities	**Evaluate Classroom Capacity and Constraints to Meet Future Growth Requirements:** Mason course sections (and use of Mason classrooms) are not distributed across timeslots and days of the week to efficiently and effectively utilize campus resources. Fall 2017 course section data shows significant classroom underutilization on multiple days of the week and at certain times of day. Scheduling decisions are often made by individual colleges and departments in regards to their reserved classrooms and lacks	In June 2018, management engaged a consultant to benchmark the University's space allocations, identify and outline space utilization, and make recommendations. The consultant's report has been completed and the proposed charging model is being socialized with the SVP Finance and the Budget Officer for review and approval, and distributed to the academic units for feedback. Rollout of the model is tentative for Spring 2020 for the 2021 budget year. The Space	4/30/18	6/30/20

#	Audit Report	Audit Issue	Status of Management Action	Original Target	Current Target
		transparency when university classrooms `are requested. This approach may lead to future difficulties as campus resources are strained further with current and planned renovations, strategic initiatives are pursued.	Administration Committee will evaluate the results of the report and make a recommendation to the SVP Finance and the Provost for consideration.		
10	**Report Name:** Faculty Study Leave Programs **Report Date:** 4/18/19 **Management:** Renate Guilford, Associate Provost, Academic Administration, Office of the Provost	**Utilize the Banner System and Banner Workflows to Improve Process Efficiencies:** The faculty study leave process is highly manual in nature which may create inefficient use of time, increase the chances of errors, and provide less certainty that transactions have been processed timely. This process could be strengthened through automation and use of Banner workflows.	The Provost's Office will work with Human Resources and Information Technology Services to develop a workflow process to enter and track both types of faculty study leaves and explore the potential to integrate with Banner to ease manual entry. The system will produce a report Fiscal Services can generate for their annual fringe calculation to ensure they are pulling in all types of study leaves the University is awarding. The Provost Office will produce an annual communication to the academic units about time and importance of ensuring study leaves are properly recorded in Banner.	7/15/20	7/15/20
11	**Report Name:** Faculty Study Leave Programs **Report Date:** 4/18/19 **Management:** Renate Guilford, Associate Provost, Academic Administration, Office of the Provost	**Enhance Faculty Study Leave Processes and Procedures:** Procedures for tenured and tenure-track faculty study leave processes should be enhanced to clearly define the roles and responsibilities of the Provost's Office as well as expectations and interactions with the various functions (academic units, Vice President of Research, Human Resources, and Fiscal Services) involved with the administration of the faculty study leave process.	The Provost's Office will have each academic unit document their internal selection process for tenured faculty study leave ensuring it meets Faculty Handbook requirements. The Associate Provost for Academic Administration will work with the Budget Office, Fiscal Services, Human Resources, and the Academic Unit representatives to prepare and document faculty study leave processes.	7/15/20	7/15/20
12	**Report Name:** Office of the University Registrar **Report Date:** 3/7/18 **Management:** Michelle Marks, Vice President for Academic Innovation and New Ventures, Office of the Provost	**Evaluate and Implement Process and Oversight Efficiency and Effectiveness Enhancements:** Registration transactions that require OUR action (e.g., enrollment adjustments, selective withdrawals, and program and domicile changes) are manual in nature with no secondary review prior to entry in Banner. OUR processes several thousand manual transactions each semester which require faculty and staff approval prior to processing. These transactions included, but were not limited to: course enrollment adjustments; selective withdrawals; domicile appeal changes; and numerous program changes. The established Banner workflow	Salesforce offers a variety of enhancements to current business processes. In early August 2019, OUR begin consulting with the Mason Salesforce team on possible applications of the technology for OUR processes and timeline for implementation. Once implemented, the OUR will have an intelligent online form solution that electronically routes and collects approvals. These data will also enable much more quality control on the completed requests. OUR expect to be in a test environment with a select group of	8/31/18	12/31/20

#	Audit Report	Audit Issue	Status of Management Action	Original Target	Current Target
		does not provide for a secondary review to ensure data accuracy and appropriate approval. Furthermore, the ability for post-entry quality assurance is limited since underlying Banner data is often limited.	student forms by spring 2020, and live with at least the top ten forms by volume by Fall 2020. Simultaneously, the university launched the Mason Student Services Center (MSSC), a one-stop center that provides front-line service for students that includes some OUR functions. The OUR expects to be able to close its doors to walk-in student traffic by January, 2020, as a result of the MSSC providing those front-line services. This will enable OUR staff to dedicate more time to conduct audits and perform data quality management work.		
13	**Report Name:** IT Governance and Project Prioritization **Report Date:** 8/7/17 **Management:** Marilyn Smith, Vice President/Chief Information Officer, Information Technology Services	**Improve Governance of University IT Projects:** The university has several processes for evaluating and prioritizing IT projects for development. • Prioritization of Strategic and Capital projects that support strategic objectives, improve service capabilities, enhance customer satisfaction, or support new building construction or renovations should consider the capacity of development resources to support the timing and scheduling of the work effort in addition to the already-considered project impact and effort levels. • Prioritization of Maintenance and Mandate projects which are required by federal, state, or local governments, or university management, or are needed to continue daily operations should be formally documented. Portfolio Owners prioritize these projects within their respective portfolios and do not always document their prioritization decisions. • Management should evaluate the process for prioritizing IT projects that do not impact or involve ITS (i.e., Distributed IT projects); these are prioritized by individual departments. These gaps may result in a scarcity of resources that do not fully consider personnel and scheduling requirements, or the alignment of project resources with university strategic goals. Decentralized IT project	As part of ITS continuing to enhance, and strengthen compliance with, the Project Management Framework and the IT governance process, standard methods for ITS to track project resource usage will be implemented. Formal procedures to document Maintenance and Mandate prioritization efforts were implemented in March 2018. The university's current IT governance structure is under review. While IT governance processes have been developed with an initial focus on projects that directly involve ITS, the processes can be broadly applied to other administrative and academic groups while also acknowledging that project control needs may vary depending on category and scale, and educating the university community will all be critical factors in the success of this effort.	6/30/19	6/30/21

#	Audit Report	Audit Issue	Status of Management Action	Original Target	Current Target
		spending and activities may not be approved, governed, and appropriately implemented by university management.			
14	**Report Name:** Information Security Management: Boundary Protection **Report Date:** 9/09/13 **Management:** Marilyn Smith Vice President/Chief Information Officer, Information Technology Services	**Review Firewall Configurations:** Firewall configurations are currently not being reviewed and re-authorized on a cyclic basis. Without a formal process to periodically review and re-authorize firewall configurations, the university cannot ensure that rule bases are adequate and/or still required.	After several attempts to appropriately structure and remediate firewall configuration management processes, a plan to implement and manage the firewall policies was established in December 2018; implementation of the first phase to move Banner behind the new firewalls was completed in September 2019. This first phase was used to plan migration of all remaining university servers; this is an ongoing effort that is projected to be completed by December 2021.	1/31/14	1/15/22

GEORGE MASON UNIVERSITY
BOARD OF VISITORS

Research Committee Meeting
December 12, 2019
Merten Hall 1204

AGENDA

I. Call to Order

II. Approval of Minutes **(ACTION ITEM)**

A. Meeting minutes for October 10, 2019

III. Research, Innovation, and Economic Impact Update, Dr. Deborah Crawford

IV. Faculty Research Highlight, Uncovering Feeding Supermassive Black Holes in Colliding Galaxies: An Infrared and X-ray Study
Dr. Shobita Satyapal, Professor, Physics and Astronomy

V. Adjournment

GEORGE MASON UNIVERSITY
BOARD OF VISITORS

Research Committee Meeting
October 10, 2019
Merten Hall 1204
Draft Minutes

Present: Interim President Anne Holton; Provost S. David Wu; Chair Horace Blackman; Vice Chair Nancy Prowitt; Vice President for Research, Innovation and Economic Impact, Deborah Crawford; Visitors Anjan Chimaladinne, Edward Rice, Bob Witeck; Faculty Senate Chair Shannon Davis; Student Representatives Natalie Gelbvaks and Camden Layton.

Absent: Rector Tom Davis; Visitor Wendy Marquez; Faculty Representatives Bijan Jabbari and Andrew Novack

I. Meeting was called to order by Chairman Horace Blackman at 11:20 am.

II. Approval of Minutes **(ACTION ITEM)**

Approval of the May 2, 2019 meeting minutes was MOVED by Vice Chair Prowitt, SECONDED by Visitor Chimaladinne; No discussion; minutes approved..

III. Presentation, Deborah Crawford, Vice President, Research, Innovation and Economic Impact
Research Performance

Dr. Deborah Crawford provided a brief review of the research performance data at Mason (no Power Point Presentation). Academic Year 2019 was another record year for research expenditures. Mason will report research expenditures of $176 Million in the 2019 NSF HERD Survey. Research expenditures continued to exceed Academic Year 2018, which reported $149 Million in expenditures. Dr. Crawford noted that the research expenditures for faculty affiliated with Mason's three institutes were as follows: Institute for Biohealth Innovation: nearly $30 Million; Institute for a Sustainable Earth: $43.9 Million; and Institute for Digital InnoVation (newest Institute): about $80 Million. Three or four years ago, faculty affiliated with Sustainable Earth and Digitial InnoVation would have been about the same in research expenditures, so the Digital InnoVation faculty have really shown robust growth over the last few years.

Dr. Crawford then highlighted four projects that give a sense of the diversity of the Mason portfolio:

- A transdisciplinary team won Mason's first prestigious National Science Foundation Graduate Research Traineeship award. Under the leadership of Professor Siddhartha Sikdar (a professor in bioengineering who presented to the Committee about two years ago) and six faculty colleagues, over 100 PhD students from engineering, science, social science, and health and human services units will be funded to develop new technologies, systems and approaches to improve the quality of life for individuals with disabilities.

- If you were reading the New York Times a month or so ago, you might have read about Professor Shobita Satyapal. She is a Professor in Mason's Department of Physics and Astronomy and she led a team that discovered a rare trio of supermassive black holes in a system of three merging galaxies a billion light-years away. Her research results were reported in the New York Times and on CNN, getting national and international coverage and raising the visibility of Mason research.

- Professor Tom Lovejoy, who is the Scientific Director for our Institute for a Sustainable Earth, was recognized by the Commonwealth as the 2019 Virginia Outstanding Scientist. This award recognized the work that he has done as one of the founders of the thriving scientific field of conservation biology and discovering the potentially devastating effects of global warming on biodiversity.

- Lastly, Professor Mills Kelly from Mason's Center for History and New Media in our College of Humanities and Social Sciences received a grant from the National Endowment for the Humanities to create a digital historical guide of the evolution of the Appalachian Trail over the past century. The result of Dr. Kelly's scholarship will be a free, interactive research tool to allow users to chart, examine and make sense of the routes of the trail over its long history.

As we ended the first quarter of Academic Year 2020, we continue to see expenditures rise, up about 32% over the same period last year. We are currently on pace to possibly break through the $200 Million annual expenditure mark this year. This is a pretty phenomenal achievement and it is only due to the hard work of the faculty, who are truly world class and achieving great things and great visibility for the university.

IV. Closed Session

Chairman Blackman MOVED that committee go into Closed Session under the provision of Section 2.2.3711.A.9 for purposes of discussion or consideration by governing boards of public institutions of higher education of matters relating to gifts, bequests and fund-raising activities, and of grants and contracts for services or work to be performed by such institution. The motion was SECONDED by Visitor Rice. MOTION CARRIED UNANIMOUSLY BY VOICE VOTE.

V. Retune to Open Session

Chairman Blackman MOVED that the Committee go back into public session and further moved that by ROLL CALL VOTE we affirm that only public business matters lawfully exempted from the open meeting requirements under the Freedom of Information Act were heard, discussed or considered in the Closed Meeting, and that only such business matters that were identified in the motion to go into a Closed Meeting were heard, discussed or considered by the Closed Meeting. The motion was SECONDED by Visitor Witeck.

Chairman Blackman asked the Secretary to take the ROLL.

Chairman Blackman asked if there was any additional business to be discussed. One of the Visitors asked that if there is any public information to be shared, that information be made available. In addition, Vice Chair Prowitt asked if a bulleted summary of the Committee's public presentations can be made available to the Committee as soon as possible after the meeting.

VI. Adjournment

Chairman Blackman asked for a motion for adjournment. Motion for adjournment was made by Visitor Rice, seconded by Visitor Witeck, and with no objections, the meeting was adjourned at 12:04 pm.

Respectfully submitted,

Rebekah K. Hersch

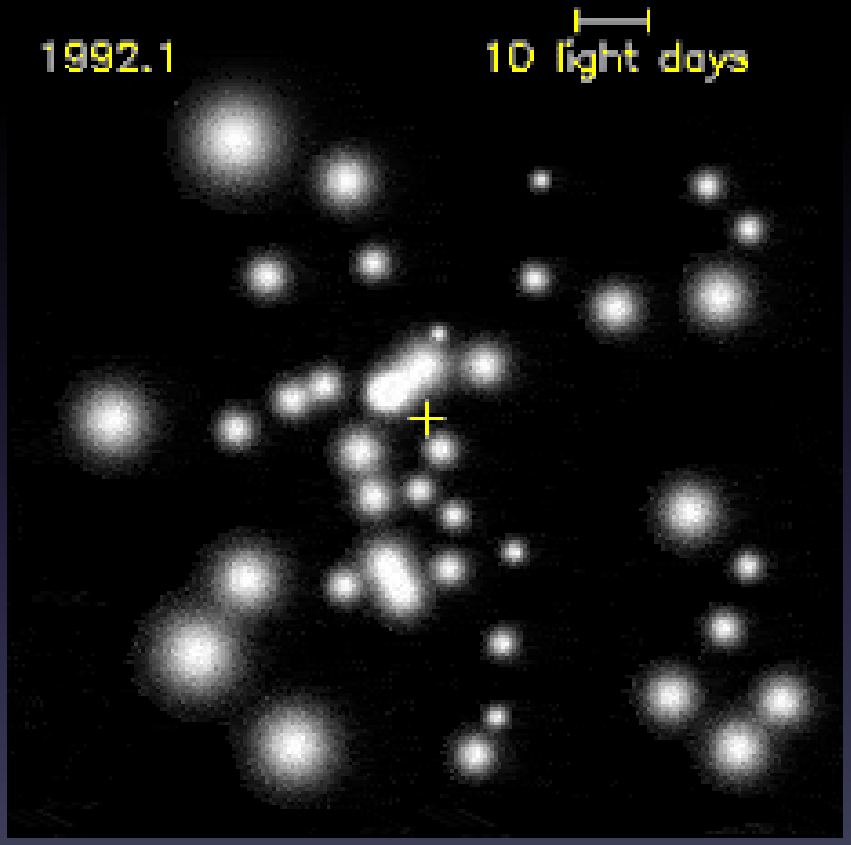
Research Committee Secretary Pro Tem

Uncovering Hidden Growing Supermassive Black Holes

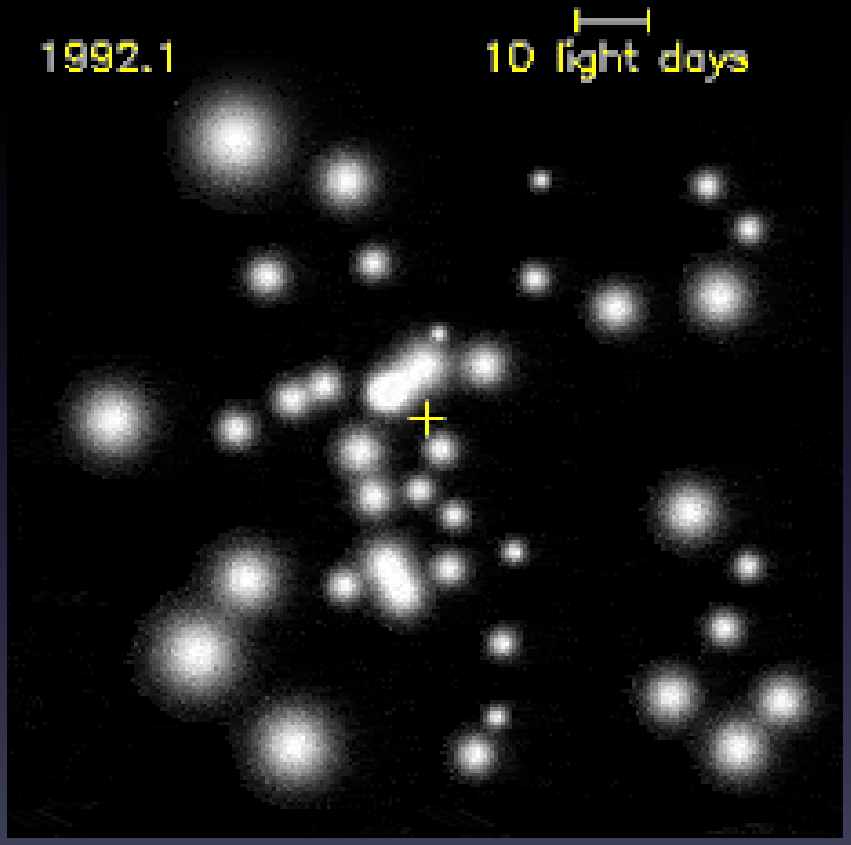
in colliding galaxies: An X-ray and Infrared Investigation

The Black Hole Galaxy Connection Group
George Mason University

The Center of our Galaxy



The Center of our Galaxy



Supermassive black hole (SMBH) ~ 4 million suns

Overview

- SMBHs are fundamental component of galaxies
- SMBHs play an important role in galaxy evolution
- SMBHs can eject material into the IGM
- SMBH mergers will produce the loudest GWs

The Big Questions

- How do they form?
- How do they grow?

The Answers

Search for growing SMBHs in galaxy mergers

The Answers

- Galaxy mergers are common
- Best explanation for rapid SMBH growth

The Answers

- Galaxy mergers are common
- Best explanation for rapid SMBH growth

Hunt for AGNs in colliding galaxies

Previous Work: Optical

- AGNs in galaxy mergers are rare
- Dual AGNs in galaxy mergers rarer
- Only < 30 known in the entire Universe!

Previous Work: Limitations

- Infalling material obscures AGN
- Cannot see AGN in optical light
- Must use X-ray and IR telescopes!

Goal of our work

- Search for AGNs using X-ray and IR light
- Determine their mass and mass accretion rates



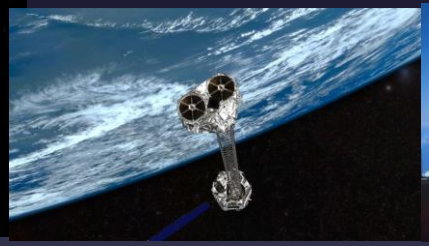


Goal of our work

- Search for AGNs using X-ray and IR light
- Determine their mass and mass accretion rates


WISE


Chandra


NuSTAR

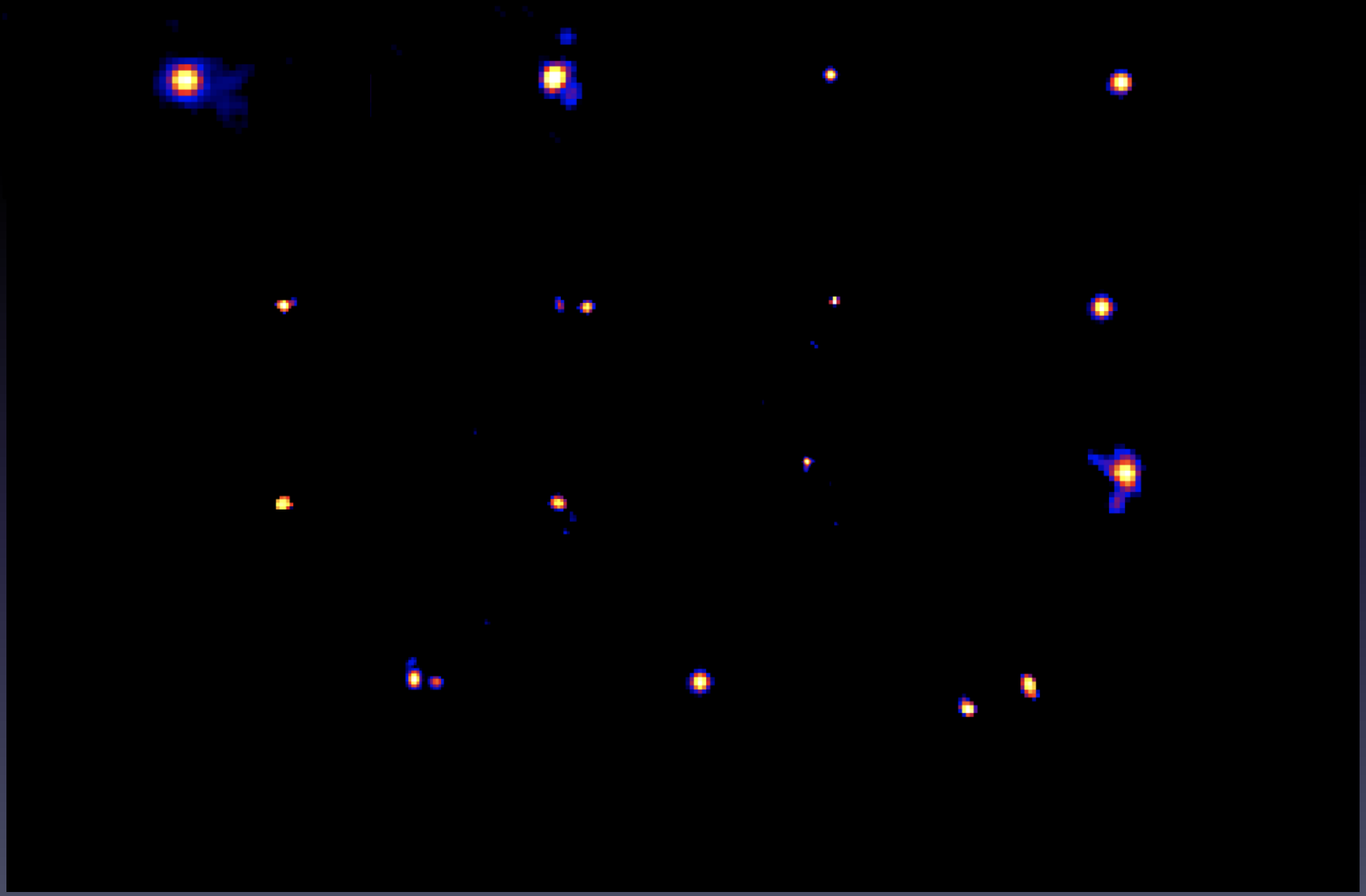

Keck


LBT

IR-Selected Advanced Mergers

Satyapal et al. 2017, Ellison et al. 2017, Pfeiflle et al. 2018

IR selected mergers host obscured AGNs



Satyapal et al. 2017, Ellison et al. 2017, Pfeiflle et al. 2018

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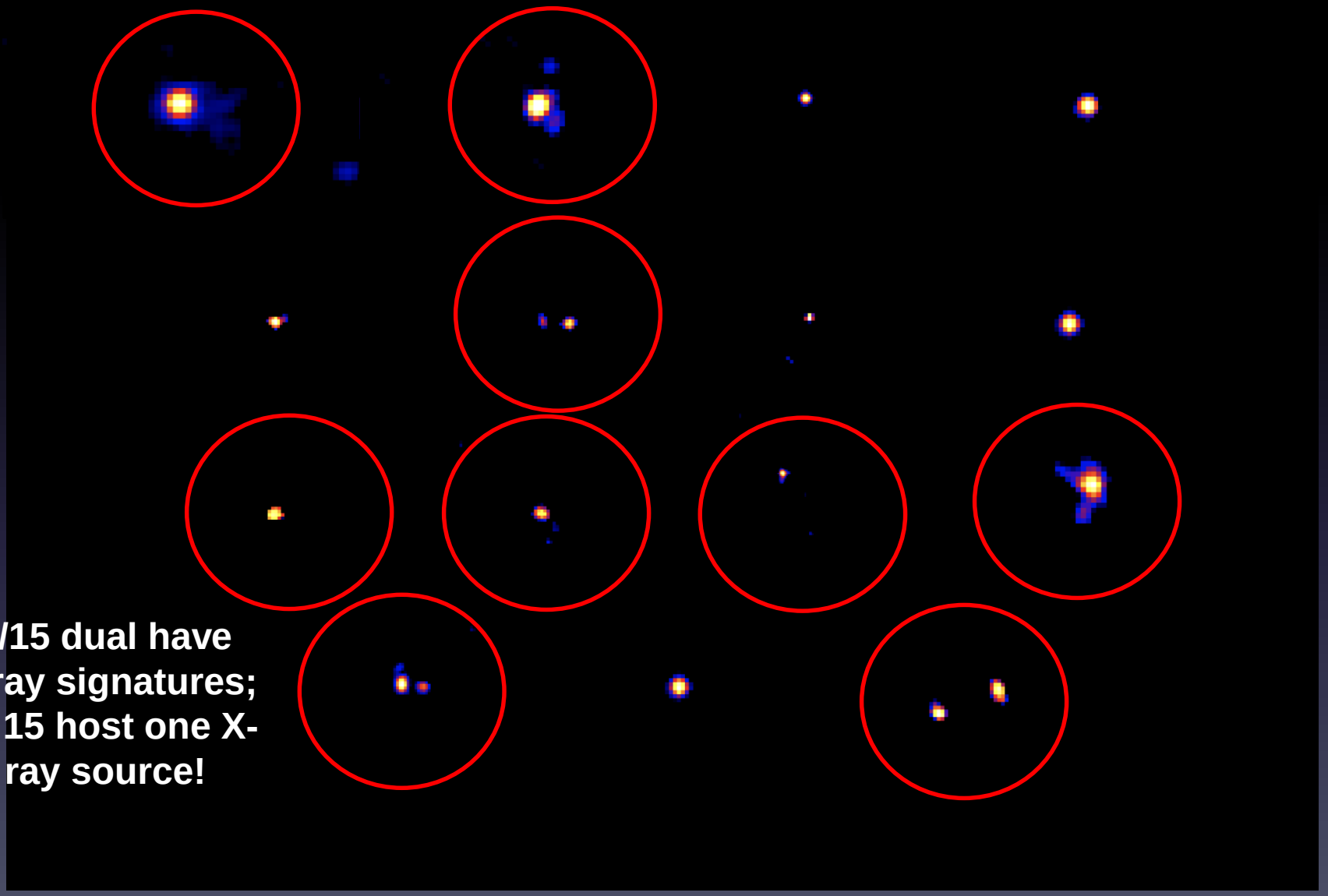
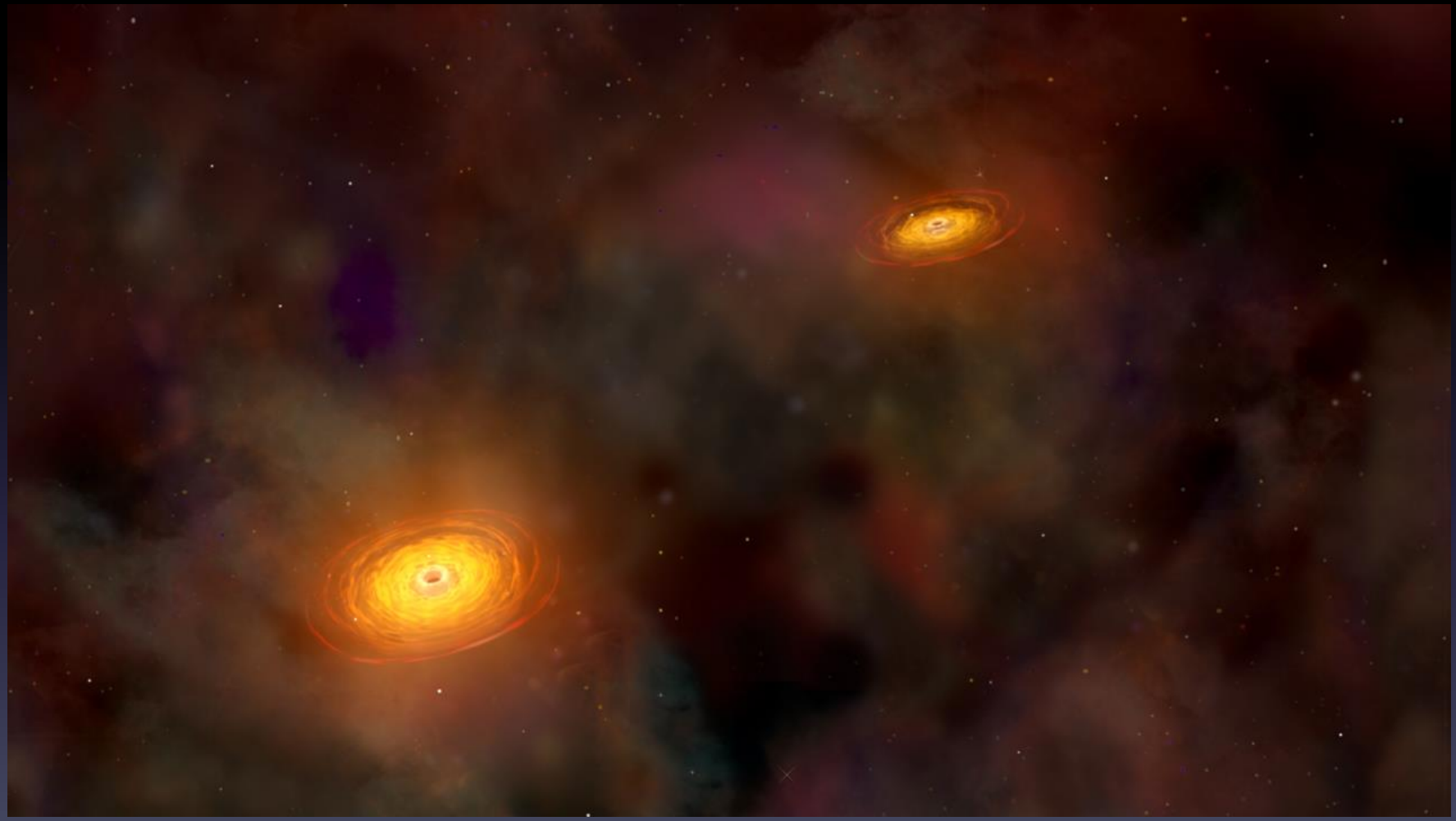


8/15 dual have X-ray signatures; all 15 host one X-ray source!

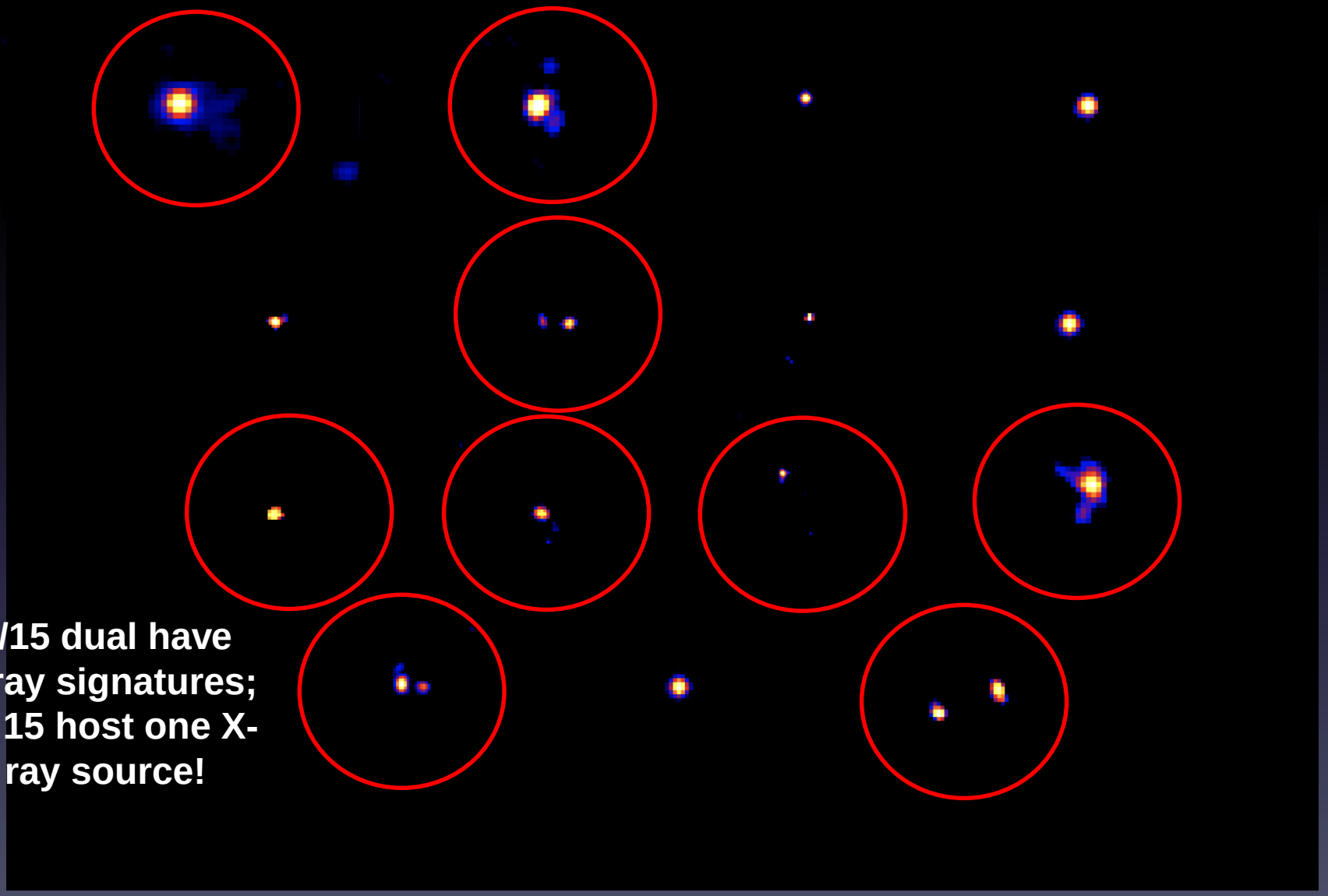
Satyapal et al. 2017, Ellison et al. 2017, Pfeiflle et al. 2018

NASA Press Release: Scientists Find Elusive Giant Black Hole Pairs



Increased known AGN pairs by ~ 40%!

IR selected mergers host obscured AGNs

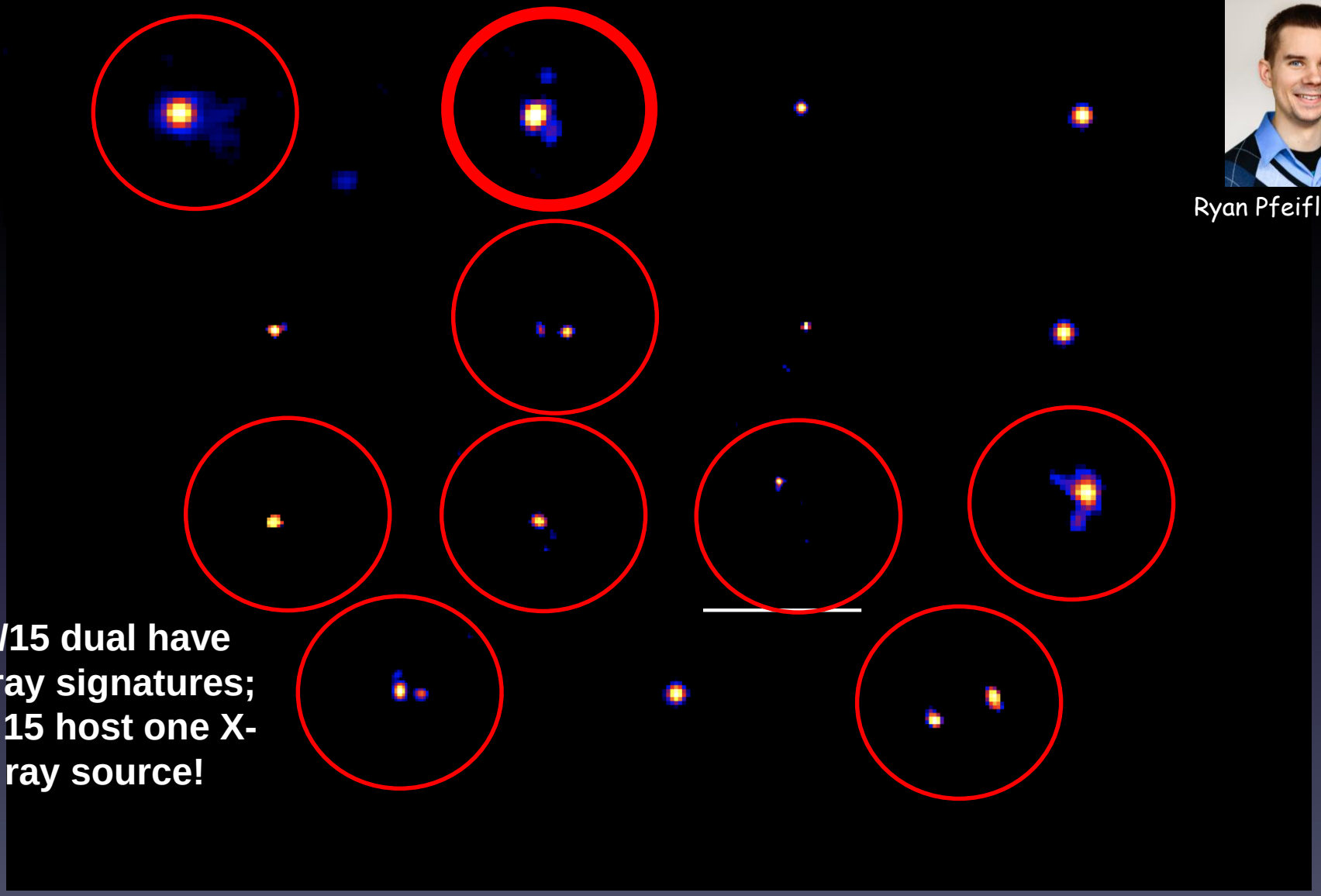


8/15 dual have X-ray signatures; all 15 host one X-ray source!

Satyapal et al. 2017, Ellison et al. 2017, Pfeiflle et al. 2018

One Triple AGN Found!

Ryan Pfeifle, GMU

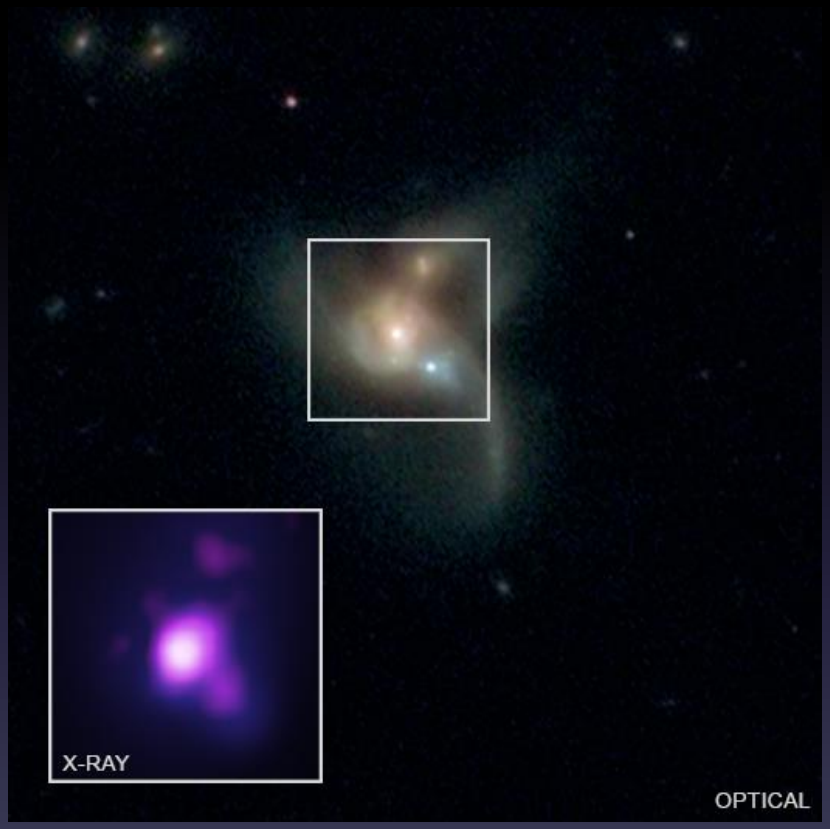


8/15 dual have X-ray signatures; all 15 host one X-ray source!

Satyapal et al. 2017, Ellison et al. 2017, Pfeiflle et al. 2018

SDSS J084905.51+111447.2

Ryan Pfeifle, GMU



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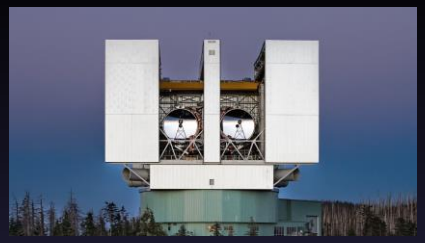
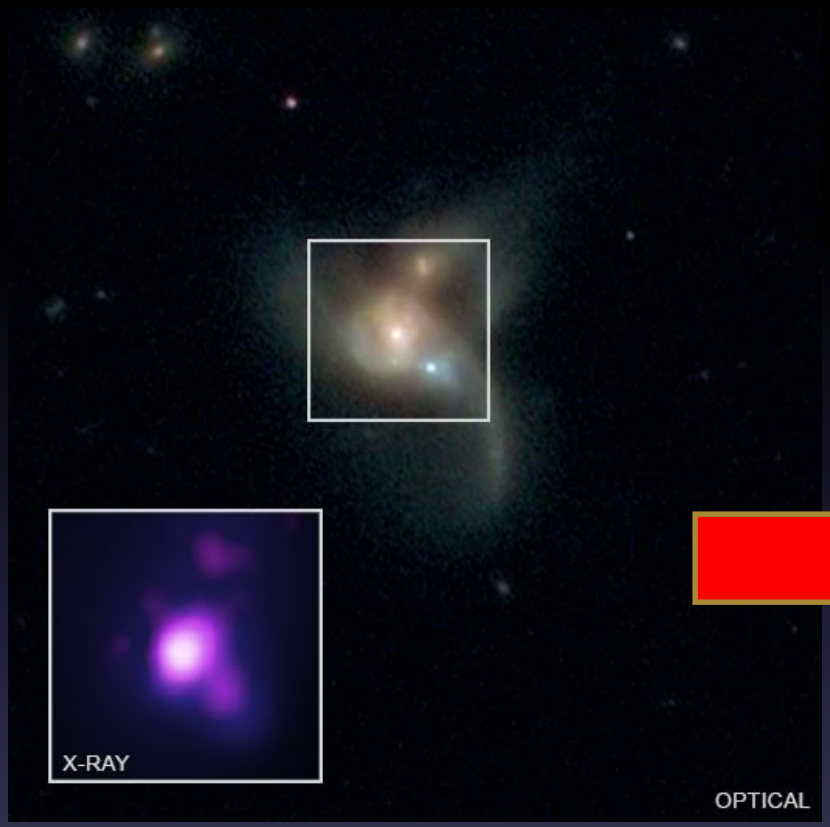
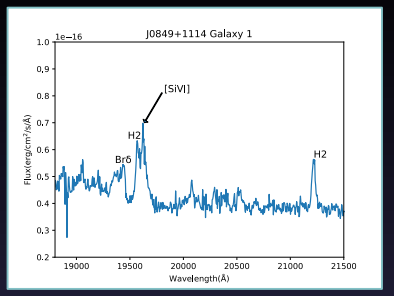
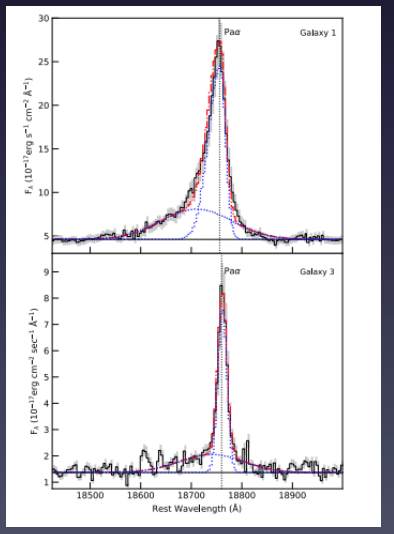
Barry Rothberg, LBT





Ryan Pfeifle, GMU





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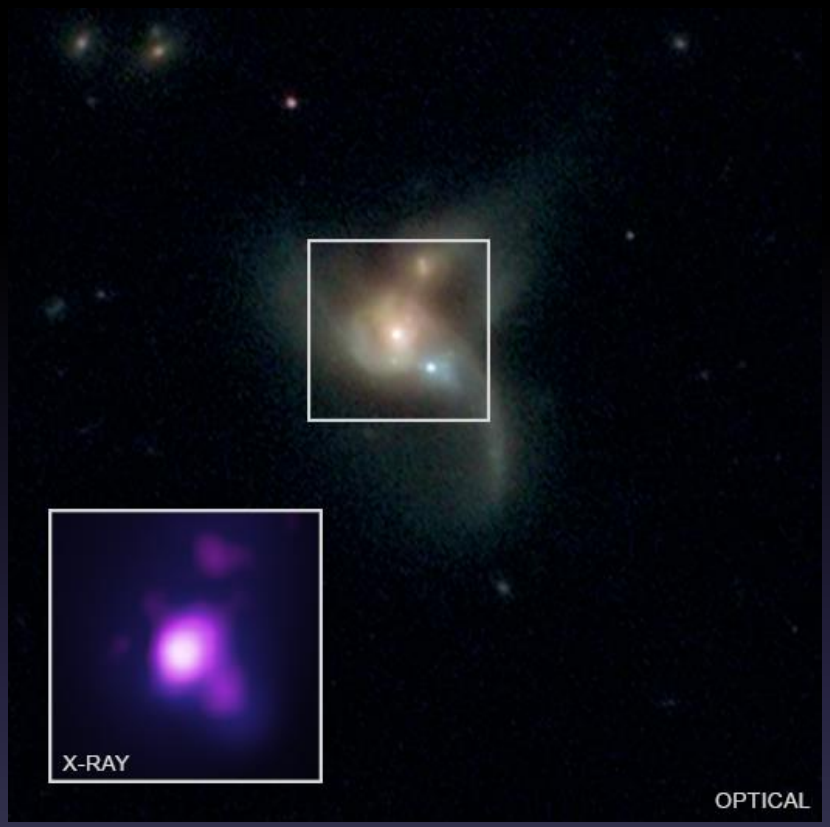

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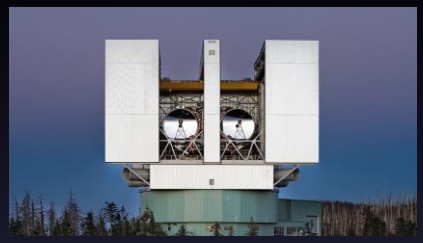
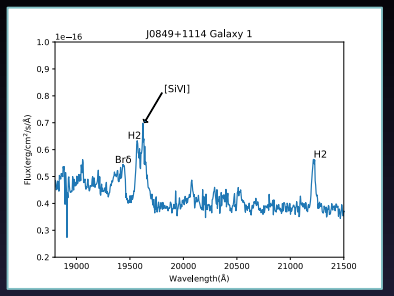
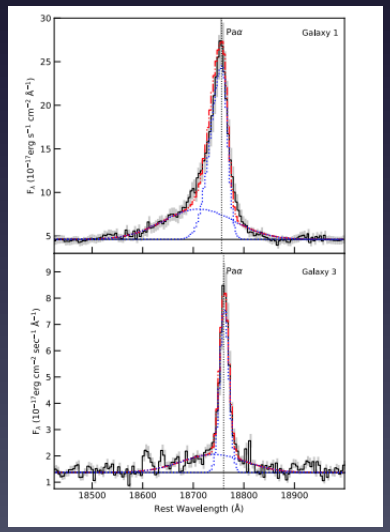
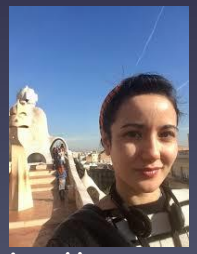




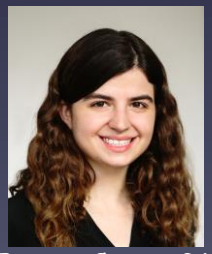
Gaby Canalizo, UCR





Christina Manzano-King, UCR

Remington Sexton, UCR



Jenna Cann, GMU

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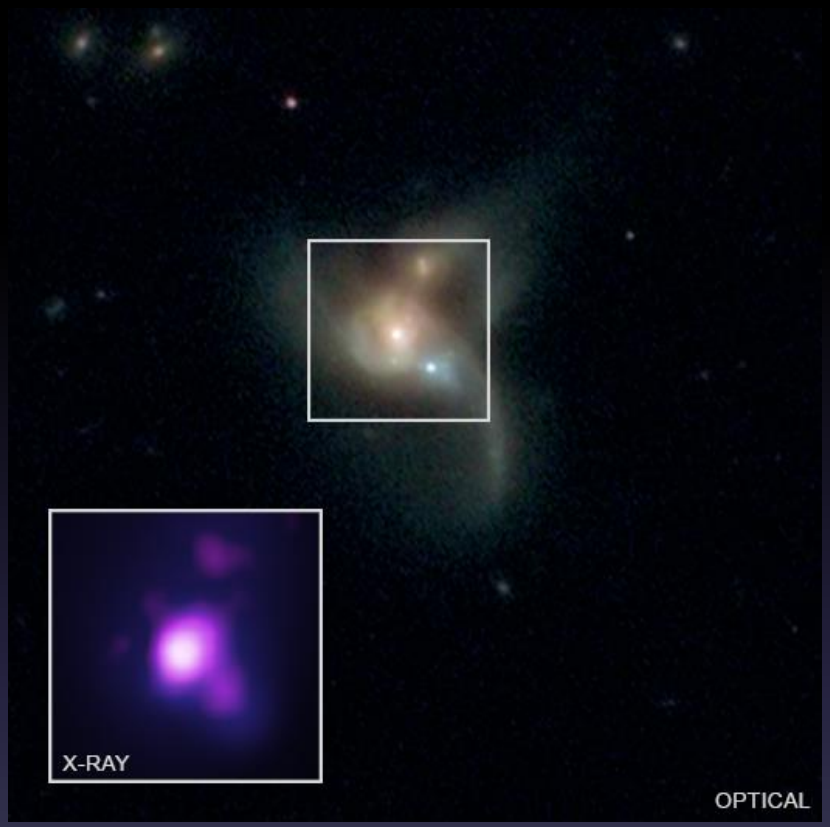

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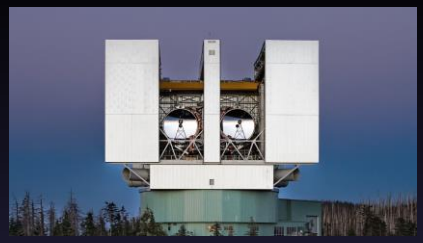

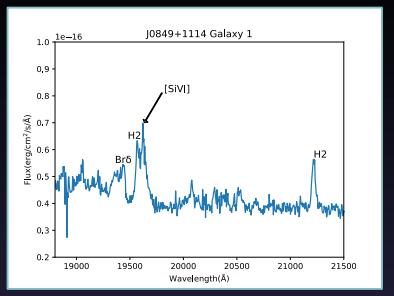

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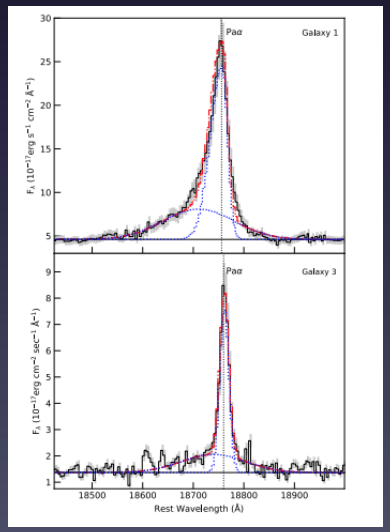

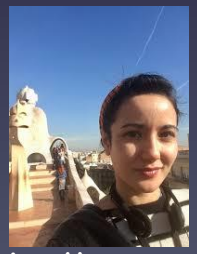

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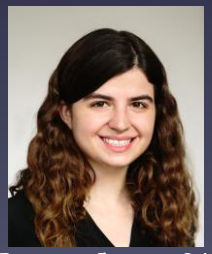

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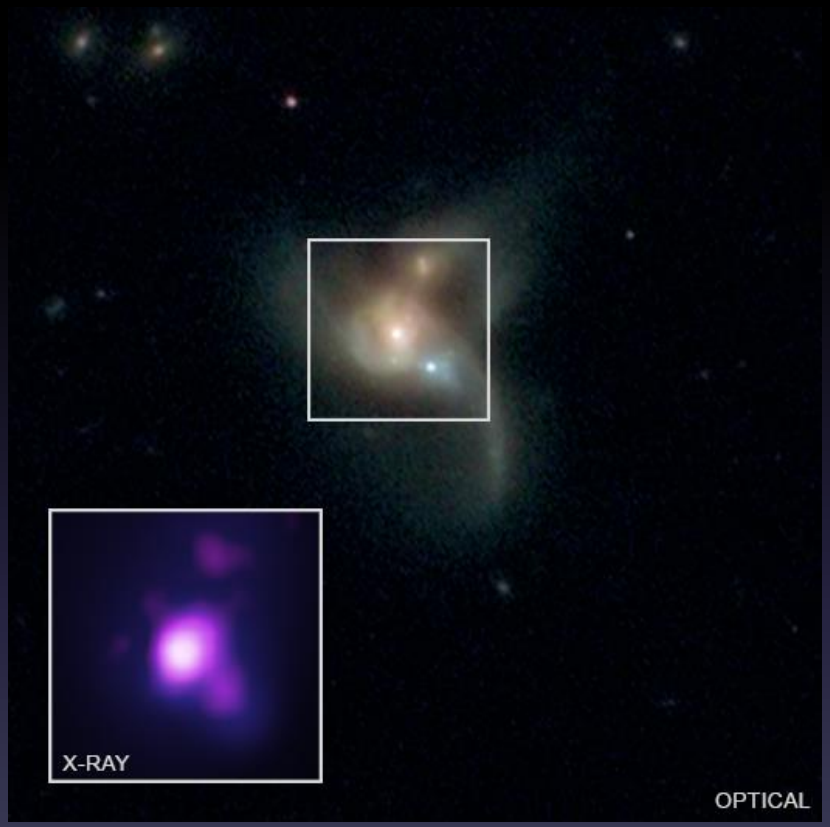

- Only triple AGN confirmed
- ~ 1 billion ly away
- ~ 500 million suns
- ~ 1500 miles/s outflows

(Pfeifle et al. 2019, ApJ)

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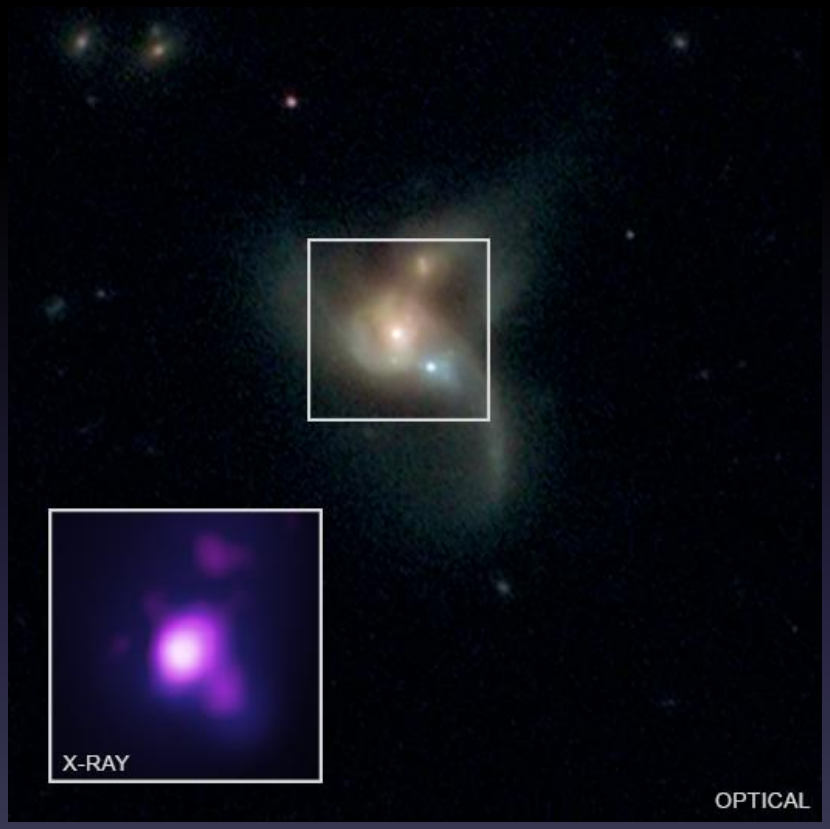

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NASA Press Release: Found: Three Black Holes on a Collision Course

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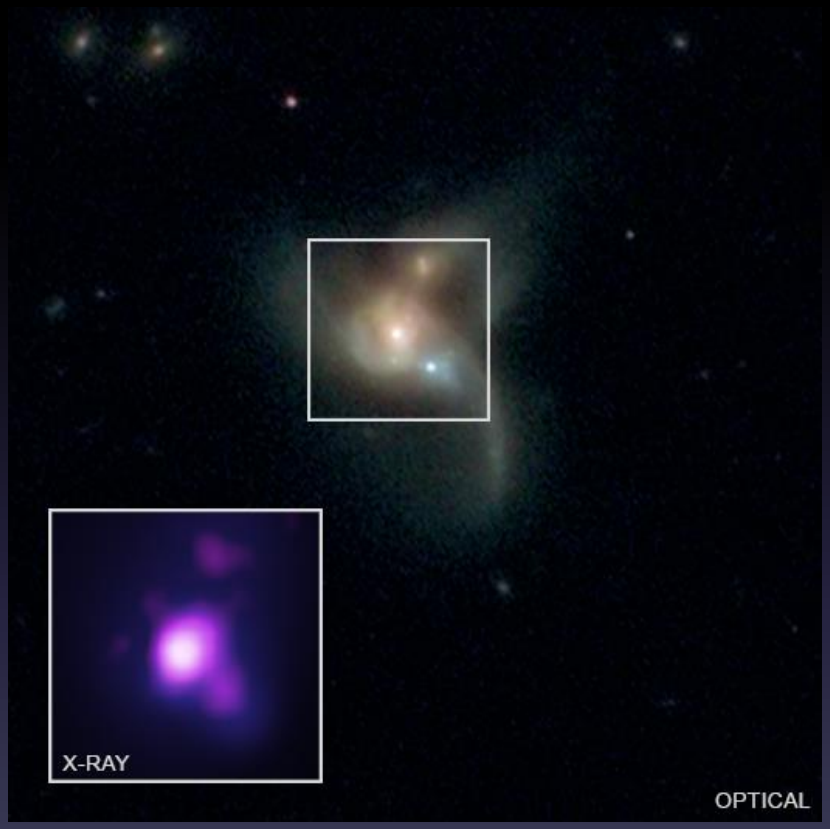

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NASA Press Release: Found: Three Black Holes on a Collision Course

5th NASA Press Release since at GMU

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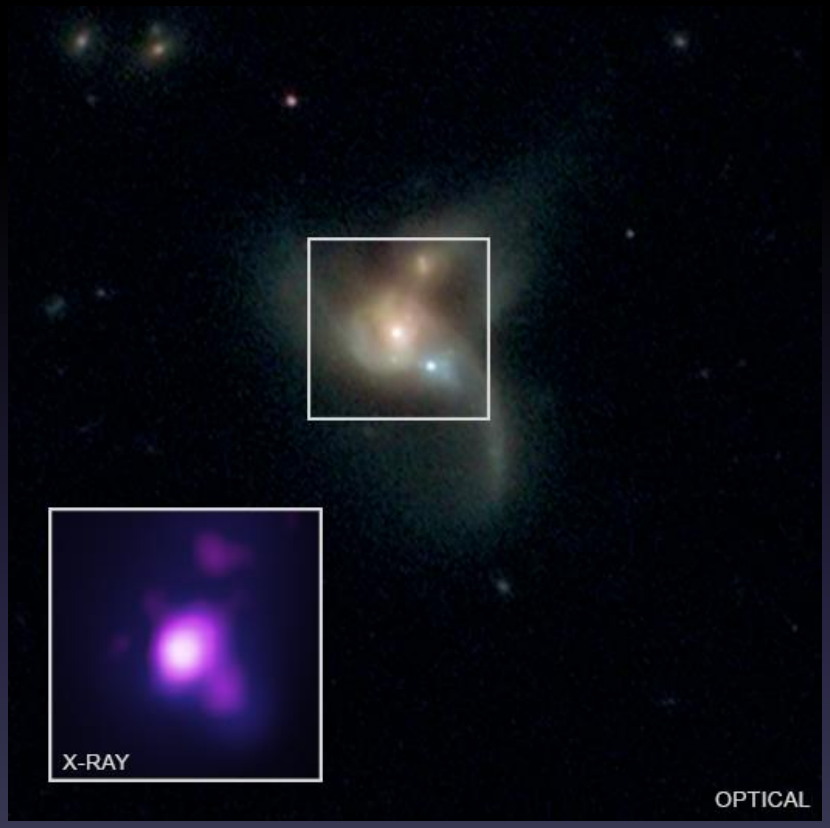

- Only triple AGN confirmed
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(Pfeifle et al. 2019, ApJ)

NY Times, CNN, International Coverage, Top of Google Science News

Why is this important?

- Only triple AGN confirmed in Universe !
- We developed an innovative selection strategy to find them
- Possible solution to "final parsec problem"
- Will give rise to the loudest GW sirens in the Universe
- Can eject black holes out of galaxies

What's next:

"The real voyage of discovery consists not in seeking new landscapes, but in having new eyes"

-Marcel Proust

The Promise of JWST

"The real voyage of discovery consists not in seeking new landscapes, but in having new eyes"

-Marcel Proust


Stay tuned for JWST

Collaborators

Nathan Secrest
Jenna Cann
Ryan Pfeifle
Jason Ferguson
Sara Ellison
Laura Blecha
Claudio Ricci
Anca Constantin
Mario Gliozzi

Barry Rothberg
Gabriela Canalizo
Thomas Bohn
Rem Sexton
Christina King
Nick Abel
William McAlpine
Paul McNulty
Jackie Fischer

Funding: NASA, 4VA

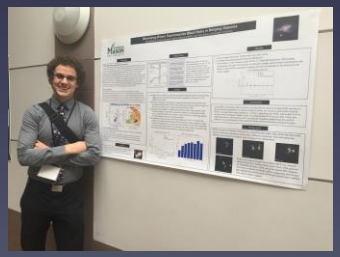
Current and Recent Students

- Jenna Cann (3rd year)
- Ryan Pfeifle (3rd year)
- Willaim Matzko(1rd year)
- Lara Kamal (undergrad)
- Nathan Secrest (USNO)
- Paul McNulty (NYU)
- William McAlpine
- Rachel Dudik (USNO)







Recent Publications (16 in last 5 yrs)

- A Triple AGN in a Mid-Infrared Selected Late Stage Galaxy Merger*, Pfeifle, Satyapal, et al. 2019, ApJ, 883,187
- *Buried Black Hole Growth in IR-Selected Mergers: New Results from Chandra**, Pfeifle, Satyapal, et al. 2019, ApJ, 875, 117
- *The Limitations of Optical Spectroscopic Diagnostics in Identifying AGNs in the Low Mass Regime**, Cann, Satyapal, et al. 2019, ApJ, 870, L2
- *The power of infrared AGN selection in mergers: a theoretical study,* Blecha, Snyder, Satyapal, Ellison 2018, MNRAS, 478, 3056
- *The Hunt for Intermediate Mass Black Holes in the JWST Era**, Cann, et al. 2018, ApJ, 861, 142
- *Star-forming Galaxies as AGN Imposters? A Theoretical Investigation*,* Satyapal, Abel, Secrest 2018, ApJ, 858, 38
- *Measuring the black hole mass in ultraluminous X-ray sources**, Jang, Gliozzi, Satyapal, Titarchuk, L. 2018, MNRAS 473,136
- *Buried AGNs in Advanced Mergers: Mid-infrared Color Selection as a Dual AGN Candidate Finder**, Satyapal, 2017, ApJ, ApJ, 848, 126
- *Discovery of a dual active galactic nucleus with ~8kpc separation,* Ellison, Secrest, , Mendel, Satyapal, Simard, 2017, MNRAS, 470, L49
- *The luminosity and stellar mass functions of red W1-W2 galaxies**, O'Connor, Rosenberg, Satyapal, S, Secrest, 2016, MNRAS, 463,811
- *An Optically Obscured AGN in a Low Mass, Irregular Dwarf Galaxy*,* Secrest, , Satyapal, et al. 2015, ApJ, 798, 38
- *Galaxy pairs in the Sloan Digital Sky Survey - VIII: Merger-induced AGN activity as traced by WISE,* Satyapal, et al. 2014, MNRAS, 441,1297
- *Discovery of a population of bulgeless galaxies with extremely red Mid-IR colors* Satyapal, S., et al. 2014, ApJ, 784, 113

Thank You!

Black Hole Galaxy Connection Group
George Mason University

bgc.physics.gmu.edu

GEORGE MASON UNIVERSITY
BOARD OF VISITORS

Finance and Land Use Committee Meeting
December 12, 2019

AGENDA

I. Call to Order

II. Approval of Minutes for October 10, 2019 (**ACTION**)

III. Financial Overview
- A. FY 2019 Unaudited Financial Statements
- B. FY 2020 Q1 Financial Report and Forecast
- C. FY 2021 Financial Outlook

IV. New Business
- A. Resolution to Proceed on Tier 3 (**ACTION**)
- B. GMU Capital Lease BOV Resolution **(ACTION)**
- C. PPEA Solicitation **(ACTION)**

V. Operational Matters
- A. Retirement Plan Investment Policy Review

VI. Closed Session
- A. Acquisition or Disposition of Real Property (Code of VA: §2.2-3711.A.3)

VII. Adjournment

APPENDIX A	Senior Vice President Signature Delegation Authority
APPENDIX B	Capital Projects Review (Stoplight)

GEORGE MASON UNIVERSITY
FINANCE & LAND USES COMMITTEE
BOARD OF VISITORS

MINUTES
October 10, 2019
12:10 p.m. – 1:00 p.m.
Merten Hall, Room 1201, Fairfax Campus

PRESENT: Rector Davis; Committee Chair Turner Roth; Vice Chairman Reagan; Visitors Blackman, Hazel, Iturregui, Moss, Rice; Interim President Holton, Senior Vice President Kissal; Vice President for Facilities Strike; Faculty Senate Chair Davis; Faculty Representatives Thompson and Venigalla; Student Representatives Gelbvaks and Layton; Secretary *pro tem* Lagos

I. Call to Order

Committee Chair Roth convened the meeting at 12:10 p.m.

II. Approval of Minutes

Committee Chair Roth requested a **MOTION** to approve the minutes of the May 2, 2019 Finance and Land Use Committee as presented. It was so **MOVED** by Visitor Blackman. **MOTION CARRIED UNANIMOUSLY**.

III. New Business

A. Financial Overview

Committee Chair Roth opened the meeting by thanking Senior Vice President Kissal and team for Mason's achievement of receiving an inaugural issuer rating from Moody's Investor Service of Aa3 with a stable outlook. This exciting news is a reflection of Mason's market strength, financial health, and sound financial practices. Chair Roth turned the meeting over to Carol Kissal, Senior Vice President for Administration and Finance.

Ms. Kissal provided an overview of the new financial framework, the FY 2019 financial results, and the macroeconomic landscape. The financial overview included a preview of the University's enhanced approach to financial planning and analysis, forecasting, and budget reporting. This approach accelerates the financial performance review so it may be seen on an unaudited basis and provides the Committee with a better understanding of current financial operations.

This approach will implement a best-practice financial framework during FY 2020-2021 and will provide alignment with the President's FY 2020 Goals by building a financial structure that allows for financial analysis and strategic decision making in furtherance of the academic goals of the institution.

Senior Vice President Kissal provided a brief overview of the University's budget governance which now includes a more integrated, strategic planning and budgeting framework. The University Budget and Planning Advisory Committee has been established by Rene Stewart-O'Neal, Associate Vice President for Strategic Planning & Budgeting. The Committee will discuss the framework, procedures and dialogue around how to allocate resources and prioritize our efforts while aligning with our University goals. In addition, the Budget Ways & Means Committee has been established as a decision-making body for regular and off-cycle budget requests which align Strategic Plan priorities with 6-year Plan priorities and annual goals.

Ms. Kissal reported that a best-practice financial framework will be developed in alignment with the President's goals and implemented during FY 2020 - 2021. As we move toward implementing a more integrated planning framework there are certain components that will need to be included in order to continue our progress and evolve to meet our growth. The major components are:

- Development of standardized reports for monitoring budget vs. actual activity
- Crosswalk of revenues/ sources and expenses/uses between GAAP results and budget
- Quarterly financial statements and forecasts, including analytical review of results (which will facilitate effective financial management oversight and strategic planning).
- Benchmarking to peer institutions for standard measures
- Alignment with President's Institutional Effectiveness Goals
- Performance measures to assess financial health and quantify resource needs and acceptable risk levels for strategic decision-making

SVP Kissal provided a high-level analytical review of the variances between the FY 2019 actuals and the FY 2019 operating budget (approved by the Board in May 2019). She also provided a crosswalk from the FY 2019 actuals to the FY 2019 unaudited accrual basis financial results. The variances demonstrate the need for a financial framework and integrated budget, with alignment of Chart of Accounts and department structures to support operational review and resource planning.

Referencing Slide 12 (Statement of Net Position: FY 2015 – 2019), Ms. Kissal reported good news - total Net Position at 6/30/19 is $794M which increased from $680M in FY 2018. Overall, we are in a very healthy financial position as reflected by our new Aa3 inaugural issuer rating from Moody's Investor Service. The rating demonstrates the University's ability to operate at the highest level of accountability, and is necessary to obtaining Tier 3 autonomy under the Virginia Higher Education Restructuring Act. The next step in the Tier 3 process requires a BOV resolution at the December 12th BOV

Meeting whereby the Board agrees for GMU administration to negotiate with the Governor to develop a management agreement to exercise additional financial and administrative authority.

As we plan and budget for the coming year we need to consider the impact of the market and economic factors in the event of a recession or an economic slow-down. SVP Kissal provided a brief overview of the macroeconomic factors the University is monitoring in the event of an economic recession. While the country's GDP strengthened in 2019 it is forecasted to significantly slow down over the next couple of years. It is something to be cognizant of as we determine investments in key programs.

B. **State Six-Year Operating Plan (ACTION)**

Senior Vice President Kissal provided an update on Mason's Six-Year Operating Plan. The plan outlines key academic program initiatives, financial projections, and institutional goals for consideration by the Commonwealth in developing the state budget. The plan focuses on enrollment, degree production, financial aid, successful student outcomes and economic impact relative to cost. The Six-Year Operating Plan aligns with our University goals and is consistent with the Virginia Plan for Higher Education.

Mason funding disparities remain. In terms of total funding, Mason is operating with ~74% of the total resources available to the other Commonwealth doctoral institutions. To address the disparity in General Fund resources provided per in-state student would require ~$41M of additional state support. Mason's top strategic funding requests include: Providing affordable access for all students (financial aid); Support for competitive salary compensation (FY 21); Enrollment growth; and, support for new faculty hires (FY 21).

Chair Roth requested a **MOTION** to recommend the Board of Visitors approve the University's Six-Year Operating Plan as shown in the Board Book. It was so **MOVED** by Visitor Reagan. **MOTION CARRIED UNANIMOUSLY**.

C. State Six-Year Capital Plan Update

Mason's Six-Year Capital Plan: 2020-2026 was modified relative to the Proposed Six-Year Capital Plan: 2020-2026 prior to the submission to the Commonwealth. SVP Kissal updated the Committee on the modifications (Slide 29). IDIA Institute for Digital Innovation Building & Garage (the Arlington District expansion) – Mason's Capital Budget Request revision changed the Mason portion of the $84M from gift to 9d debt (or Capital Lease) to be repaid by gifts. PPEA portion of the project will be determined based on the market. The Aquatic & Fitness Center Renovations and Parking Garage IV were omitted from the submission to avoid increasing Mason debt.

D. Online Graduate Program Tuition Proposal (ACTION)

College students want more options and flexibility when it comes to online learning. The university brings to the Board two new fully-online graduate programs for tuition approval. The programs will be offering courses online in the Spring of 2020. They are:

1. Master of Science in Health Informatics & Data Analytics
   The University is seeking to set the tuition rate on this program for both in-state and out-of-state students at $800 per credit hour.

2. Master of Music in Music Education
   The university is seeking to set the tuition rate on this program for both in-state and out-of-state students at $820 per credit hour.

Chair Roth requested a **MOTION** to recommend the Board of Visitors approve the University's Graduate Online Tuition Proposal as outlined in the Board Book. It was so **MOVED** by Visitor Hazel. **MOTION CARRIED UNANIMOUSLY.**

IV. Capital Matters

A. Land Use Certification (ACTION)

Virginia Code §2.2-1153 requires agencies and institutions to submit a Land Use Plan annually to the Department of General Services (DGS) showing present and planned use of each property owned. This is primarily for the purpose of identifying whether the Commonwealth should declare any such property surplus. The code requires certification by the Board of Visitors. The significant changes since last year's report are the partial demolition of the Robinson Building. Also, one easement was added to the Main Campus at Fairfax and one easement was added to the Point of View site. Both easements are related to water service.

Chair Roth requested a **MOTION** to recommend the Board of Visitors approve the University's Land Use Certification spreadsheet as shown in the Board Book. It was so **MOVED** by Visitor Blackman. **MOTION CARRIED UNANIMOUSLY.**

Meeting adjourned at 12:55 p.m.

Jeanmerie Lagos

Jeanmerie Lagos
Secretary *pro tem*

ITEM NUMBER III.A.–C.: **FINANCIAL OVERVIEW**

PURPOSE OF ITEM: To provide the Board of Visitors with an overview of financial results and the budget planning process.

APPROPRIATE COMMITTEE: FINANCE AND LAND USE

BRIEF NARRATIVE: The Senior Vice President for Administration and Finance will provide an overview that will include:

A. FY 2019 unaudited financial results compared to FY 2018 financial statements and FY 2019 financial highlights.

B. Also, highlight results for the first quarter of FY 2020 along with a comparison of FY 2020 Q1 Actuals to FY 2020 Annual Budget.

C. In addition, a brief overview of the budget planning process by outlining the timeline for budget planning deliverables for the State and GMU along with a summary of key budget assumptions for FY 2021.

STAFF RECOMMENDATION: For Board information only.

ITEM NUMBER IV.A.: **RESOLUTION FOR BOARD OF VISITORS TO AUTHORIZE SENIOR MANAGEMENT TO ENTER INTO NEGOTIATIONS WITH GOVERNOR AND APPROPRIATE CABINET SECRETARIES TO DEVELOP A MANAGEMENT AGREEMENT UNDER THE RESTRUCTURED HIGHER EDUCATION FINANCIAL AND ADMINISTRATIVE OPERATIONS ACT (ACTION)**

PURPOSE OF ITEM: Mason is requesting to enter negotiations for additional delegated authority under the Commonwealth's Restructured Higher Education Financial and Administrative Operations Act of 2005 ("the Act").

APPROPRIATE COMMITTEE: FINANCE AND LAND USE

BRIEF NARRATIVE: The Act affords Virginia institutions of higher education the opportunity to operate at varying levels of authority.

In 2005 Mason was granted delegated authority regarding surplus property, leasing and easements ("Tier 1" or "Level 1"). In 2009, Mason was granted delegated operational authority in the areas of Procurement and Information Technology ("Tier 2" or "Level 2"). In 2016, pursuant to a five-year pilot program, Mason was granted additional delegated authority for capital projects and certain financial operations ("Tier 2.5" or "Level 2.5"). This authority is currently scheduled to terminate on June 30, 2021.

In order to preserve its delegated authority under Tier 2 and 2.5 and to obtain increased delegated authority, Mason is requesting authority to negotiate a management agreement ("Tier 3" or "Level 3"authority").

In October 2019, Mason obtained an issuer credit rating from Moody's of Aa3, fulfilling a Tier 3 prerequisite.

The Code of Virginia requires a Resolution be passed by the Board of Visitors ("Board") showing an absolute two-thirds of the Board support Mason's request for restructured operational authority under a management agreement. The Resolution also authorizes the President and Senior Vice President for Administration and Finance to enter into negotiations with the Governor and appropriate Cabinet Secretaries to develop a management agreement with the Commonwealth as provided for in the

Act that will grant the greatest degree of financial and managerial autonomy to the University as provided in Article 4. The negotiated management agreement shall be submitted to the Board for its review and approval.

STAFF RECOMMENDATION: The staff recommends Board approval of this resolution.

RESOLUTION OF THE BOARD OF VISITORS OF GEORGE MASON UNIVERSITY TO AUTHORIZE NEGOTIATION WITH THE GOVERNOR TO DEVELOP A MANAGEMENT AGREEMENT UNDER THE RESTRUCTURED HIGHER EDUCATION FINANCIAL AND ADMINISTRATIVE OPERATIONS ACT OF 2005

WHEREAS, the 2005 Session of the General Assembly enacted Chapters 933 and 945, Acts of Assembly, known as the Restructured Higher Education Financial and Administrative Operations Act (the "Act") now codified at Chapter 10 of Title 23.1, Sections 23.1-1000, et seq. of the Code of Virginia (1950), as amended; and

WHEREAS, on May 11, 2005, the Board of Visitors passed a resolution that committed George Mason University (the "University") to meeting the goals of the Act as set forth in former Virginia Code § 23-38.88.B (now recodified as § 23.1-1002(A)); and

WHEREAS, the Act includes Article 4 (Virginia Code §§ 23.1-1004 et seq.) entitled "Restructured Financial and Administrative Authority; Covered Institutions; Management Agreements," which sets out the requirements for a public university or college of the Commonwealth to gain the greatest degree of authority over financial and administrative operations, subject to certain accountability, audit and reporting measures specified by the General Assembly of Virginia; and

WHEREAS, it is the sense of the Board of Visitors that the University is qualified to be, and should be, governed by the authorizations and requirements set forth in Article 4 of the Act and as may otherwise be prescribed by applicable law;

NOW, THEREFORE, BE IT RESOLVED BY THE RECTOR AND VISITORS OF GEORGE MASON UNIVERSITY, that the Board of Visitors hereby attests to the ability of the University to manage successfully its administrative and financial operations without jeopardizing its financial integrity and stability; and accordingly authorizes the President of the University to submit to the Governor a written request for the University to be governed by Article 4 of the Act, providing a copy of such written request to the Chairpersons of the House Committee on Appropriations, the House Committee on Education, the Senate Committee on Finance, and the Senate Committee on Education and Health. The University's request shall be supported by the documentation called for by 23.1-1004 and 23.1-1005 of the Virginia Code, including documenting the University's expertise and resources to perform successfully its public educational mission and setting forth its performance and accountability standards; and

BE IT FURTHER RESOLVED, that the President and Senior Vice President for Administration and Finance are authorized to enter into negotiations with the Governor and appropriate Cabinet Secretaries to develop a management agreement with the Commonwealth as provided for in the Act that will grant the greatest degree of financial and managerial autonomy to the University as provided in Article 4, which management agreement shall be submitted to the Board of Visitors for its review and approval.

Adopted: December 12, 2019

_____

Secretary

ITEM NUMBER IV.B.: **RESOLUTION TO APPROVE AN AMENDMENT OF CAPITAL LEASE WITH GEORGE MASON UNIVERSITY FOUNDATION ("GMUF") PRINCE WILLIAM HOUSING LLC (ACTION)**

PURPOSE OF ITEM: GMUF is completing a taxable, fixed rate, refunding of their 2011A tax-exempt and 2011B taxable Prince William County Industrial Development Authority Revenue Bonds (GMUF Prince William Housing LLC Project). GMUF and GMU will be entering into an amended capital lease due to the refunding of the bonds on Beacon Hall, a housing and retail building on Science and Technology campus.

APPROPRIATE COMMITTEE: FINANCE AND LAND USE

BRIEF NARRATIVE: The Commonwealth of Virginia requires a Resolution be passed by the participating institution's governing body and approval by the Treasury Board prior to the University entering into a capital lease. This capital lease amendment will be executed in conjunction with GMUF's refunding. GMUF's new financing is anticipated to close on or before March 31, 2020. This advance refunding is being executed in order to reduce the University's annual lease payment obligation.

This required resolution will allow the University to enter into an amended capital lease with GMUF Prince William Housing LLC and authorize the President and/or Senior Vice President for Administration and Finance to approve, execute, and deliver all related documents necessary for the University to enter into an amended capital lease with GMUF for this bond refunding.

STAFF RECOMMENDATION: The staff recommends BOV approval of this resolution.

RESOLUTION OF THE BOARD OF VISITORS OF GEORGE MASON UNIVERSITY TO APPROVE AMENDMENT OF CAPITAL LEASE FOR STUDENT HOUSING BUILDING IN PRINCE WILLIAM

WHEREAS, the Industrial Development Authority of the County of Prince William issued its Tax-Exempt Student Housing Revenue Bonds (George Mason University Foundation Prince William Housing LLC Project) Series 2011A (the "Series 2011A Bonds") in the original aggregate principal amount of $14,640,000 and its Taxable Student Housing Revenue Bonds (George Mason University Foundation Prince William Housing LLC Project) Series 2011B (the "Series 2011B Bonds" and, together with the Series 2011A Bonds, the "Series 2011 Bonds") in the aggregate principal amount of $985,000 for the benefit of George Mason University Foundation Prince William Housing LLC (the "LLC") in connection with the acquisition, construction and equipping of a student residence hall consisting of approximately 152 beds and common/support spaces, in approximately 80,858 total square feet of space, plus associated parking, approximately 10,000 square feet of university program space and approximately 15,000 square feet of unimproved shell space (collectively, the "Facilities"), all with respect to a building owned by the LLC and located across George Mason Circle from the Hylton Performing Arts Center at the western edge of the Prince William Campus of George Mason University (the "University"); and

WHEREAS, in connection with the issuance of the Series 2011 Bonds, the University entered into a capital lease (the "Lease") between the LLC, as lessor, and the University, as lessee, with respect to certain premises, including the Facilities; and

WHEREAS, the LLC has determined to refinance its debt incurred in connection with the issuance of the Series 2011 Bonds (the "Refinancing"), which debt is secured, in part, by an assignment of the rent payments made by the University pursuant to the Lease;

WHEREAS, in order to facilitate the Refinancing, the University wishes to enter into an amendment of the Lease (the "Amendment") to adjust the rent payments thereunder and update certain provisions thereof; and

WHEREAS, the proposed terms of the Amendment have been presented to the Board of Visitors of the University (the "Board").

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF GEORGE MASON UNIVERSITY THAT:

1. The Board hereby authorizes the University to enter into the Amendment consistent with the terms presented to the Board.

2. The President and the Senior Vice President for Administration and Finance, either of whom may act alone, are hereby authorized and directed to execute and deliver the Amendment and all related certificates and instruments and to take all such further action as may be considered necessary or desirable in connection with the Refinancing.

3. The resolution shall take effect immediately.

Adopted: December 12, 2019

_____

Secretary

ITEM NUMBER: IV.C.

APPROVAL TO USE THE PUBLIC PRIVATE EDUCATION AND INFRASTRUCTURE ACT (PPEA) TO ISSUE A REQUEST FOR PROPOSAL (RFP) FOR THE INSTITUTE FOR DIGITAL INNOVATION (ACTION)

PURPOSE OF ITEM:

This item seeks approval by Board of Visitors to use the PPEA to issue an RFP for the Institute for Digital InnovAtion at the Arlington Campus.

APPROPRIATE COMMITTEE:

FINANCE AND LAND USE

BRIEF NARRATIVE:

With strong backing from the University's many community and corporate partners, Mason's president and Board of Visitors have previously identified the Arlington Institute for Digital InnovAtion (IDIA) as the University's top fundraising priority. The Commonwealth of Virginia has committed to provide $125 million in state funding for the advancement of Masters Degrees in technology fields, contingent upon Mason's ability to match these funds with another $125 million in private fundraising. Already, the Commonwealth has authorized the University to spend $7.5 million of University funds for demolition of the "Original Building," an outdated structure at the Arlington Campus that is no longer in use.

Of the $125 million of state support, $84 million has been designated for capital support specifically the construction of a new building. As such, the University plans to pursue the development of the IDIA, which will encompass approximately 360,000 gross square feet (GSF) of academic and office space and 145,520 GSF for the associated parking. Due to the collaborative nature of the development, having collocated private sector office space, coworking, retail, and academic classrooms, the University plans to use the PPEA to enable its

development. Currently, the academic portion of the facility will be approximately 225,000 gross square feet. The additional building uses are planned to be private office space and retail. The building is also anticipated to have 391 parking spaces, allocated across the uses (221 Academic spaces and 170 Private spaces). This is anticipated to be a $242.5 million dollar initiative, with $84 million provided by state capital support as noted above, $76.5 million provided by the University through fundraising or interim debt sales, and finally approximately $82 million of private funding from the selected developer.

University PPEA Guidelines call for Board approval at four milestones in any PPEA project;
- Initial decision to issue an RFP utilizing the PPEA
- Selection of development partner
- Execution of any Interim Agreement
- Execution of the Comprehensive Agreement

To achieve the vision and execute in the timeframe allotted to have an open academic facility by September 2025, the University seeks approval to issue a Conceptual Request for Proposals (Conceptual RFP) to select a real estate development partner for the IDIA in early 2020. This partner is anticipated to provide design-build services for the academic uses and construct private office and retail space that will facility student and professional interactions, while supporting the innovative, experiential learning aspect of the new Computing School and programs. This project is intended to be a true collaboration, which again will require the flexibility and guidance provided through the PPEA authority.

STAFF RECOMMENDATION:

Approve use of PPEA to issue a Conceptual RFP for the IDIA at the Arlington Campus.

ITEM NUMBER V. A.: **INVESTMENT POLICY COMMITTEE ANNUAL UPDATE**

PURPOSE OF ITEM: The Investment Policy Statement for the University's Optional Retirement and Cash Match Plans requires that the Investment Policy Committee (IPC) report annually to the BOV the additions, deletions or changes in investment options made available to faculty and staff under the Plans.

APPROPRIATE COMMITTEE: FINANCE AND LAND USE

BRIEF NARRATIVE: The University provides certain investment options under the Plans. The IPC, with the assistance of an investment consultant, periodically reviews the performance of the funds in the plans to ensure they continue to meet Investment Policy Statement Guidelines.

Over the last year, the IPC, along with the University's investment consultant:

- Worked with Fidelity and TIAA to reduce fees for both plans resulting in a combined annual savings of over $570,000.
- Migrated several funds to a lower cost share class.
- Continue emphasis on retirement and financial wellbeing through various seminars, web-ex events, and other on-campus support
- Replaced several underperforming funds in the plans.

STAFF RECOMMENDATION: For Board information only

Signature Delegation Authority

The Senior Vice President for Administration and Finance is authorized by the President of George Mason University, pursuant to authority granted by the Board of Visitors, to sign contractual documents that adhere to the following restrictions:

Contractual Documents	Not to Exceed Term	Not to Exceed Value
Contracts, leases, or any other documents by which the University leases or acquires a leasehold interest in real estate.	5 years	$1,000,000
Contracts, leases, or any other documents by which the University leases any of its real estate.	1 year	$250,000 annually
Contracts or other agreements by which the University acquires goods, equipment, or supplies, other than construction.	n/a	$2,000,000
Contracts or other agreements by which the University acquires services, including those that generate revenue, but other than construction.	n/a	$5,000,000 one-time or annually
Employment contracts with standard perquisites.	3 years	$500,000 annually
Contracts or other agreements for capital projects that are in accord with the approved budget.*	n/a	n/a
Sale of goods or services.	n/a	$1,000,000

OTHER CONTRACTUAL DOCUMENTS:
Gift Agreements; University Administrative Policies; Agreements resolving student disciplinary matters that do not involve the expenditure of public funds; Applications for ABC Licenses with the Virginia Department of Alcoholic Beverage Control; Approval of reimbursement requests for the President's direct reports; Transfers of intellectual property of the University to George Mason Intellectual Properties, Inc. (GMIP) and powers of attorney for the purposes of transfer or protection of intellectual property; All other financial and non-academic administrative documents that the President is authorized to sign pursuant to the Bylaws of the Board of Visitors, Board Resolutions, or state law. Also granted authority to sub-delegate signature authority.
*Including goods, equipment or services.

Appendix B: Capital Projects Review

This section provides the regular report on the status of capital construction projects on all three university campuses. The project "stoplight" chart provides a summary review. For purposes of black and white printing, all stoplights are "Green" unless otherwise noted. Scoring definitions:

- "Red": Likely to exceed approved budget, schedule, or scope
- "Yellow": At risk to exceed approved budget, schedule, or scope, but can still recover
- "Green": Within approved budget, schedule, or scope
- "White": on-hold

Changes/updates since the October 2019 report include:

- Construct/Renovate Robinson Hall, New Academic and Research Facility and Harris Theater - Phase 2 work is underway with steel frame anticipated to be complete by November 22, 2019. Site utility work is nearing completion as well. Next steps include envelope dry in to occur early spring 2020. The new building remains on schedule to open for the spring of 2021 semester. Phase 3, which includes demolition of Robinson B, site work and renovation of Harris Theater, is fully permitted and will start as soon as Phase 2 is complete in spring of 2021.

- Improve Utility Distribution Infrastructure Fairfax - Construction work is complete on phases 1A (near Thompson Hall), 1B (south of Johnson Center), phase 1C (Patriot Circle to Eagle Bank Arena), phase 2A (south of College Hall and Buchannan Hall), phase 2B (south of West Building and is currently in closeout. Phase 3 (Wilkins Plaza Extension from clock tower to Southside) pipe installation and HTHW work is complete. New concrete site walls are wrapping up, next steps include installation of concrete underslab so that a new pavers and site furnishings can be installed. Work to finish this phase will continue through the Fall 2019 semester with work scheduled for completion in late Spring 2020 – work in phase 3 has seen some delays due to additional scope and coordination with unforeseen underground utilities. Phase 4 (from Southside east to the Central Heating and Cooling Plant) work is well underway with pipe installation approximately 50% complete. This work is the most complicated in terms of pipe size and layout. The work is scheduled for completion in Spring of 2020. Work on a series of chilled water outages started in late October to enable major pipe replacement and tie-ins over winter break. Phase 5 (East Plaza of Johnson Center) will start over winter break of 2019/2020 with installation of fencing and etc. Finally, Phase 6 work was also started over this past summer – this work included construction of a new HTHW tunnel in the area of Rappahannock Housing neighborhood. This work in Phase 6 will resume next summer to replace all HTHW and Chilled Water piping in this housing neighborhood.

- PPEA Discovery Hall Ph. II & Fit-out/Clean Room – The Certificate of Occupancy for the Fit-out project was received May 2018.The Clean Room Project has begun construction. Due to time expended to resolve budget negotiations the construction start was delayed and the projected

occupancy date has also been delayed by six weeks. A number of conflicts have been discovered between existing and planned mechanical equipment. The additional coordination needed to address these conflicts puts the schedule at risk of extending beyond the stated completion date.

- Hylton Performing Arts Center Addition – Substantially complete October 21, 2019 with the exception of the large rehearsal space which should be complete prior to ribbon cutting ceremony in December.

- Telecom Infrastructure – Division of Engineering and Buildings (DEB) funding review of Schematic design is complete. Consultant is proceeding with the Preliminary documents which should be submitted to DEB for comment and final funding report prior to the end of January.

- Life Sciences Bull Run Hall IIIB – Programming is complete. Schematic Design has commenced. Responses to the Request for Qualifications for Construction Managers have been received and are being evaluated. The funding amount approved by the Commonwealth is $58,946,302 which is significantly below the $67M estimate of probable cost developed by Mason based upon DEB historical project costs.

- Relocate Storm Water Infrastructure and Demolish Original Bldg. – Mason is engaged in ongoing discussion with the County regarding routing of the storm water and is nearing agreement. DEB has approved Mason's request to deliver the project using the Construction Manager at Risk Delivery Method. It is anticipated that the solicitation for Qualifications for Construction Managers will be issued in late November.

- Johnson Center HVAC Repairs – Preliminary documents have been approved and Consultant is proceeding with working drawing submittal. Consultants cost estimate is higher than the original projected estimate.

- Hylton Performing Arts Center HVAC Repairs – Preliminaries approved. Working drawings will be submitted in November. Construction anticipated to start after graduation and will be phased.

STAFF RECOMMENDATION: For Board Information Only

Facilities Projects Listing

Project #	Project Name	Scope(sf) New	Scope(sf) Reno	Total Budget	Budget Status	Schedule	Scope	Construction Start date	Occupancy date	Construction % Complete
	Construction									
Multiple	Eagle Bank Arena Upgrades		82,000	$ 4,845,000				12/1/2016	8/22/2019	99.0%
18011-000	Hylton Center Addition*	17,082	360	$ 13,481,383				8/1/2018	10/15/2019	99.0%
18207-000	Renovate Robinson Hall and Harris Theater (Phased)*	217,726	23,161	$ 119,631,000				7/1/2018	12/31/2021	28.5%
18208-000	Improve Utility Distribution Infrastructure Fairfax (Phased)*			$ 51,539,000				8/1/2018	12/31/2021	48.0%
17848-000	PPEA Discovery Hall Ph II & Fitout/Clean Room	18,000		$ 6,561,287				6/17/2019	3/31/2020	75.0%
	Design									
18339-000	Telecom Infrastructure*			$ 10,053,000				12/1/2020	1/1/2021	N/A
18000-000	Life Sciences - Bull Run Add DPB*	100,000	5,000	$ 58,946,302				4/1/2021	8/1/2023	N/A
A8247-027	Johnson Center HVAC Repairs			$ 3,049,500				9/1/2020	12/1/2021	N/A
A8247-024	Hylton Center HVAC Repairs		112,352	$ 4,025,000				5/1/2020	2/15/2021	N/A
	Planning									
247-18423-000	Relocate Storm Water Infrastructure and Demolish Original Bldg.			$ 7,500,000				8/1/2020	8/1/2021	N/A
	Grand Total This Report	**352,808**	**222,873**	**279,631,472**						

Data as of November 2019

* Pool Funded Project; will require DPB/DEB approval for release of funds after Preliminary Design

STOPLIGHT KEY	
Red: Likely to exceed approved budget/schedule/scope	
Yellow: At risk to exceed approved budget/schedule/scope	
Green: Within approved budget/schedule/scope	

Board of Visitors

Finance and Land Use Committee

Office of the Senior Vice President | December 12, 2019

Agenda

I. Call to Order

II. Approval of Minutes for October 10, 2019

III. Financial Overview

- A. FY 2019 Unaudited Financial Statements
- B. FY 2020 Q1 Financial Report
- C. FY 2021 Financial Outlook

IV. New Business

- A. Resolution to Proceed on Tier 3 (ACTION)
- B. Resolution GMU Capital Lease (ACTION)
- C. PPEA Solicitation (ACTION)

V. Operational Matters

- A. Retirement Plan Investment Policy Review

VI. Closed Session

- A. Acquisition or Disposition of a Real Property (Code of VA: §2.2-3711.A.3)

VII. Adjournment

APPENDIX A Senior Vice President Signature Delegation Authority

APPENDIX B Capital Projects Review (Stoplight)

Financial Overview

FY 2019 Unaudited Financial Statements

To provide the Board information regarding the University's annual financial statements.

The University's unaudited financial statements have been submitted to the Commonwealth's Department of Accounts and are posted at:

https://fiscal.gmu.edu/wp-content/uploads/2019/11/George-Mason-University-Unaudited-Financial-Statements-for-6.30.19.pdf

The audit is typically conducted during January through March each year.

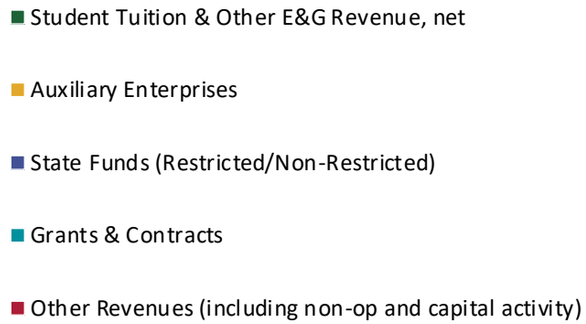
FY 2018/2019 Financial Reporting

George Mason University
FY 2018 and FY 2019 Total Revenues & Expenses - Accrual Basis
($ in millions)

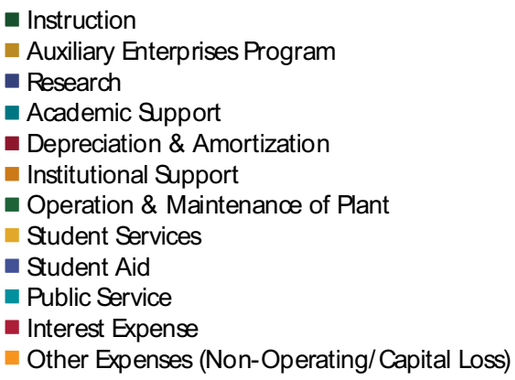
	FY 2018 Audited	FY 2019 Unaudited	% Inc/(Decr)
Revenues			
Student Tuition & Other E&G Revenue, net	$372.8	$392.4	5.3%
Auxiliary Enterprises	204.4	204.7	0.1%
State Funds (Restricted/Non-Restricted)	163.7	169.3	3.4%
Grants & Contracts	121.9	157.6	29.3%
Other Revenues (Including Non-Operating/Capital Activity)	96.2	109.3	13.6%
Total Revenues	**958.9**	**1,033.2**	7.7%
Expenses			
Instruction	298.2	309.5	3.8%
Auxiliary Enterprises Program	145.0	144.1	(0.6%)
Research	79.1	114.0	44.1%
Academic Support	66.3	73.7	11.1%
Depreciation & Amortization	63.7	65.2	2.3%
Institutional Support	47.9	50.5	5.3%
Operation & Maintenance of Plant	51.1	54.2	6.0%
Student Services	30.7	32.1	4.5%
Student Aid	30.1	28.8	(4.3%)
Public Service	21.5	23.3	8.2%
Interest Expense	21.4	20.3	(4.8%)
Other Expenses (Non-Operating/Capital Loss)	13.9	3.3	(76.3%)
Total Expenses	**869.0**	**919.2**	5.8%
Increase in Net Position	**$89.9**	**$114.1**	26.9%

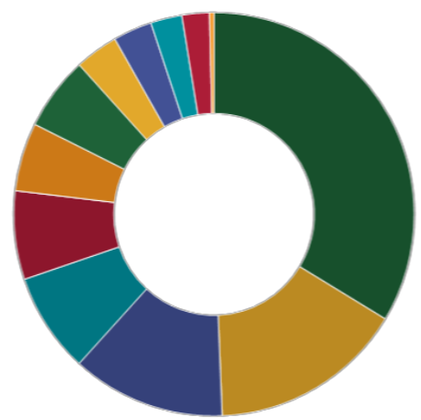
Source: Audited 2018 and Unaudited 2019

Revenues $1,033.2M



Expenses $919.2M





FY 2019 Unaudited Financial Statements

FY 2019 Financial Highlights

- Net tuition increased $19.6M (5.3%) primarily due to a 4% increase in tuition and fees and increased enrollment, partially offset by increases in student aid.
- Grants and Contracts revenue increased $35.7M (29.3%) and related research expenditures increased $34.9M (44.1%) mainly due to increased Department of Defense awards.
- Other revenues increased $13.1M (13.6%) primarily due to a $5.3M net increase in capital appropriations (including the Robinson Hall renovations), $2.6M of donated assets, $2.3M increase in interest income, $2.2M timing of ETF revenue funding, and $1.7M increased Pell grant receipts, partially offset by a $2.7M change in reporting INTO Mason revenue (which is offset by reduced expenses).
- Academic Support expenses higher by $7.4M (11.1%) primarily due to $3.5M in consulting fees for academic projects and a $1.5M increase in non-capitalized computer purchases and maintenance.
- Other expenses decreased $10.6M (76.3%) as FY18 included one-time capital asset write-offs.
- Accounts Receivable write-off reported annually:
  - FY 2019 Student Account Billings increased 6.4% to $604.3M
  - Collection rate of 99.64% remains consistent with prior years
  - The write-off is .36% or $2.15M (approximately four tenths of one percent of FY19 billings)

FY 2020 Q1 Actual and Budget

Cash basis, in thousands	FY 2019	Q1 FY 2020	FY 2020
	Actual	Q1	Budget
Tuition and Fees	$ 433,595	$ 204,765	$ 448,700
State Appropriations	136,249	41,178	154,800
Grants & Contracts	193,085	72,359	244,500
Auxiliary Enterprises	238,989	106,634	257,600
Other Operating Revenue	55,031	43,457	51,400
Capital Grants	22,522	10,796	90,000
Total Revenue	**$ 1,079,470**	**$ 479,189**	**$ 1,247,000**
Salaries and Wages	428,384	109,601	493,949
Fringe Benefits	122,173	34,785	162,452
Total Direct Expenditures*	$ 476,877	$175,164	$ 590,599
Contractual Services	161,242	50,804	-
Travel	20,370	4,992	-
Occupancy	34,084	9,066	-
Supplies	20,217	5,009	-
Equipment	19,642	6,927	-
Capital Expenditures	79,410	24,599	-
Scholarships & Fellowships	101,707	50,025	-
Principal	34,836	22,109	-
Interest	5,013	1,596	-
Other	355	39	-
Total Expenses	**$ 1,027,434**	**$ 319,550**	**$ 1,247,000**

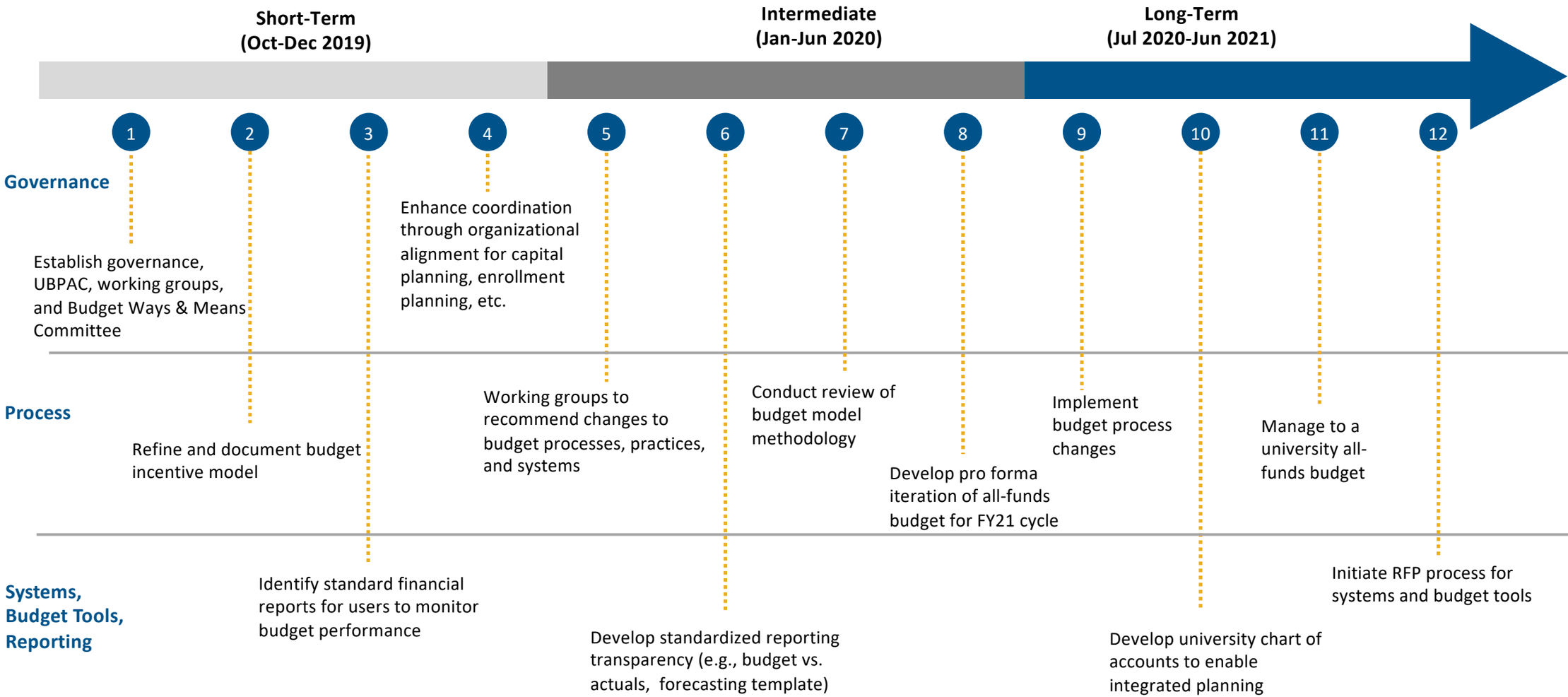
Q1 FY 2020 Key Highlights

- Through Q1, **FY 2020** high level projections on pace with FY 2019
- **Tuition and Fees** represent first semester collections through September 2019
- The growth trajectory in **Research** continues
- **Capital Grants** represent bond proceeds and Mason funds for capital projects (e.g. Robinson Hall)
- **Scholarships & Fellowships** represent Fall semester expenses
- **Principal** is primarily VCBA bond principal paid annually in September
- As part of the **Integrated Budget** planning, in FY 2021 budgeted expenditures will be allocated to line item expenses

**Major contributors of the increase in FY 2020 Budget over FY 2019 Actual are higher research expenditures, capital expenditures, compensation (merit and lower position vacancy rate), and financial aid.*

Budget Planning Assumptions & Financial Outlook

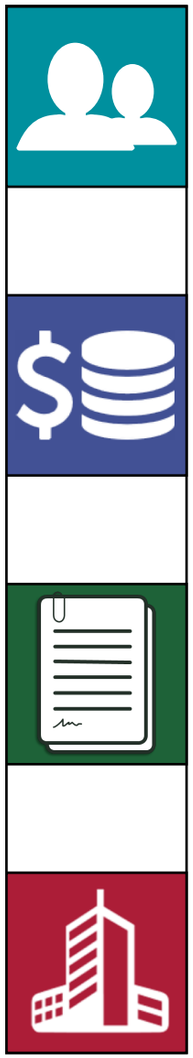
Roadmap for Integrated Strategic Planning & Budgeting



FY 2021 Budget Assumptions

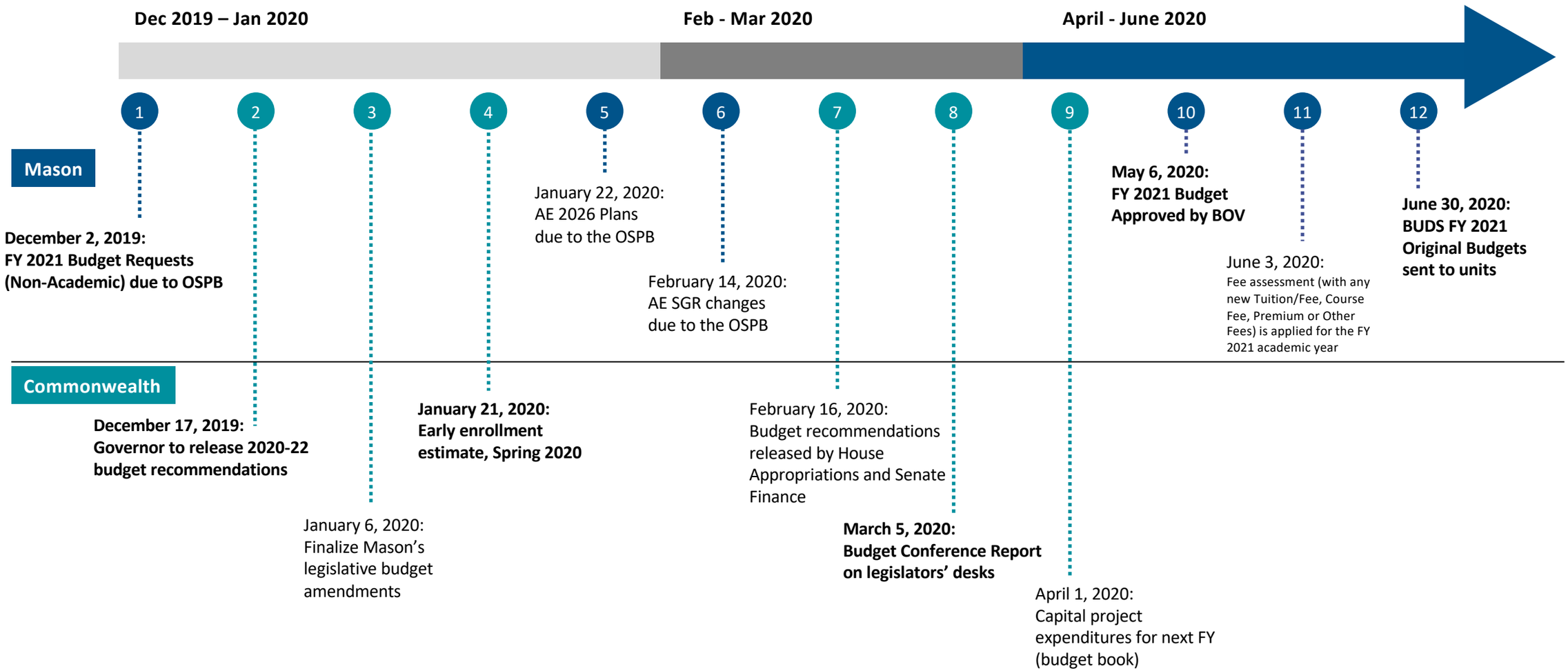
FY21 Baseline Planning Category			Proposed Increase	Funding Source	Rationale for Increase
FTE Enrollment:	**FY20**	**FY21**			
Undergraduate I/S	20,942	21,336	1.9%		Mason's commitment to Commonwealth's higher education enrollment goals
Undergraduate O/S	4,892	5,246	7.2%		
Graduate I/S	4,308	4,487	4.2%		
Graduate O/S	2,432	2,609	7.3%		
Total	32,574	33,678	**3.4%**		
REVENUES					
State Appropriation- Six-Year Plan Request:			21.4%		
Operating Support			$33.6M	GF	Yr1 of multi-year strategy to mitigate Mason's funding disparity; currently receive 74% of avg appropriation for VA doctoral institutions
Financial Aid			$ 5.0M	GF	Affordable access for all students; SCHEV Recommendation: FY21-$3.46M
			$38.6M		
Tuition Rates: Six-Year Plan Request					
Undergraduate I/S and O/S			**5.0%**	NGF	Support enrollment growth, student success and retention and academic & research initiatives
Graduate I/S and O/S			**3.5%**	NGF	
Non E&G Mandatory Fees			**3.0%**	NGF	Instructional programs, academic services and student activities
Room and Board (blended):			**3.3%**	NGF	Focus on housing and meal option improvements
Traditional Double Rm Rate			2.2%		
Independence Meal Plan (Unltd)			5.0%		
Grants/Sponsored Research			13%/200M		Enhance research profile
Indirect Cost Recovery					

FY 2021 Budget Assumptions



FY21 Baseline Planning Category	Proposed Increase	Funding Source	Rationale for Increase
EXPENSES			SCHEV Recommendation: 5% salary increase
Compensation: Six-Year Plan Request	4.0%		Competitive compensation for faculty and staff to acquire and retain talent.
Salary/Merit Increase	$17M	50% GF; 50% NGF	
New Faculty Lines	$10M	50% GF; 50% NGF	
Retention Packages	$2M	50% GF; 50% NGF	
MAJOR INITIATIVES			
Tech Talent Initiative (TTIP)			
Operating Support	$5.8M	State Appropriation	Bachelors & Masters degrees production
Capital Support	$84M	State Appropriation	Arlington Innovation District, School of Computing
	$14M	State Appropriation	Vernon Smith Hall; Hybrid Learning; Advanced Computational Infrastructure
Total:	$98M		

Upcoming Calendar Highlights



Office of Strategic Planning & Budgeting (OSPB)

New Business

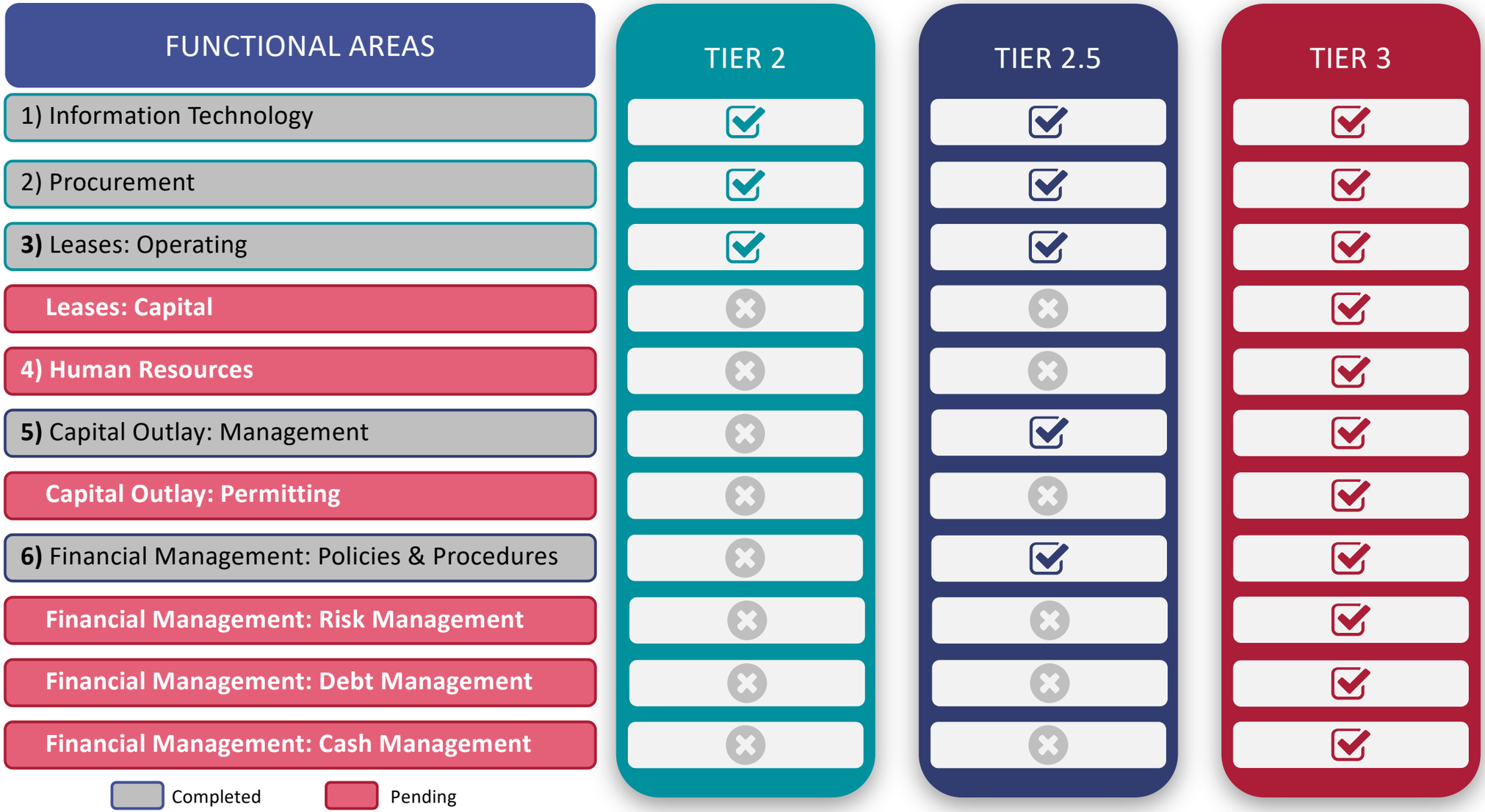
Institutional Planning and Performance – Tier 3

The Restructured Higher Education Financial and Administrative Operations **Act of 2005** provided public colleges and universities with more ***operational and administrative autonomy*** in exchange for a renewed commitment to their public missions.

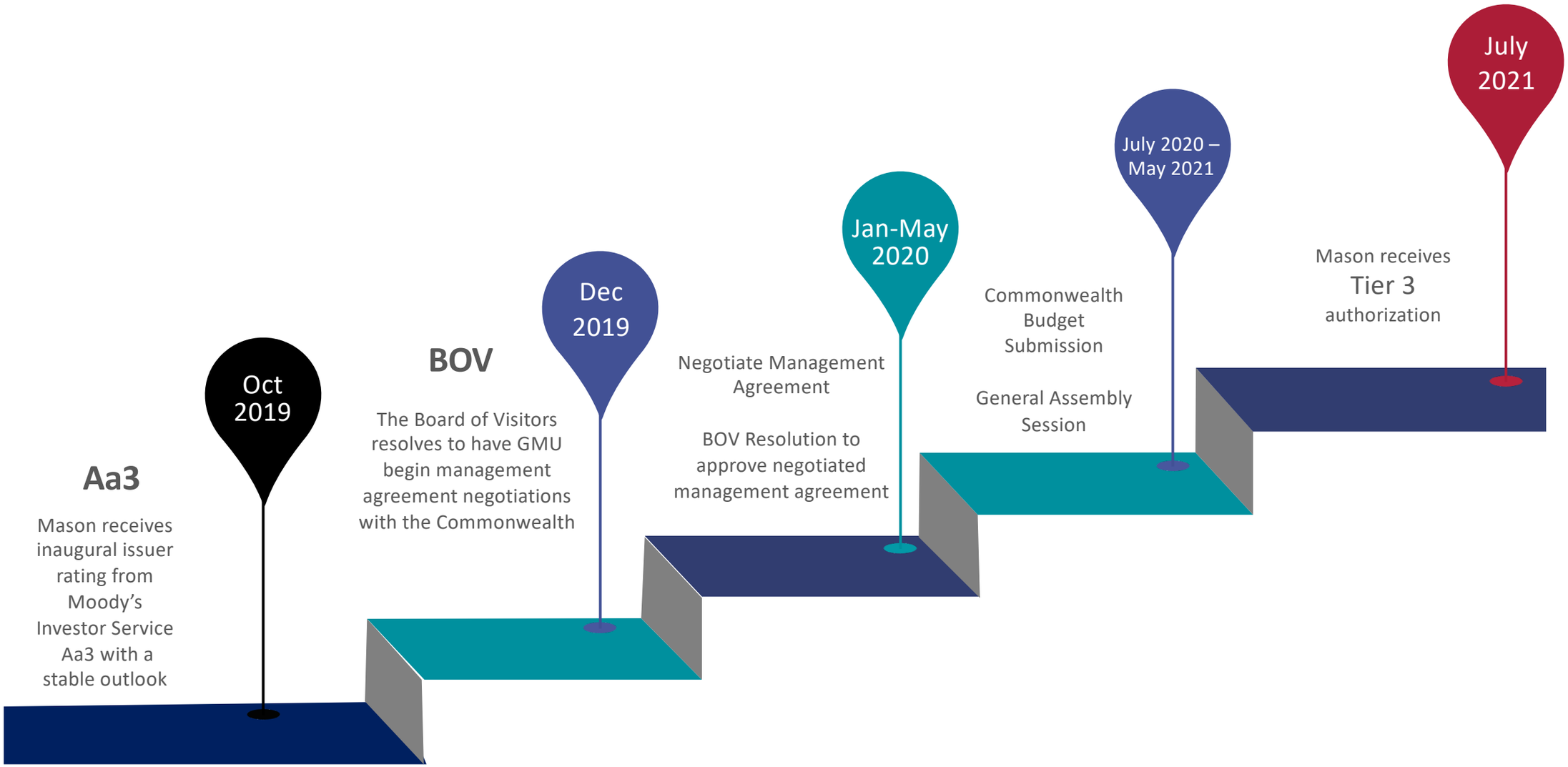
As a result of this Act, public institutions were required to develop ***Six-Year Plans*** and ***Institutional Performance Standards*** were established.

Three levels (tiers) of institutional authority were also established. The Higher Education Opportunity Act of 2011 reaffirmed institutional Six-Year Plans and provided for the modification of the Institutional Performance Standards.

Levels (Tiers) of Institutional Authority



Tier 3 General Timeline



Board Resolution

The Finance & Land Use Committee recommends approval by the Board of Visitors of the Tier 3 resolution found in the Board Book that includes the following:

It is the sense of the Board that Mason is qualified to be and should be governed by a management agreement. The President and Senior Vice President are authorized to enter into negotiations with the Governor and appropriate Cabinet Secretaries to develop a management agreement with the Commonwealth as provided for in the Act that will grant the greatest degree of financial and managerial autonomy to the University as provided in Article 4, and which management agreement shall be submitted to the Board of Visitors for its review and approval.

MOTION: _____

SECOND: _____

Amended Capital Lease with GMUF

For Beacon Hall housing building on the Science and Technology Campus, the GMU Foundation will refund their tax-exempt and taxable bonds with taxable bonds to lower their debt service payments.

This will require modification of the Capital Lease with George Mason University and approval from the Board of Visitors.

Amended Capital Lease - Key Facts

Amended capital lease for Beacon Hall, SciTech Campus

Leases mature in 2042

Annual Capital Lease payments savings (approx.) $140,000

GMUF will transfer the building to GMU at the end of the term

Board Resolution

The Finance & Land Use Committee recommends approval by the Board of Visitors of the capital lease resolution found in the Board Book that includes the following:

The University hereby is authorized to enter into an amended capital lease with George Mason University Foundation Prince William Housing LLC in conjunction with the Foundation's refunding of their 2011A and 2011B Bonds Prince William County Industrial Development Authority Tax-exempt and Taxable Revenue Bonds (GMUF Prince William Housing LLC Project).

MOTION: _____

SECOND: _____

Request to Use PPEA
Institute for Digital InnovAtion (IDIA)

Project Purpose:

- Create School of Computing; Increase enrollment in computing majors to as many as 15,000 students
- Expand research in high-tech fields
- Create new business, community, and higher education partnerships
- Fill tech talent pipeline for employers

Scope:

- 360,000 GSF academic and office
- 145,520 GSF additional parking

Budget: ~$250M

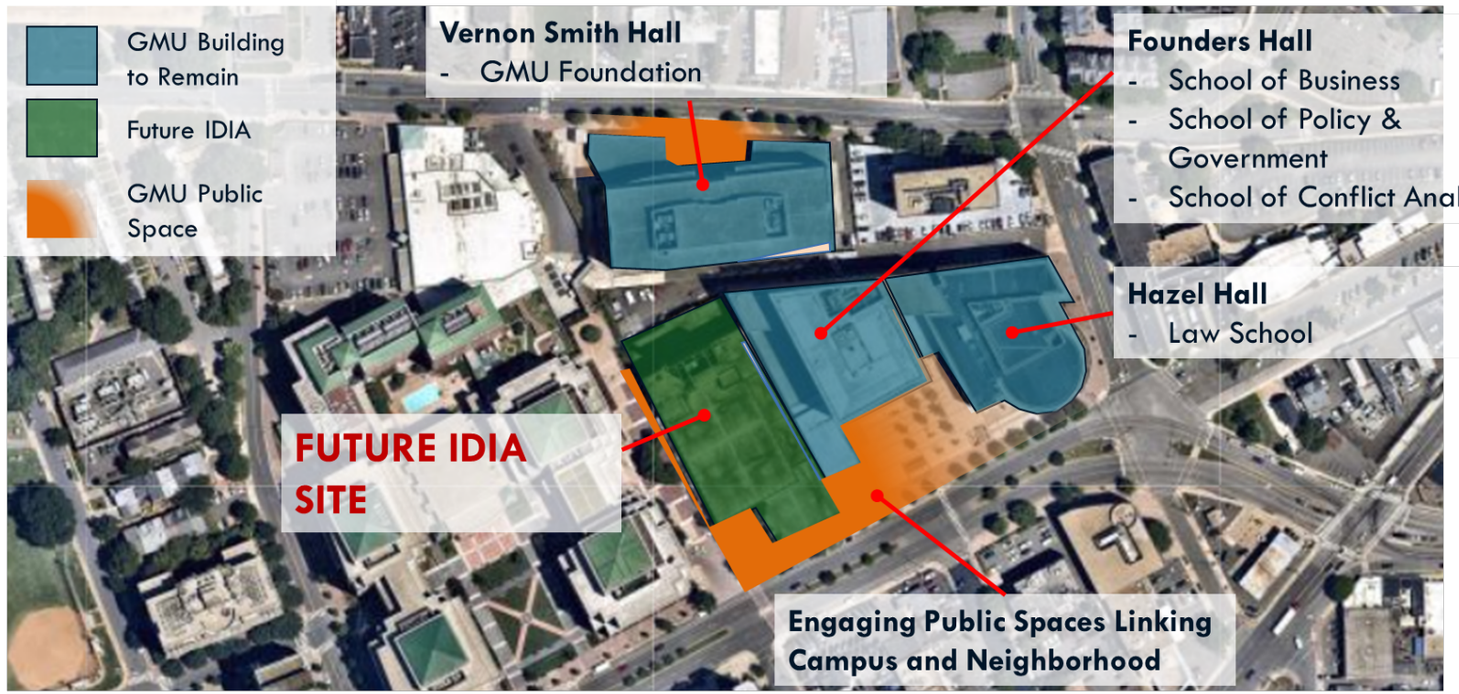
- Sources: State, GMU Donations/ Debt Match, Developer Direct Costs
- Includes $7.5M previously approved funding

Completion: September 2025

Designer: TBD

Contractor: TBD

Developer: TBD

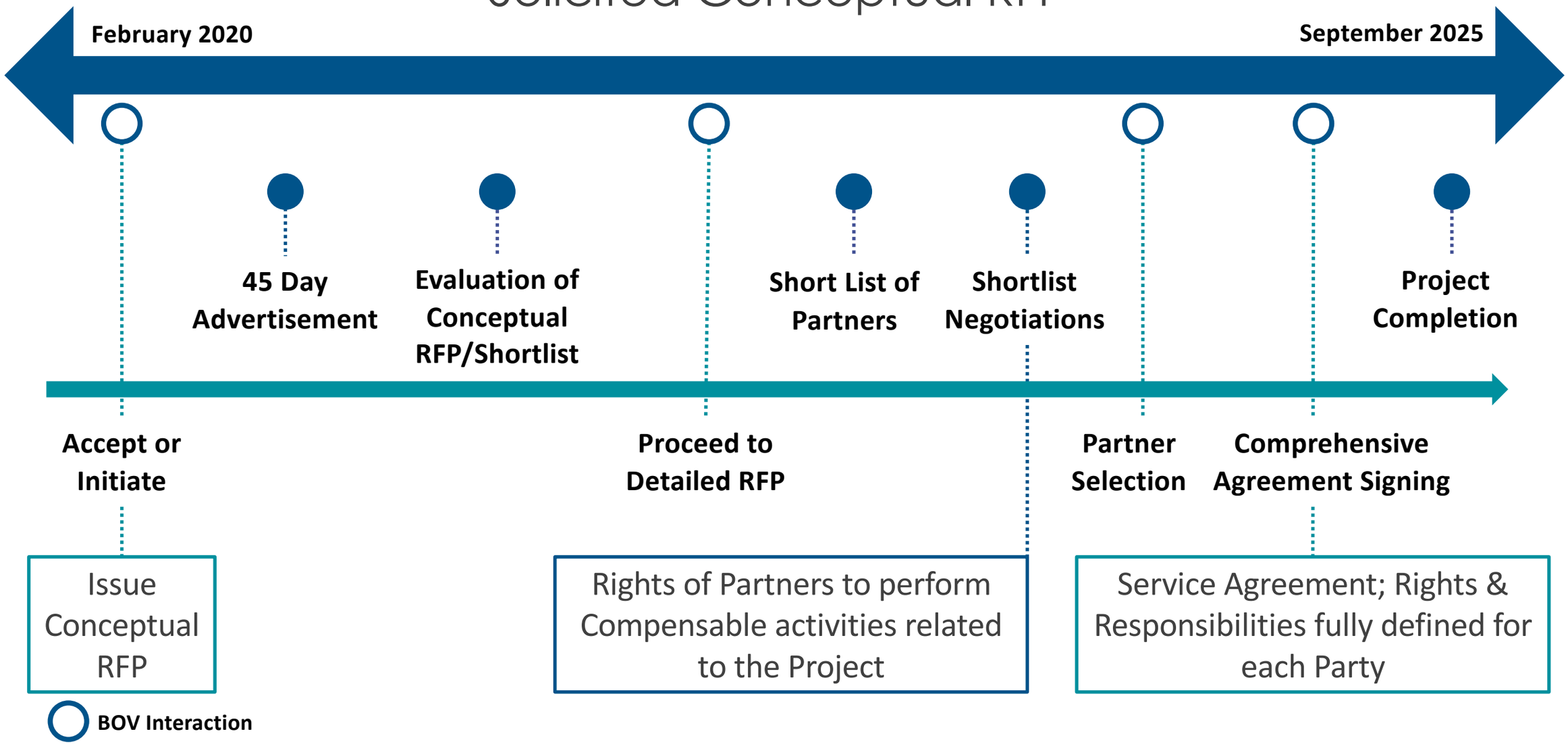


Proposed Acquisition Strategy

- Use PPEA authority to attract Development and Innovation Partners
  - University will fund all development of academic uses
  - Partner will design-build Academic Component, as well as contribute financing, develop and manage Commercial Components of IDIA
  - Conceptual RFP February 2020
- Partner selection based on:
  - PPEA Guidelines
  - Qualifications of development team
- Interim Agreement phase
  - Preliminary Design and Development Agreement
- Comprehensive Agreement
  - Design completion
  - Development Agreement
  - Construction award

Board Interaction in PPEA Process

Solicited Conceptual RFP



Board Recommendation

The Finance & Land Use Committee recommends approval by the Board of Visitors to use the Public Private Education and Infrastructure Act (PPEA) to issue an RFP for the Institute for Digital InnovAtion Campus(IDIA):

MOTION: _____

SECOND: _____

Operational Matters

Mason Investment Policy Statement

The **Investment Policy Statement** (IPS) applies to:

- University's Defined Contribution Retirement Plan (ORP) for Faculty*
- Cash Match Plan
- Supplemental Defined Contribution Plan for Employees**

The Board of Visitors established the IPS to evaluate and recommend investment options for the retirement plans. The Investment Policy Committee (IPC) reports to the Board of Visitors any IPS changes in investment options that are available to faculty and staff.

Investment Policy Statement Highlights:

- Outlines the investment program structure, IPC duties, responsibilities and the policies and procedures under which the IPC operates.
- Establishes guidelines and procedures used for selection of investment options.
- Defines criteria and procedures used to report investment option performance and evaluation of the respective investment options.

* also includes administrative/professional faculty

** refers to the 403(b) Tax-Sheltered Annuity Plan

ORP Investment Overview

Total Assets: $518.1M	
TIAA Optional Retirement Plan (ORP)	$359.6M
TIAA Cash Match	$15.4M
Fidelity ORP	$134.3M
Fidelity Cash Match	$8.8M

Hardship/Loan Information

Active Loans	11
Hardships	8
Active Loan Balance	$1.1M
Active Hardship Balance	$25k

All data pulled as of 11/14/2019, subject to change thereafter

ORP Fee and Fund Changes

CAPTRUST renegotiated fees with TIAA and Fidelity*

FIDELITY: The current required revenue was lowered from 14.9bps to 10bps, yielding savings of more than $120,000/year.

- Eleven (11) funds will be moved to Fidelity's K6 series funds, a lowest share class. Note: 11 funds moved in total across all plans.
- Fund Change Effective date: October 4, 2019

TIAA: The current required revenue was lowered from 14.5bps to 7.7bps, yielding savings of more than $450,000

- All funds will be moved to the lowest share class available. Implementation date will be confirmed once signed agreements are returned. Note: lifecycle funds counted as one.
- Price Reduction Effective date: retroactive to January 1, 2019.

* Applies to Defined Contribution Retirement Plan for Faculty (ORP), Cash Match and Supplemental Defined Contribution Plan for Employees 403(b)

Thank You

Appendices

Signature Delegation Authority

The Senior Vice President for Administration and Finance is authorized by the President of George Mason University, pursuant to authority granted by the Board of Visitors, to sign contractual documents that adhere to the following restrictions:

Contractual Documents	Not to Exceed Term	Not to Exceed Value
Contracts, leases, or any other documents by which the University leases or acquires a leasehold interest in real estate.	5 years	$1,000,000
Contracts, leases, or any other documents by which the University leases any of its real estate.	1 year	$250,000 annually
Contracts or other agreements by which the University acquires goods, equipment, or supplies, other than construction.	n/a	$2,000,000
Contracts or other agreements by which the University acquires services, including those that generate revenue, but other than construction.	n/a	$5,000,000 one-time or annually
Employment contracts with standard perquisites.	3 years	$500,000 annually
Contracts or other agreements for capital projects that are in accord with the approved budget.*	n/a	n/a
Sale of goods or services.	n/a	$1,000,000

OTHER CONTRACTUAL DOCUMENTS:
Gift Agreements; University Administrative Policies; Agreements resolving student disciplinary matters that do not involve the expenditure of public funds; Applications for ABC Licenses with the Virginia Department of Alcoholic Beverage Control; Approval of reimbursement requests for the President's direct reports; Transfers of intellectual property of the University to George Mason Intellectual Properties, Inc. (GMIP) and powers of attorney for the purposes of transfer or protection of intellectual property; All other financial and non-academic administrative documents that the President is authorized to sign pursuant to the Bylaws of the Board of Visitors, Board Resolutions, or state law. Also granted authority to sub-delegate signature authority.
*Including goods, equipment or services.

Capital Projects Stoplight Chart

Facilities Projects Listing

	Project #	Project Name	Scope(sf) New	Scope(sf) Reno	Total Budget	Budget Status	Schedule	Scope	Construction Start date	Occupancy date	Construction % Complete
		Construction									
	Multiple	Eagle Bank Arena Upgrades		82,000	$ 4,845,000				12/1/2016	8/22/2019	99.0%
	18011-000	Hylton Center Addition*	17,082	360	$ 13,481,383				8/1/2018	10/15/2019	99.0%
	18207-000	Renovate Robinson Hall and Harris Theater (Phased)*	217,726	23,161	$ 119,631,000				7/1/2018	12/31/2021	28.5%
	18208-000	Improve Utility Distribution Infrastructure Fairfax (Phased)*			$ 51,539,000				8/1/2018	12/31/2021	48.0%
	17848-000	PPEA Discovery Hall Ph II & Fitout/Clean Room	18,000		$ 6,561,287				6/17/2019	3/31/2020	75.0%
		Design									
	18339-000	Telecom Infrastructure*			$ 10,053,000				12/1/2020	1/1/2021	N/A
	18000-000	Life Sciences - Bull Run Add DPB*	100,000	5,000	$ 58,946,302				4/1/2021	8/1/2023	N/A
	A8247-027	Johnson Center HVAC Repairs			$ 3,049,500				9/1/2020	12/1/2021	N/A
	A8247-024	Hylton Center HVAC Repairs		112,352	$ 4,025,000				5/1/2020	2/15/2021	N/A
		Planning									
	247-18423-000	Relocate Storm Water Infrastructure and Demolish Original Bldg.			$ 7,500,000				8/1/2020	8/1/2021	N/A
		Grand Total This Report	**352,808**	**222,873**	**279,631,472**						

Data as of November 2019

* Pool Funded Project; will require DPB/DEB approval for release of funds after Preliminary Design

STOPLIGHT KEY	
Red: Likely to exceed approved budget/schedule/scope	
Yellow: At risk to exceed approved budget/schedule/scope	
Green: Within approved budget/schedule/scope	

BOARD OF VISITORS
GEORGE MASON UNIVERSITY

Meeting of the Executive Committee
October 10, 2019
MINUTES

PRESENT: Rector Davis, Vice Rector Hazel and Secretary Blackman; Visitors Moreno and Roth; Interim President Holton and Secretary pro tem Barton.

ALSO ATTENDING: Visitors Moss and Rice; Student Representatives Gelbvaks and Layton

I. Call to Order

Rector Davis called the meeting to order at 8:01 a.m.

II. President's Comments

Rector Davis recognized Interim President Holton for comments. She introduced the Chief of Staff, Dietra Trent. Interim President Holton shared that she had been in communication with the new President-elect of Northern Virginia Community College (NVCC), Anne Kress of Rochester, New York.

III. Closed Session

Rector Davis called on Vice Rector Hazel for a motion to go into Closed Session. It was **MOVED** by Vice Rector Hazel and **SECONDED** by Visitor Roth that the Executive Committee go into a Closed Session under the provisions of Section 2.2-3711.A.29 to discuss a Public Contract, Section 2.2-3711.A.9 to discuss Gifts, Bequests, and Fundraising Activities, Section 2.2-3711.A.7 for Consultation with Legal Counsel pertaining to actual or probable litigation, Section 2.2-3711.A.8 for consultation with Legal Counsel regarding specific legal matters requiring the provision of legal advice, Section 2.2-3711.A.1 to discuss a Personnel Matter and Section 2.2-3711.A.10 to discuss Honorary Degrees and Special Awards.

Rector Davis opened the floor to discussion. There was none.
MOTION CARRIED UNANIMOUSLY BY VOICE VOTE

It was **MOVED** by Vice Rector Hazel that the Executive Committee go back into public session and further moved that by ROLL CALL VOTE affirm that only public business matters lawfully exempted from the open meeting requirements under the Freedom of Information Act were heard, discussed or considered in the Closed Session, and that only such business matters that were identified in the motion to go into a Closed Session were heard, discussed or considered in the Closed Session.

Roll call was taken with all present members responding in the affirmative.

MOTION CARRIED UNANIMOUSLY

IV. Adjournment

Rector Davis opened the floor for discussion. There was none. With no other additional business matters to come before the Executive Committee, Rector Davis adjourned the meeting at 8:34 a.m.

Respectfully submitted,

Leslie Barton
Secretary pro tem

BOARD OF VISITORS
GEORGE MASON UNIVERSITY

Meeting of
October 10, 2019
MINUTES

PRESENT: Rector Davis, Vice Rector Hazel, and Secretary Blackman; Visitors Bhuller, Chimaladinne, Iturregui, Kazmi, Marquez, Moreno, Moss, Prowitt, Reagan, Rice, Roth, Witeck and Zuccari; Faculty Representative Davis; Student Representatives Gelbvaks and Layton; Interim President Holton; and Secretary pro tem Barton.

ABSENT: None

I. Rector Davis called the meeting to order at 1:37 p.m.

II. Approval of the Minutes (ACTION ITEMS)

Rector Davis called for any corrections to the minutes of the Planning Conference of July 25, 2019 and Annual Meeting of July 26, 2019. Rector Davis opened the floor for discussion. There was none. The minutes stood approved as written.

III. Rector's Report

Rector Davis reminded the Visitors of the Board of Visitors (BOV) and Board of Trustees Recognition (BOT) Event at the Mathy House on October 24, and encouraged attendance. He noted there would be a brief tour of the new Mason Student Services Center following the full Board meeting.

Rector Davis called on Vice Rector Hazel to provide an update on the progress of the Presidential Search. Vice Rector Hazel, Co-Chair of the Presidential Search Committee, noted that the Search Committee was waiting to receive communication after posting advertisements. Vice Rector Hazel spoke to the October 30, 2019 George Mason University Community Session. He noted that it would be an open meeting of the Search Committee for the faculty, staff, students, Alumni Association Board, BOV, BOT and the public. He further noted that the open session was in line with the search committee's commitment to provide updates throughout the search process. Vice Rector Hazel spoke to the launch of the Presidential Website, thanked Co-Chair Shannon Davis, and noted various site features. He further noted that following the hiring of the search firm, Greenwood/Asher & Associates, advertisements for the Presidential position were placed in various print publications and online websites. Vice Rector Hazel noted that first consideration will be given to applicants who apply by November 15, 2019, though applicants can still apply thereafter. He also noted that while review of applicants may begin before November 15, decisions on applicants will not be made until after this date. Vice Rector Hazel reconfirmed the Presidential Search Committee's goal of announcing the new President at the February 2020 BOV meeting. He noted that the search firm has confirmed high level applicants nationally and internationally. Faculty Representative Davis, Co-Chair of the

Presidential Search Committee added that the Mason Community Session would be a place for conversation, to be a part of the community and build community through the search process. Vice Rector Hazel noted that the search firm has indicated interest from candidates at research universities. Rector Davis asked those in attendance to let the Board know if they knew of an interested candidate. He noted that during his conversation with the Faculty Senate, there was discussion regarding an open Presidential search. Rector Davis noted it was not his decision, but a Board decision and the Presidential Search Committee would keep search as open as possible. He spoke to the hazards of conducting an open search and potentially receiving a smaller, less diverse pool of candidates due to the risk of exposure for their current employment. Rector Davis noted the importance of faculty input. Vice Rector Hazel shared that confidentiality is very important in order to receive the best qualified candidates. He noted that during the first meeting of the Presidential Search Committee, each member signed a Code of Ethics regarding search confidentiality. Vice Rector Hazel spoke to the importance of each committee member being present for all of the candidate discussions, thus enabling each member to provide fair and objective feedback on applicants.

Rector Davis added comments concerning a Washington Post - SCHAR School Impeachment Poll that created publicity for the University as the #1 trending article on Twitter.

IV. President's Report

Rector Davis called on Interim President Holton for the President's Report. Interim President Holton thanked Provost Wu, Carol Kissal, Senior Vice President, Administration and Finance, the Deans and the Senior Leadership Team for welcoming her to Mason. She spoke to continuing to move the university forward during the transition period with support from Senior Leadership. She further noted her thanks to Dietra Trent, Chief of Staff, who joined Mason on September 1, 2019. Interim President Holton referred to the President's Report (Attachment 1), and noted that she would provide a few highlights that did not make it into the report. She noted the university's updated Moody's Issuer Rating of Aa3, with stable outlook, as reported by Ms. Kissal. She further noted that this rating recognized the university's strong financial position in a time when higher education credit ratings have lowered. She added thanks to Ms. Kissal, her team and those who have worked over the years to improve Mason's financial standing. Interim President Holton noted that Northern Virginia Community College (NVCC) has named a new President-elect, Anne Kress of Monroe College in Rochester, New York. Interim President Holton shared that she and Dr. Kress have been in communication and she will begin her tenure at NVCC in early January 2020.

Interim President Holton went on to note that her participation with Freshman Move-In, an exciting start to the semester as she met with different groups of students, faculty and leadership across the campus, in a variety of settings. She

noted that total enrollment was up 1.8% year-to-date, and has moved the University past 38,000 students. She further noted that this was impressive as many of Virginia higher education institutions experience stagnant or declining enrollment. She noted that increased enrollment was in part was due to the ADVANCE Program partnership with NVCC and graduate online program partnership with Wiley. Interim President Holton noted that Scholastic Aptitude Test scores (SATs) and Grade Point Averages (GPA's) have remained steady through the increase in enrollment. She discussed Mason's rankings, U.S. News & World Report again recognized Mason as Virginia's most diverse and innovative university, and one of the most diverse and innovative university's nationwide. She further shared that Mason ranked 184 out of 801 universities nationally in the 2020 College Rankings by the Wall Street Journal and Times Higher Education.

Interim President Holton provided an update on her state travels for government relations meetings. She noted meetings with executive branch colleagues in Richmond to discuss Mason's top priorities, which are the tech talent initiative and basic state funding. She also noted that Mason undergraduate students receive 20 - 25% less than the average state funding per student for doctoral institutions. She further noted that over time, bringing the funding up to the state average could increase student outcomes considerably. Interim President Holton noted that the graduation rate has increased from 64% to 70%, and more state support could positively impact student graduation rates. She spoke to the challenges for receiving state funding and noted the Governor's budget proposal which will be released in mid-December, with university budget actions to follow.

Interim President Holton noted the tech talent initiative and required Memorandums of Understanding (MOU's) signed with the Commonwealth by November 1, 2019. She further noted the university's significant role in the state's commitment to Amazon in increasing undergraduate and graduate degrees in computer science and related fields. She recognized Deborah Crawford, Vice President for Research, Ms. Kissal, Trishana Bowden, Vice President, Advancement and Alumni Relations / President of the George Mason Foundation, and Liza Durant, Associate Dean, Strategic Initiatives and Community Engagement, in the Volgenau School of Engineering for their leadership of the tech talent initiative. Interim President Holton noted the progress of the building, as well as the academic aspects of the project. She noted other university initiatives including the ADVANCE Program and the success of the partnership with Wiley for graduate online programs. She also noted discussions regarding undergraduate programs in the online space. Interim President Holton noted that university research expenditures and university fundraising both experienced record years.

Interim President Holton went on to share a faculty that Dr. Thomas Lovejoy received Virginia's Outstanding Scientist Award. She noted that Dr. Lovejoy is the scientific director for Mason's Institute for a Sustainable Earth. She also shared a student highlight, Dolica Gopisetty, a senior in the Information

Technology program was the only college student among eight keynote speakers at the July Amazon Web Services conference in Seattle. She noted that Ms. Gopisetty was included in the Governor and Amazon Web Services press conference regarding the expansion of cloud computing programs in Virginia. Interim President Holton noted her participation in her first Freedom & Learning Forum, where she would interview author Chimamanda Adichie, as part of the annual Fall for the Book events. She reiterated the invitation to join her and Senator Kaine for the annual BOV Recognition Reception at the Mathy House on October 24, 2019.

Rector Davis opened the floor for questions. Visitor Iturregui referred to the President's Report ranking indicating the university ranked #11 on The Princeton Review's ranking of "Least Happy Students". Interim President Holton noted that the ranking was discussed in the Academic Programs, Diversity & University Community Committee (APDUC). She shared that Mason was ranked well in the overall rankings from The Princeton Review. She noted that the "Least Happy Students" survey was based on a small sample that is not consistent with evidence found in broader samples. She further noted that the university does realize that there is room for improvement, and noted the challenges of messaging for the university. Rector Davis noted there would be a tour of the new Mason Services Center following the full Board meeting, and it would help the Board members gain a better understanding of student services. He further noted that the Board has expressed concern regarding the survey results and encouraged the Board members to join the tour.

(Attachment 1: President's Report)

V. Provost's Report

Rector Davis recognized Provost Wu to provide the Provost's report. Provost Wu provided a report on the Medical Education Study. He noted that Secretary Blackman and Visitor Prowitt are members of the steering committee. Provost Wu noted that there is a need for physicians in Virginia, and across the nation, especially in the area of primary care. He also noted that from the Research and Innovation standpoint that a medical school was a natural next step for the university, and it would open up channels of research funding. Provost Wu noted the community benefits and the university's engagement in building the community. He spoke to the creating an innovative medical school that meets the needs of the community, and consistent with the university's goal of 'Access to Excellence'. He further spoke to providing a medical school that is diverse in its student and faculty population, and the unique position of the location in Northern Virginia. He went on to share a list of members of the steering committee, which include faculty members, senior administrators, members of the BOV, and a consulting team. Provost Wu noted the mission statement of the proposed medical school. He further noted Mason's unique niche including transdisciplinary

collaboration and research. He went on to discuss the potential value added by a medical program, its potential impact on different areas at the university, economic impact on the region, equity and the proposed location at the Sci-Tech Campus. Provost Wu spoke to the size of the medical program which would be small, at 50 students per year. He noted the focus on the "MD Plus" concept, a multidisciplinary learning program providing physicians with multi-skillsets in complimentary areas such as data science or behavioral science. Provost Wu spoke to the challenges of beginning a medical program, to include identifying clinical partnerships, a national shortage of residency opportunities, funding, and accreditation. He referred to the timeline and noted the ambitious goal of welcoming the first medical program class in August 2022. He noted that the immediate next step is data collection for a self-study to determine resources that can contribute to starting a medical school. He further noted that this step was a requirement for accreditation, and it would take about six months to accomplish. Provost Wu noted that the study will be ongoing between the present time to spring 2020. He further spoke to the timing and noted that the completion of the study will coincide with the Presidential Search Committee's timing for naming a new President. Provost Wu noted that the May 2020 Board meeting will be a critical point for deciding on the medical school. He further noted that he would keep the Board and the University community up-to-date on the progress of the medical school. Provost Wu concluded his presentation and opened the floor for questions.

Visitor Chimaladinne asked if the "MD Plus" program was the first in the nation or if other universities offer it. Provost Wu answered that the "MD Plus" concept is not unique to the university; however, it is relatively new. Dr. Bill Hazel, Senior Advisor, Innovation and Community Engagement, provided more background noting that most medical schools offer combined MD programs. He further noted the university's ability to offer an integrated curriculum and multidisciplinary training. Dr. Hazel noted that as plans for a medical program move into the next phase of planning, the focus will be to structure the curriculum so that innovation meets medical education. He further spoke to defining a curriculum, how to teach it and how it fits together. Dr. Hazel noted that idea is to provide more integration than sequential degrees.

Visitor Iturregui commented noting that there were three medical schools about 25 minutes from Mason. He also noted that as far as messaging, it would be powerful for the university to provide a very different medical school, not designed for the current healthcare system in America. Visitor Iturregui spoke to the need for the University to create different options for residencies. He noted that his personal view is that Mason's medical school should be a 'disruptive medical school'. Provost Wu in agreement noted that Visitor Iturregui's thoughts are consistent with the steering committee's ideas. He further noted that many of the current medical schools do not meet the needs of the future or the present. Provost Wu noted that it is critical that the Mason School of Medicine be a disruptor and innovator. Dr. Bill Hazel commented that most medical school training is institutional and hospital

based. He noted that the university does not have or want a hospital, which in the traditional medical model drives the training. He further noted that for a Mason medical school the idea is for community-based practice with integrative training utilizing existing programs of social work, nursing and behavioral health. He noted the importance of a medical program in northern Virginia, and that about 30% of medical student graduates practice where they attended medical school. He spoke to the shortage of physicians in northern Virginia, the benefits to community including economic, innovation, ideas, and the healthcare work force. Secretary Blackman added his comments and noted that there are about 1 million healthcare positions in the system, about 100,000 physicians retire or leave the profession each year, and only 60% of the positions are replaced. Discussion ensued. Secretary Blackman spoke to the currently gap of about 43,000 vacant healthcare positions in northern and rural Virginia. He noted that as a university, Mason has built the community by training the teachers, the IT professionals, educating the Veterans and the next step to address the major community challenges is through medical education. He further noted that while there are three medical schools nearby in the District of Columbia, and two more in Maryland, that does not support the serious need in northern Virginia. Secretary Blackman noted that as the largest public institution in Virginia, Mason has an opportunity to rectify the healthcare problem. Rector Davis and Secretary Blackman recognized Visitor Iturregui's excellent branding idea.

Rector Davis called on Visitor Marquez who commented on the ambitious timeline asking by asking if it was realistic, and if there were any contingencies in place. Dr. Hazel answered and noted that the timeline indicated the fastest course possible. He spoke to the challenges and noted that he believed the timeline was accurate, however if necessary the timeline would be adjusted.

A. Southern Association of Colleges and Schools (SACS) Reaccreditation Board Requirements – Janette Muir and Matthew Smith

Rector Davis recognized Provost Wu to provide the SACS Reaccreditation presentation. Provost Wu noted that the university is scheduled for reaccreditation in 2022 and introduced Dr. Janette Muir, Associate Provost, Academic Initiatives and Services, and Matthew Smith, Director of Accreditation, to present. Rector Davis recognized Dr. Muir and Mr. Smith. Dr. Muir noted that reaffirmation is critical to maintaining the integrity and quality of education at the university. She referred to the presentation and provided background on SACS. She noted additional Board specific requirements for the SACS reaccreditation and introduced Mr. Smith to expound on those requirements. Mr. Smith noted that while the reaffirmation was not scheduled until 2022, the process begins now. Mr. Smith further noted that the process begins with a thorough self-study and discussed the timeline. He spoke to the length of the self-study taking about a year and the role of the Board of Visitors in the SACS onsite visit in spring 2022.

Rector Davis asked of the university's biggest exposure at this point. Mr. Smith answered focusing on the biggest impact to the Board. He referred to the presentation and noted the nine standards specific to the Board in the SACS reaccreditation. He further noted that five of the standards required institutional policy in place that addresses the SACS standards. Mr. Smith explained that of the five standards, the university has three standards that require attention and listed standards 4.2. d Conflict of Interest, 4.2.e Board Dismissal, and 4.2.g Board Self-Evaluation. Mr. Smith noted that according to the standard, Conflict of Interest requires definition in the BOV Bylaws. He further noted that this could be rectified by referencing to the Code of Virginia definition for Conflict of Interest in the appendix of the Board Bylaws. Mr. Smith went on to discuss Code of Virginia policy for dismissal of a Board member which he noted is not included in the Bylaws. Rector Davis interjected and asked if the Board of Visitors retained the authority to dismiss a Board member. Mr. Smith answered that the statutory authority belongs to the Governor, however the Bylaws needed to reference the Code of Virginia policy for dismissal. Visitor Moreno asked for clarification on what the standard required, and how that would be reflected in the Bylaws given that the statutory authority for dismissal of a Board member remained with the Governor. Mr. Smith clarified that while the SACS standard required a policy for removal, it did not require that the Board be responsible for dismissal. He further explained that the Board is only required to adopt a policy for dismissal and reference the Code of Virginia, noting that he and Dr. Muir would work closely with University Counsel to ensure accuracy of the Bylaw revisions. Mr. Smith noted a new requirement from SACS being a Board self-evaluation for its effectiveness, standard 4.2.g. He further noted that the Board is required to define its responsibilities and regularly self-evaluate. Mr. Smith further noted that there are no reporting requirements from SACS and the process of self-evaluation is determined by the Board. He noted the need for a timeline, process or expectation for self-evaluation and recording through the Board meeting minutes; it would then comply with the standard. Visitor Roth asked of the other gaps and risks being assessed through the reaccreditation process beyond the Board specific standards. Mr. Smith answered noting that they were currently looking for gaps in assessment across the institution, unreported program changes, faculty qualifications and a myriad of other standards. Rector Davis thanked Mr. Smith for his introduction, and asked for recommendations and suggestions at the December Board of Visitors meeting.

VI. Committee Reports

A. Development Committee

Rector Davis called on Chairman Hazel to provide the report from the Development Committee. Chairman Hazel noted that Terri Cofer Beirne is the new Chair of the George Mason University Foundation (GMUF) and is a former Board of Visitor. He spoke to the health of the Foundation and noted

that the first of two $10.5 million payments from the Van Metre Companies was received. He further noted that the Foundation closed the fiscal year with the endowment at a 4.6% return overall, and $113 million in invested assets. Chairman Hazel compared this figure to five years ago at $70 million in the endowment. He noted that most importantly, 90% of endowment investments were above water, five years ago, less than 50% were above water. He spoke to the financial efforts and good management of the Foundation. Chairman Hazel noted that seven new members have joined the Board of Trustees, adding to the support of the Foundation from the local business community. He noted the Advancement efforts of raising a university record of $124 million and further noted current fundraising efforts. Chairman Hazel noted that the Foundation will receive a post campaign report from Marts & Lundy in about a month. He also noted that the Foundation is reimaging the alumni relations and annual giving programs. Rector Davis thanked Chairman Hazel.

B. Academic Programs, Diversity and University Community Committee

Rector Davis called on Chairman Witeck to provide the report from the Academic Programs, Diversity and University Community Committee. Chairman Witeck reported that the Provost provided an update on the university's Moody's rating. He noted that David Burge, Vice President for Enrollment Management, provided an update on undergraduate enrollment and further noted the slight decrease in transfer students due to the success of the ADVANCE Program. He spoke to a presentation on Assessing the Quality of Student Experience by Rose Pascarell, Vice President, University Life, and Mr. Burge and noted the discussion on the methodology of rating happiness, graduation rates and internal university satisfaction measures. Chairman Witeck noted that the committee was provided a more rounded view, however there was a still messaging issue. He noted the committee discussed the student experience redesign, the opportunity to tour the Mason Student Services Center following the full Board meeting, and how the university is meeting student needs. Chairman Witeck noted that Provost Wu provided a presentation on the university's Six-Year Plan and Institutional Strategies and their alignment with the Commonwealth's goals.

It was **MOVED** by Visitor Witeck and **SECONDED** by Visitor Moss to approve all Action Items in block as presented in the Board materials. Those Action Items were:

- New Program Approvals
    - Establish the Department of Cyber Security Engineering within the Volgenau School of Engineering (VSE)
- Faculty Actions
    - Conferral of Emeritus/Emerita Status
    - Election of New Tenure Hire

Rector Davis opened the floor for discussion. There was none.
MOTION CARRIED UNANIMOUSLY BY VOICE VOTE

C. Audit Committee

Rector Davis called on Chairman Rice to provide the report from the Audit Committee. Chairman Rice provided an update on the search for a new Chief Information Security Officer. He noted that all employees are required to complete a basic IT security awareness training by December 2019. He further noted that an enhanced IT Security Policy was approved and is being implemented. Chairman Rice noted that management has completed a broad IT assessment of services across the university and expects to provide recommendation for improvements in organization, investments, and technology improvements. He further noted that the committee received an update on the university's process for monitoring compliance with laws and regulations. Chairman Rice noted that management has engaged a consultant in assisting with recommendations for developing institutional compliance, oversight and integration with enterprise risk management. He spoke to the committee discussion that ensued regarding conceptual recommendations. Chairman Rice noted that that as recommendations develop, it will expand or clarify the committee's responsibilities. He further noted the approval of the Office of University Audit charter and Interim President Holton's support of University Audit.

Rector Davis opened the floor for discussion. There was none.

D. Research Committee

Rector Davis called on Chairman Blackman to provide the report from the Research Committee. Chairman Blackman reported that Dr. Deb Crawford, Vice President for Research, provided the committee with the university's research performance to date. He noted that the 2019 academic year was another record year for research expenditures, totaling $176 million in the 2019 National Science Foundation (NSF) Higher Education Research and Development (HERD) Survey. He further noted that research expenditures continue to exceed 2018 academic year expenditures at $149 million. Chairman Blackman noted research expenditures for the Institute for Biohealth Innovation at nearly $30 million, the Institute for a Sustainable Earth at $43.9 million, and the Institute for Digital InnoVation at $80 million. Chairman Blackman spoke to four exciting research initiatives by faculty: an NSF National Research Training Program grant awarded to a team headed by Dr. Siddhartha Sikdar to develop technologies improving the quality of life for those with disabilities; discoveries of supermassive black holes by Dr. Shobita Satyapal; Dr. Thomas Lovejoy was recognized as 2019 Virginia Outstanding Scientist of the year; and a grant from the National Endowment for the Humanities (NEH) to Dr. Mills Kelly to create a digital guide of the evolution of the Appalachian Trail over the past century Chairman Blackman noted that

academic year 2020 continues to set a record pace, currently 32% over the same period last year, and on track to break $200 million expenditure mark.

Rector Davis thanked Chairman Blackman and opened the floor for discussion. There was none.

E. Finance and Land Use Committee

Rector Davis called on Chairman Roth to provide the report from the Finance and Land Use Committee. Chairman Roth reported that Ms. Kissal and her team provided a presentation on the new financial framework. She noted that the committee would receive reports on the status of the new framework over the next year. She further noted a full report will be provided in December. Chairman Roth noted that the committee reviewed and voted on the university's State Six-Year Operational Plan and the Six-Year Capital Plan. She further noted that the committee discussed and voted on the Online Graduate Program Tuition Proposal and review of the Land Use Certification. Chairman Roth spoke to the committee's discussion regarding three action items, including the Sate Six-Year Operational Plan. She noted that the Commonwealth's vision for higher education center around four goals: increase student financial aid; support instate enrollment growth; support salaried compensation increases; and support for R1 research infrastructure. She further noted that the university's State Six-Year Operational Plan aligns with Virginia's plan for higher education. Chairman Roth reported that the committee voted to approve Online Graduate Program Tuition per credit hour, for two new online graduate programs, one in partnership with Wiley and one program through the School of Music. She noted proposed tuition for the Masters of Science in Health Information and Data Analytics was $800 per credit hour for both in-state and out-of-state students, and proposed the tuition for Masters in Music and Music Education was recommended at $820 per credit hour for both in-state and out-of-state students. Chairman Roth reported that the committee approved the annual Land Use Certification and noted significant changes in the land use report since the last BOV meeting.

Chairman Roth reported the committee reviewed and approved the Action Items as follows:

- State Six-Year Operational Plan
- Online Graduate Program Tuition Proposal
- Land Use Certification

It was **MOVED** by Chairman Roth and **SECONDED** by Secretary Blackman to approve the three Action Items in block. Rector Davis opened the floor for discussion. There was none.

MOTION CARRIED UNANIMOUSLY BY VOICE VOTE

VII. Closed Session

It was **MOVED** by Vice Rector Hazel and **SECONDED** by Visitor Iturregui that the Board go into a Closed Session under the provisions of Section 2.2-3711. A.29 to discuss a Public Contract, Section 2.2-3711. A.9 to discuss Gifts, Bequests and Fundraising Activities, Section 2.2-3711. A.7 for consultation with Legal Counsel pertaining to actual or probable litigation, Section 2.2-3711. A.8 for consultation with Legal Counsel regarding specific legal matters requiring the provision of legal advice, Section 2.2-3711. A.1 to discuss a Personnel Matter, and Section 2.2-3711. A.10 to Honorary Degrees and Special Awards.
MOTION CARRIED UNANIMOUSLY BY VOICE VOTE

As a result of the Closed Meeting, it was **MOVED** by Vice Rector Hazel and **SECONDED** by Secretary Blackman that the Board go back into public session and further moved that by ROLL CALL

VOTE affirm that only public business matters lawfully exempted from the open meeting requirements under the Freedom of Information Act were heard, discussed or considered in the Closed Meeting, and that only such business matters that were identified in the motion to go into a Closed Meeting were heard, discussed or considered in the Closed Meeting.

Roll call was taken with all present members responding in the affirmative

It was **MOVED** by Vice Rector Hazel and **SECONDED** by Secretary Blackman that the board approve Honorary Degrees for those persons to be awarded at a future Graduation or Commencement.
MOTION CARRIED UNANIMOUSLY BY VOICE VOTE

VIII. Adjournment

Rector Davis adjourned the meeting at 3:43 p.m.

Respectfully submitted,

Leslie Barton
Secretary pro tem

Attachment 1: President's Report *(12 pages)*

President's Report
October 10, 2019

[Goals and activity updates since the May 2, 2019 BOV meeting.]

Student and Alumni Highlights:

- Environmental science and policy students Jessica Roberts and Sarah Farinelli won Fulbright fellowships to Brazil and Nigeria, respectively.
- Senior information technology major Dolica Gopisetty was the only college student among eight keynote speakers at an Amazon Web Services conference in Seattle in July.
- Mason PhD student Ryan Pfeifle and his thesis advisor, professor Shobita Satyapal, co-authored a study, published in Astrophysical Journal, that reveals the location of three gigantic black holes set on a collision course.
- "Good Morning America" highlighted junior criminology, law and society major Karen Escobar and her 4-year-old daughter for their involvement with Generation Hope, a nonprofit that helps teen parents become college graduates.
- Eleven PhD, master's and undergraduate students, led by faculty from Mason's Center for the Study of Narrative and Conflict Resolution, visited Eritrea for two weeks to explore the African country's post-conflict development.
- Alumna Emily Fortunato, an assistant athletic trainer at Mason from 2013-15, served on the athletic training staff for the U.S. women's national soccer team during the squad's run to the 2019 World Cup title.
- A multidisciplinary class of 10 students spent 16 days in Peru this summer learning about local maternal and child health.
- Susan Howard, a PhD student in environmental science and policy, is designing and testing a variety of educational tools to help national park visitors understand the importance of following park rules.
- Junior film and video studies major Autumn Boxley spent the summer as a development intern for the Hollywood production company behind such films as "Suicide Squad," "Wonder Woman" and "American Hustle."
- Anthropology and sociology major Levi Mitzen received the Odum Award for best undergraduate paper when he presented his work on political graffiti at a Southern Sociological Society conference in Atlanta.
- Four recent bioengineering graduates have devised a mechanism that improves minimally invasive brain and spinal surgery. They believe it could become a useful tool in the medical field.
- Junior environmental and sustainability studies majors Aishah Nyeta Brown and Darryl Acker-Carter have been selected as Global Sustainability Scholars, a National Science Foundation and Future Earth program in its first year.
- Alex Morgan, who earned his mechanical engineering degree in two-and-a-half years to be named Senior of the Year, co-created a robot designed to assist Mason Facilities with finding and assessing blockages in the drainage systems on campus.

- The Mason men's and women's outdoor track and field teams each won team titles at the Atlantic 10 Track and Field Championships, claiming simultaneous crowns for the second time in four years.
- Mason Law School alumna Rabia Chaudry helped spark NPR's "Serial" podcast and appears on an HBO documentary about a murder case involving a family friend.
- Senior Gabe Earle, a civil and infrastructure engineer and drummer in the Green Machine, combined those interests to research the feasibility of using acoustic data signals to inspect and analyze the movements of manufacturing infrastructure.
- Five Mason engineering students developed a device that is connected to an app and acts almost like a personal trainer.
- May graduate Eleri Burnett, an Honors College student, combines her interests of finance and environmental science to calculate the monetary value of endangered species, what she calls “bird finance.”
- Biosciences PhD student Stephen Kassinger won the university’s Three Minute Thesis competition – and $1,000 – by succinctly explaining his work about using toxin and antitoxin systems to kill multidrug-resistant bacteria.
- Junior catcher Logan Driscoll became the highest draft pick in Mason baseball history after being selected by the San Diego Padres in the second round of the 2019 MLB Draft.
- Mason Open Winter Guard, an indoor color guard team, won the Winter Guard International (WGI) World Championship in Dayton, Ohio.
- Mason alumna and volunteer women’s cross-country coach Bethany Sachtleben won the silver medal in the Pan Am Games women’s marathon, in Lima, Peru, in her first major international competition.
- Alumna Erin Schaible was named chief of police for the city of Fairfax Police Department, the first woman to hold the position.

Faculty Highlights:

- Conservation biologist Thomas Lovejoy, scientific director for Mason’s Institute for a Sustainable Earth, received a Virginia Outstanding Scientist Award for his expertise on biodiversity in the Amazon region.
- Researchers Monique van Hoek and Barney Bishop and their collaborators have released their findings on sequencing the Komodo dragon genome, revealing multiple clusters of antimicrobial peptide genes that could prove instrumental in the fight against multi-drug resistant bacteria.
- Led by Mason professors Christopher Koper and Cynthia Lum, the Center for Evidence-Based Crime Policy hosted its 11th annual congressional briefing at the U.S. Capitol with a theme of “Countering Mass Shootings in the United States.”
- Crime research from Distinguished Professor David Weisburd is featured in “Talking to Strangers,” the new book by New York Times bestselling author Malcolm Gladwell.
- Spencer Crew, Robinson Professor of American, African American and Public History, is serving as interim director of the National Museum of African American History and Culture.

- Natalie Burls and Patrick Vora of the College of Science and Thomas LaToza and Jonathan Bell of the Volgenau School of Engineering were recognized with National Science Foundation Faculty Early Career Development (CAREER) awards.
- Environmental anthropologist Susan Crate was among the more than 100 researchers from 30 countries who contributed to "The Ocean and Cryosphere in a Changing Climate" report.
- Bioengineering professor Caroline Hoemann is developing a biomaterial that might one day be used to treat damaged cartilage, transforming how chronic knee pain is treated.
- With a National Endowment for the Humanities grant, history professor Mills Kelly and his team are creating a digital historical guide of the evolution of the Appalachian Trail over the past century.
- Kim de Mutsert, associate director of Mason's Potomac Environmental Research and Education Center (PEREC), received a fellowship with the National Academies of Sciences, Engineering and Medicine.
- Nine Mason professors and a postdoctoral researcher attended the Military Health System Research Symposium (MHSRS) in Kissimmee, Florida to share their research geared toward bolstering the health of American warfighters.
- Bioengineering professor Qi Wei and three other principal investigators from different universities are creating a data-driven computer model of the eye for diagnosing and treating strabismus--misaligned crossed eyes--with almost $1.8 million in funding from the National Institutes of Health.
- Constance Gewa, an associate professor in the Department of Nutrition and Food Studies, traveled to Kenya this summer to conduct research on childhood obesity and also took back results from a previous study on food security among women and children.
- A multidisciplinary team of researchers led by bioengineering professor Siddhartha Sikdar is part of a groundbreaking approach by the National Science Foundation that could change the face of STEM graduate education.
- Kamaljeet Sanghera, executive director for STEM Outreach in the Volgenau School of Engineering, was named to the new Virginia Science, Technology, Engineering and Math Education Commission established by Gov. Ralph Northam.
- Ellen Rodgers, associate dean in Mason's College of Education and Human Development, is the principal investigator for the design and construction of pop-up traffic gardens at two Washington, D.C. elementary schools, mini streetscapes that educate preschool students about bicycle safety.
- Katherine Scafide, an assistant professor in the School of Nursing, is conducting research that will help forensic nurses identify hard-to-see bruising by using an alternative light source.
- Robinson Professor Laurie Robinson is among a broad coalition of criminal justice and public policy leaders who have formed the Council on Criminal Justice, a national organization seeking to advance consensus on solutions that increase safety and justice.
- Eight Mason researchers have received collaborative research grants from 4-VA to work with their teams of student researchers and their colleagues at partner schools on a wide-ranging set of projects.

- S-CAR Professor Arthur Romano is giving students a chance to help broker peace in different communities throughout the world with a website he helped create.
- Mason anthropologist Rashmi Sadana has undertaken a 10-year study of Delhi, India's decision to add a modern Metro system and examined the impact of that decision, receiving research awards from the American Council of Learned Societies, the School for Advanced Research, and the National Endowment of the Humanities.
- Mark D. Uhen, associate chair of the Department of Atmospheric, Oceanic and Earth Sciences, discussed whale evolution on PBS feature "When Whales Walked: Journeys in Deep Time."
- Management professors Kevin Rockmann and Mandy O'Neill started a website called "High Quality Connections" that explores the problems of creating and maintaining prosperous co-worker connections within organizations.
- Former Robinson Professor John Paden, who retired in 2017 after 30 years at Mason, was presented with a commendation from Virginia's House of Delegates for his service to the state and university.

Ranking Highlights:

- U.S. News & World Report again recognized Mason as Virginia's most diverse and most innovative university (among national institutions), and as one of the most diverse and innovative in the nation. Mason was also ranked as an A+ School for B Students and 33rd nationally in educational innovation. Mason ranked 153rd overall and 72nd among all public universities.
- Mason also dropped in some U.S. News categories. National ranking: 136 to 153. Best value: 105 to 135. Ethnic diversity: 25 to 37 (still tops in Virginia). Educational innovation: 28 to 33 (still tops in Virginia). Best for veterans: 105 to 109.
- Mason was 11th on The Princeton Review's rankings of "Least Happy Students."
- Mason leaped nearly 50 spots to place among the nation's top 200 universities in the 2020 College Rankings by the Wall Street Journal and Times Higher Education, placing 184th out of 801 universities nationally and No. 42 out of 209 institutions in the South Region. In two years, Mason has risen 90 places.
- In their annual examination of the nation's colleges and universities, Washington Monthly named Mason as the top school in the Washington, D.C. area for adult learners, and sixth nationally in that category. Mason ranked 18th in the Southeast in the "Best Bang for the Buck" category. Mason also ranked 51st among national universities, up eight spots from last year.
- Mason was recognized as a Cyber FastTrack National "Top Tier College" that is the best in the nation in Cybersecurity Talent Discovery, topping 5,200 U.S. colleges for the honor.
- Mason was recognized as a top-50 institution in the 2019 Times Higher Education Young University Rankings. Mason ranked No. 47 among 351 colleges and universities from around the world that are 50 years old or younger. Mason moved up four positions from 2018, and only two U.S. universities placed ahead of Mason in the survey.

- Mason climbed into the 251-300 group among the 1,396 institutions evaluated in the 2020 World University Rankings by Times Higher Education, up from the 301-350 group the prior year.
- Four Mason programs are ranked in the top 50 worldwide in the 2019 Global Rankings of Academic Subjects by the ShanghaiRanking Consultancy. Programs in the Antonin Scalia Law School are ranked 19th, and the public administration program in the Schar School of Policy and Government is 22nd (an 18-place jump from 2018). In the College of Humanities and Social Sciences, communication is 36th, up from the 51-75 group in 2018, and economics is 38th.
- Mason's online BFA in Computer Game Design is ranked No. 1 in the nation by Bachelor's Degree Center.

Media:

Mason faculty, staff, and students continue to feature prominently in national and international media. Please read the weekly digest for the latest.

2019 Fall Enrollment Beginning of Term (BOT):

Total enrollment is up by 1.8% Year-To-Date (38,270 from 37,594, +676)

a. Virginia enrollment is up by 1.7% (30,383 from 29,887, +496).
b. Out-of-State enrollment is up by 2.3% (7,887 from 7,707, +180).

Total undergraduate enrollment is up by 1.9% (27,094 from 26,583, +511).

a. Virginia enrollment is up by 2.4% (22,962 from 22,428, +534).
b. Out-of-State enrollment is down by 0.6% (4,132 from 4,155, -23).

Total graduate enrollment is up by 1.6% (10,577 from 10,411, +166).

a. Virginia enrollment is down by 0.1% (7,187 from 7,192, -5).
b. Out-of-State enrollment is up by 5.3% (3,390 from 3,219, +171).
c. Masters enrollment is up by 2.5% (7,212 from 7,037, +175).
    i. Virginia Masters enrollment is up by 0.4% (5,323 from 5,300, +23).
    ii. Out-of-State masters enrollment is up by 8.8% (1,889 from 1,737, +152).
d. Doctorate enrollment is up by 3% (2,169 from 2,106, +63).
    i. Virginia Doctorate enrollment is up by 1.4% (1,109 from 1,094, +15).
    ii. Out-of-State Doctorate enrollment is up by 4.7% (1,060 from 1,012, +48).
e. Non-degree enrollment is down by 16.9% (606 from 729, -123).
    iii. Virginia non-degree enrollment is down by 20.2% (323 from 405, -82).
    iv. Out-of-state non-degree enrollment is down by 12.7% (283 from 324, -41).

4. Law enrollment is down by 0.2% (599 from 600, -1).
    a. Virginia enrollment is down by 12.4% (234 from 267, -33).
    b. Out-of-State enrollment is up by 9.6% (365 from 333, +32).
5. There are an additional 98 NEW students in fully online programs. (-14 Undergraduate, +112 in Graduate)
6. The percentage of freshmen eligible for Pell Grants increased to 28.4% from 26.8%.

ADVANCE:

In its second year, the ADVANCE Program offers 102 pathways in various degrees—five times as many as when it launched last year.

- **Total ACTIVE ADVANCE: 677**
  - Not-co-enrolled at Mason, only at NOVA: 637
  - Active at Mason: 40
    - Co-enrolled at Mason and NOVA: 19
    - Degree-seeking at Mason: 21
- For Fall 2019, 368 new ADVANCE students signed up

GEORGE MASON UNIVERSITY

Office of Institutional Effectiveness and Planning

BOV Statistic Comparisons

Fall 2018 and Fall 2019

		Fall 2018 BOT			Fall 2019 BOT			Difference		
		On-Campus	Online**	Total	On-Campus	Online	Total	On-Campus	Online	Total
Freshmen	In-State	2916	0	2916	3005	0	3005	89	0	89
	Out-of-State	804	0	804	773	1	774	-31	1	-30
Transfer	In-State	2756	74	2830	2621	58	2679	-135	-16	-151
	Out-of-State	200	1	201	193	2	195	-7	1	-6
Graduate	In-State	1839	252	2091	1923	289	2212	84	37	121
	Out-of-State	798	170	968	805	245	1050	7	75	82
Law *(JD, LLM, JM)*	In-State	67	4	71	64	1	65	-3	-3	-6
	Out-of-State	110	20	130	102	22	127	-8	2	-3
Freshmen Mean SAT Total				1218			1215			-3
Freshmen Mean HSGPA				3.7			3.65			-0.05
Freshmen Diversity	%Minority*			51.8%			54.8%			3.0%
	%Pell			26.8%			28.4%			1.6%
	%Non-Resident Alien			3.0%			3.0%			0.0%
	%Hispanic			12.5%			13.8%			1.3%
	%African American			12.9%			12.9%			0.0%
	%American Indian/Native Alaskan			0.1%			0.1%			0.0%
	%Asian			20.4%			22.6%			2.2%
	%White			39.7%			38.8%			-0.9%
	%Pacific Islander/Native Hawaiian			0.1%			0.1%			0.0%
	%Two or More			5.8%			5.3%			-0.5%
	%Unknown			5.5%			3.3%			-2.2%

*Includes Hispanic, African American, American Indian/Native Alaskan, Asian, Pacific Islander/Native Hawaiian, and Two or more.

*** Online are students in ONLINE programs*

BOT = Beginning of Term

Adult Learners:
Last spring, we held a series of campus conservations discussing possible partnerships that would expand our ability to serve adult learners through online education. Having received feedback from the university community, we are now exploring how to scale our online programs through an existing partnership. As we begin this next phase of the process, we will continue the university conversation through a series of engagements that invite faculty and staff to participate in the visioning process.

Development:
Fiscal Year 2019 was a record year for fundraising with $124.7M raised as of June 30, 2019. Of the $124.7M, $57.4M went to the endowment, ensuring a strong financial future for the university.

As of September 30, 2019, we have raised $11.1M (compared to $10.9M at the same time last year).

After full review and stakeholder feedback the revised Gift Acceptance Policy (University Policy 1123) was accepted on June 6, 2019. The revised policy provides further clarification of gifts and an escalation procedure to ensure transparency.

We are working with Marts and Lundy on a post campaign analysis for the Faster Farther campaign that concluded in December 2018. Marts and Lundy says the report will be completed in mid-October.

Foundation for the Future:
A planning study was completed by the ORR Group in relation to medical education at George Mason University. A review of their analysis will be presented later this morning.

Arlington Innovation District:
We are accelerating plans for the Arlington Innovation District as part of the Tech Talent Initiative. We have a commitment from the state, and we have named a project team to guide our efforts.

Liza Wilson Durant, associate dean for Strategic Initiatives and Community Engagement in the Volgenau School of Engineering, will lead the team. The project will be overseen by three champions from the university's Executive Council – Carol Kissal, senior vice president, Administration and Finance; Trishana Bowden, vice president, Advancement and Alumni Relations; and Deb Crawford, vice president for Research, Innovation, and Economic Impact.

In collaboration with multiple stakeholders across the university, we have partnered with the Compass Group to conduct a study to guide the development of the Innovation District. A presentation of their findings is scheduled for our December 12th Board of Visitors meeting.

Research:

Last year, Mason faculty conducted a record (for Mason) ~$176 million in sponsored research activity. Through the end of Q1 of fiscal year 2020 (July 1-Sept. 30, 2019) expenditures are up by 32% over the same period last year.

This quarter, faculty have submitted slightly more proposals than they did at the same time last year, though the size of the dollars requested is down about 4%.

The value of awards received in Q1 is down 15% over the same period last year. This may be a result of the flow of end of FY spending in the federal government. We will continue to monitor this metric closely as it could have implications for expenditures plateauing in AYs 21 and 22.

The fact that in Q1 growth in F&A costs recovered is at 7% while expenditures growth is greater than 30% indicates that we are still subcontracting out significant portions of several major awards. We continue to work on retaining more of this work inhouse by hiring research engineers and staff to do this work.

	FY19 thru Sept	FY20 thru Sept	Difference
Proposal No.	300	320	6.67%
Proposal $	$124,102,793	$119,555,310	-3.66%
Award No.	292	291	-0.34%
Award $	$66,372,339	$55,806,488	-15.92%
Expenditure $	$38,370,603	$50,845,910	32.51%
F&A $	$6,376,576	$6,826,144	7.05%

Legislative Update – Federal:

On September 13, I provided introductory remarks for Senator Mark Warner who conducted a town hall on the Fairfax campus. Senator Warner spoke to over 200 faculty, students and staff and discussed several legislative proposals that he is sponsoring to help students and families manage and reduce student debt loads. Student Government President Camden Layton served as moderator. The Senator answered questions submitted in advance and also answered questions directly from the audience.

Legislative Update – State:

During the spring and summer, a busy schedule on legislative, budget and new initiatives was maintained. Some specific highlights follow, including items from the last few months of Dr. Cabrera's tenure:

Ángel Cabrera:

- Hosted the Organization of Economic Cooperation and Development (OECD) at Mason. This event was sponsored by SCHEV.
- Carol Kissal came to Richmond to meet key officials with central agencies—Department of Planning and Budget, Virginia Department of Human Resources, Department of General Services and Virginia Retirement System
- Dr. Deb Crawford and our Richmond team attended the June VRIC meeting
- Dedicated the Johnson Hall on the SciTech campus which included a gubernatorial proclamation recognizing Dr. Johnson's achievement in STEM
- Hosted 11 elected officials at a Sunset Legislative Reception at the Potomac Science Center and the School for Conflict Analysis and Resolution

Anne Holton:

- Accompanied by Dr. Deb Crawford, met with April Kees (Senate Finance Committee), Sarah Herzog (Senate Finance Committee), Robert Vaughn (House Appropriations Committee), Tony Maggio (House Appropriations Committee), Secretary of Finance Aubrey Layne and Secretary Atif Qarni.
- Met with Delegate Jeion Ward, Delegate Cliff Hayes, Delegate Chris Stolle, Senator Louise Lucas, Senator Mamie Locke, Delegate Cheryl Turpin, Delegate Glenn Davis and Senator John Cosgrove in Hampton Roads.
- Dr. Deb Crawford and our Richmond team attended the August VRIC meeting.
- Dr. David Wu, Carol Kissal, Dr. Michelle Marks and I presented Mason's Six-Year Plan to the OpSix Committee (Secretary of Finance Aubrey Layne, Secretary of Education Atif Qarni, Director of SCHEV Peter Blake, Director of the Department of Planning and Budget Dan Timberlake, Senate Finance Committee Staff and House Appropriations Committee Staff).
- Met with the Pamela Northam, First Lady of Virginia.
- Met with Speaker Kirk Cox and SCHEV Director Peter Blake in Virginia.
- Participated in a Growth4VA Meeting.
- Met with Delegate Paul Krizek, Delegate Mark Sickles, Senator George Barker, Senator Chap Petersen, Senator Jeremy McPike and Delegate Charniele Herring in Northern Virginia.
- Met with Minority Leader Eileen Filler-Corn and members of Mason Hillel.
- Met with Delegate Luke Torian.
- Met with Delegate Roxann Robinson, Delegate Barry Knight, Delegate Lashrecse Aird, Senator Tommy Norment, Senator Emmett Hanger and Delegate Betsy Carr.
- Met with Governor Ralph Northam to discuss Mason's legislative priorities.
- Dr. David Wu, Carol Kissal, Dr. Michelle Marks, Mark Smith and I met with Secretary Aubrey Layne, Secretary Atif Qarni, Deputy Secretary June Jennings, Deputy Secretary Fran Bradford, Michael Maul (Department of Planning and Budget) and Anne Smith (Department of Planning and Budget).

- Attended the Amazon Web Services celebration at Northern Virginia Community College with Governor Ralph Northam on September 20.

Looking Forward:

- October 22 and 23: Board of Visitors Orientation Session
- November 5: Election of all 140 members of the General Assembly
- November 18: Special Session on firearms
- December 17: Governor to release proposed two-year budget
- January 8: First day of the 2020 General Assembly

External Activities & Speaking Engagements:

- Participated in a meeting with Inova and University of Virginia leadership regarding Inova's Center for Personalized Health.
- Featured speaker at Equal Rights Amendment event hosted by VAratifyERA in celebration of Women's Equality Day.
- With Virginia Tech President Tim Sands and others, addressed NOVA/Mason ADVANCE partnership, highlighting collaboration between Virginia higher education institutions at Amazon Cloud Computing Degree announcement at NOVA Community College's Woodbridge campus, with Governor Northam and Virginia leaders in education.
- Addressed Mason's efforts to promote the UN Sustainable Development Goals at the University Global Compact (UGC) launch event. The UGC is a global platform of universities and other higher education organizations committed to working together and in partnership with the United Nations and other relevant organizations, in support of the UN's Sustainable Development Goals. Other featured speakers included former UN Secretary-General Ban Ki Moon and Rockefeller Foundation President Rajiv J. Shah.
- Spoke at Volunteer Leadership Breakfast, recognizing Mason's volunteer leaders for their service to the university.
- Introduced a panel of Schar School faculty during a discussion at Mason Matters event hosted by Bob Buchanan. This event allowed for the opportunity to discuss Mason programs and initiatives with an audience including Maryland community leaders.
- Attended the Virginia Outstanding Scientist Awards Ceremony. Dr. Tom Lovejoy, University Professor of Environmental Science and Policy at Mason, was one of two honorees, and is the first Mason professor to receive this honor since the award's inception in 1985.
- At the Arlington Movers & Shakers event, interacted with Mason graduate students and local business, nonprofit, government, arts and civic leaders that have significant impact in Arlington. During this event, offered welcoming remarks.
- As a guest and featured speaker, attended a reception hosted by Jean & Steve Case at their home, in support of The Business for a Better World Center as well as the UN Sustainability Development Goals. The Center will lead an international movement to transform how we educate future leaders for a changing business world that sees purpose and profit as complementary goals.

- Joined the Virginia Council of Presidents meetings (including GPAC and SCHEV sessions).
- Participated in various development and cultivation activities with donors, business leaders, and 123 Club sessions.

Internal/Campus-Related Activities & Speaking Engagements:

- Was a participant in the annual Planning Conference with the Board of Visitors, members of the Board of Trustees, and the President's Council.
- Provided introductory remarks for the Virginia Cyber Cybersecurity Education conference on Fairfax campus.
- Launched Mason's participation with the American Council on Education Internationalization Laboratory.
- Welcomed new faculty members during Mason's New Faculty Orientation.
- Engaged with new students and their families during Freshman Move-In, welcoming them to campus and assisting with move-in process.
- Participated in Mason's Well-Being Festival, an event involving multiple departments promoting well-being programs and initiatives at Mason.
- Opened the New Student Convocation with welcoming remarks and attended the subsequent campus barbecue.
- Hosted Employee of the Month ceremonies. The September recipient was Philip Wilkerson, and the October recipient Kristen Greiner.
- Engaged with the Mason Staff Senate at their September 4 meeting and participated in discussion with members.
- Toured Mason's Arlington campus and its facilities with Chief of Staff Dietra Trent, interacting with faculty, staff, and student constituents, followed by meetings with local stakeholders.
- Met with members of Mason's Global Politics Fellows Fall 2019 cohort.
- Provided remarks at the September 11th Day of Service Thank You Lunch.
- Welcomed attendees to Mason's Fall Budget Town Hall session hosted by David Wu and Carol Kissal.
- During visit to SciTech campus, provided remarks at Mason SciTech Advisory Board meeting, toured campus, and interacted with faculty, staff, and student constituents with Chief of Staff Dietra Trent.
- Hosted over 200 new faculty members at the Mathy House for the annual welcome reception.
- Hosted a reception for Mason's international students as an opportunity to engage in dialogue about Mason's international programs.
- Attended the Fall Career Fair in the Johnson Center, and engaged with employers and students participating in the event.
- Held a dinner at the Mathy House for Mason students in the Early Identification Program.
- Provided remarks at University Life Advisory Board meeting.

- Gave a presentation to the Mason men's basketball team as part of the team's Personal Development Series.
- At the Osher Lifelong Learning Institute, offered a presentation about public education and equipping students with the skills needed for success beyond high school.

Outside Board Service:

- Virginia Board of Education
- Northern Virginia Technology Council
- Consortium of Universities of the Washington Metropolitan Area

Select Upcoming Events:

- Fall for the Book – October 10-13
- Mason Madness (Basketball Season Kickoff) – October 18
- BOV / BOT Recognition Reception – October 24
- Thanksgiving Holiday (University Closed) – November 27-29
- President's Circle Reception – December 8
- Next BOV Meeting – December 12

President's Report
December 12, 2019

Goals and Activity Updates since the October 10, 2019 BOV meeting

Selected Highlights

Board Meeting Preview

- I look forward to seeing you at the upcoming committee and full Board meetings on December 12, 2019. Discussions will include a presentation on financial results and budget preparation for 2020-2021, an analysis of our recent successful Faster Farther campaign, an overview of Advancement's Arlington Innovation District planning study, and beginning preparations for our 2022 SACSCOC accreditation reaffirmation, among other topics. We will ask for Board action to begin our negotiations with the Commonwealth on moving Mason to Tier 3 status and on some procedural items for the Arlington Innovation District plans among others. We will hear more about the prestigious American Talent Initiative that Mason recently joined. The Presidential Search Committee chair will report on the committee's progress and we'll hear updates on various other projects as well. As always, we are eager for your invaluable feedback.

Select Campus Activities Fall 2019

- I have enjoyed numerous interactions with our amazing students and faculty this fall as itemized below. A personal highlight has been my monthly student dinners at Mathy including so far our Early Identification students, ROTC/veterans, and Mason DREAMers – all with amazing stories, hopes and dreams.
- We continue to host incredible speakers on our campuses. Two standout events this fall were Supreme Court Justice Elena Kagan and acclaimed Nigerian-American author Chimamanda Adichie – details below.
- In November we celebrated the 40th Anniversary of the Arlington Campus with a theme of "Celebrating the Past, Planning our Future," rolling out plans for our Arlington Innovation District. Thanks especially to the many Board members in attendance.
- In early December we opened the beautiful Education and Rehearsal Wing expansion to the Hylton Performing Arts Center on the Science and Technology Campus in Prince William.
- Our Mason men's basketball team, supported by the incredible Green Machine, has had its strongest start in 35+ years, with a 10-1 standing as of this writing.
- On December 9, we are hosting dozens of legislators on our Fairfax Campus for Day One of the annual Joint House and Senate Education Committee Retreat.

- Our remarkable faculty and student accomplishments continue, as detailed below.

Update on Key Priorities

- Progress continues on our Tech Talent Initiative. We finalized our memoranda of understanding with the Commonwealth to expand our computer science bachelor's degrees by 30% and our master's degrees by threefold over 20 years, with $235M in additional state support. We announced a leadership team consisting of SVP Carol Kissal, VP Deb Crawford, VP Trishana Bowden, Project Lead Liza Wilson Durant, and Project Manager Toni Andrews. They are leading a large workgroup with representatives from across the university to plan for the program and facilities expansions. They recently produced recommendations on how to stand up the new School of Computing that will be part of this project.
- Vigorous planning work continues with prospective partners to build an online platform for undergraduate education that builds Mason Core and general education courses into the online course portfolio, a potential major expansion of access for adult learners.
- The university is in the second stage of its medical education study including ongoing discussions with potential partners.
- In light of changes in the Virginia General Assembly, we have intensified our efforts to seek increased state funding, seeking over time to raise Mason's general fund share on a per-student basis to the average of Virginia's doctoral institutions. Additional revenues would be used to improve student outcomes through enhanced support for faculty and staff in myriad ways. Governor Northam will release his proposed biennial budget on December 17, 2019 and the General Assembly convenes on January 8, 2020.
- The COACHE Survey of faculty satisfaction results are in and positive. The participation rate was high and the study results helpful as we seek continuous improvement.
- We are in the midst of two dean searches – for the Scalia Law School and the College of Science. Provost Wu and the search committees are doing great work that will lead to hiring decisions in the new year. We also have begun the process of hiring a Vice President of Strategic Communications and Marketing, with a goal of having finalists identified for consideration in consultation with the next President once identified.
- Provost Wu and colleagues have begun preparing for our 2022 Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) accreditation reaffirmation. This process, which takes place every 10 years, will be our first since becoming an R1 institution and will require extensive preparation over the next two years including Board involvement at various stages. You will hear more at the December 12 Board meeting.

President's Report

Student and Alumni Accomplishments:

- Mason art history graduate student Paul Albert and School of Business marketing faculty members Laurie Member and Gautham Vadakkepatt participated in the National Gallery of Art's first-ever datathon, "Coding Our Collection."
- Students hosted a well-attended Fridays for the Future Climate Rally in October, including a presentation from SVP Carol Kissal about ongoing university sustainability efforts.
- Students in CVPA's fall musical theater production, *Rags*, participated in the development of the piece on its way to London and a possible Broadway revival, and hosted the writer for a visit on campus.
- Six Antonin Scalia Law School students are participating in the school's new Immigration Litigation Clinic and advocating for clients facing a range of complex immigration proceedings.
- Alumna Jilian Fazio, a postdoctoral research fellow for the Smithsonian's National Zoo and Conservation Biology Institute, is the clouded leopard species survival plan coordinator at Smithsonian's National Zoo and international studbook keeper.
- About 100 Green Machine members performed at Nationals Park prior to Game 5 of the World Series.
- Ashutosh Dhakal, pursuing his master's in accounting, is one of 207 students nationwide to receive a $10,000 scholarship from the Public Company Accounting Oversight Board.
- Film and video studies major Alicia Rodriguez won the highly competitive and prestigious Princess Grace Award for her thesis film, an experimental documentary titled "A Diasporic Boricua."
- Third-year law student Sarah Smerling, who has interned at the U.S. Department of Justice and the House Judiciary Committee, last summer was selected as one of 16 students nationwide for a legal fellowship at the Fund for American Studies in Washington, D.C.
- Honors College alumna Oumama Kabli, a transfer from NOVA and a veteran of the Army National Guard, was awarded a prestigious 2019 Pickering Fellowship.

Faculty Accomplishments:

- The National Science Foundation has awarded a $3 million grant to engineering professor Elise Miller-Hooks and her multidisciplinary research team to examine what new trade routes in the Arctic will mean for that region's infrastructure and governance.
- Alpaslan Özerdem, dean of the School for Conflict Analysis and Resolution, briefed representatives of the United Nations Security Council in New York on Nov. 19 about the challenges of uniting once-divided communities after conflict.

- College of Education and Human Development associate professor Roberto Pamas has launched TEACHERTrack@Mason to help mitigate the teacher shortage by encouraging Northern Virginia junior and senior high school students to embrace teaching as a profession.
- Professor Lisa Gring-Pemble and deputy dean Anne Magro, both from the School of Business, launched the Business for a Better World Center to educate the next generation of leaders ready to take on challenges detailed in the United Nations' Sustainable Development Goals.
- Matthew Steinberg, an associate professor of education policy, has conducted research published by the American Educational Research Association that shows how education spending cuts during the nationwide recession in 2007 through 2009 more adversely impacted low-income communities that were largely African American.
- Researchers Emanuel "Chip" Petricoin and Mariaelena Pierobon are leading personalized breast cancer trials that are extending patients' lives and generating data that can be used by other cancer researchers to test their hypotheses.
- Emanuel "Chip" Petricoin, University Professor in the College of Science and co-director of the Center of Applied Proteomics and Molecular Medicine, and Shane Caswell, professor in the College of Education and Human Development and executive director of the Sports Medicine Assessment Research and Testing Laboratory (SMART Lab), have identified protein biomarkers in saliva that could change how concussions are diagnosed.
- Mason economics professors Jonathan Schulz and Jonathan Beauchamp co-authored a paper, published in the journal Science, titled "The Church, Intensive Kinship and Global Psychological Variation," examining how the Catholic Church transformed European kinship structures in the Middle Ages.
- Bill Hazel, senior advisor for innovation and community engagement, received the Medical Society of Virginia Foundation's 2019 Salute to Service Award for Outstanding Service to the Profession.
- Lilian de Jonge, an assistant professor in the Department of Nutrition and Food Studies in the College of Health and Human Services, is conducting a study in Northern Virginia schools about whether the implementation of salad bars in school cafeterias encourages kids to make healthier eating choices.
- David Weisburd, Distinguished Professor in the Department of Criminology, Law and Society and Executive Director of the Center for Evidence-Based Crime Policy, received the Lifetime Achievement Award from the American Society of Criminology's Division of Policing.
- Myeong Lee, an assistant professor in the Department of Information Sciences and Technology, is analyzing 311 data for Boston – information that people report about non-emergency issues in their neighborhood – to identify how cities can increase the fair allocation of resources between poor and wealthy neighborhoods.

- The National Communication Association named Gary Kreps, University Distinguished Professor of Communication and founding director of Mason's Center for Health and Risk Communication, a 2019 Distinguished Scholar.
- Meagan Call-Cummings, assistant professor of qualitative methodology in the College of Education and Human Development, co-founded Courageous Conversations, a high school club and annual daylong workshop to create a stronger sense of school community by empowering high school students to talk about sensitive issues without fear of punishment, rejection or bullying.
- College of Health and Human services professor Matthew Rossheim, whose research focuses on substance use and related health outcomes, published two papers in the American Journal of Drug and Alcohol Abuse on the popular flavored alcoholic beverage Four Loko and its risk to underage drinkers.
- Amanda Haymond, a researcher in the Center for Applied Proteomics and Molecular Medicine, was the lead author on a study in the Journal of Biological Chemistry that specified the location where two proteins responsible for hiding cancer cells from the immune system bind.
- Mechanical engineering department chair Oscar Barton will serve as the Southern Association of Colleges and Schools Commission on Colleges Faculty Fellow.

Rankings Highlights:

- *Collegefactual.com* ranked Mason as the sixth-best college in the nation for veterans.
- Mason was one of 62 institutions nationally that achieved a voting rate of at least 50% among students during the 2018 midterm elections, earning the university a platinum seal from the All In Campus Democracy Challenge.
- Scalia Law School is now regularly recognized as a Top 20 law school in national and international rankings, including #15 "Most Academic Impact of 100 American Law Schools" *Jurimetrics,* #16 in law in the US *Shanghai Academic Rankings, and* #17 in law in the US *Times Higher Ed Rankings.*
- In the *Times Higher Education* World University rankings by subjects, Mason's Education program is ranked in the 151-175 block, up from 201-250 last year. Social Sciences is ranked in the 201-250 block, up from 251-300, and Business and Economics is ranked in the 251-300 block, up from 301-400.
- Mason is ranked No. 434 in *U.S. News & World Report's* rankings of the 1,500 best global research universities. In addition, Mason was ranked 160th for Social Sciences and Public Health, 162nd for Economics and Business, 190th for Space Science, 311th for Clinical Medicine, and 573rd for Engineering.
- *Bestvalueschools.com* ranked Mason as the No. 1 college in the country for a bachelor's degree in biology for 2020 (MIT was ranked 12th).
- *The Princeton Review* ranked Mason as a national green institution.
- The League of American Bicyclists recognized Mason as a Bicycle Friendly University for both the Arlington and Fairfax campuses. The Fairfax Campus received silver-level recognition, up from bronze in 2011 and 2015.

- The Sierra Club cited Mason as one of its 2019 "Cool Schools," tops in Virginia and 60th nationally.

Enrollments – US Only:

Total enrollment increased by 547 students from Fall 2018 to Fall 2019 which includes an increase of 470 undergraduate students and 77 graduate students. The first-year retention rates hold relatively steady at 86.4% compared to 86.7% last year. The six-year graduation rate at 70.6% is slightly higher than last year's rate of 70%.

	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
UGRD Enrollment	23,062	23,812	24,987	26,192	26,662
GRAD Enrollment	10,368	10,556	10,420	10,524	10,601
LAW Enrollment	495	536	553	600	600
Total Enrollment	33,925	34,904	35,960	37,316	37,863
Retention (1yr FTF)	87.2	87.5	87.8	86.7	86.4
Grad Rates (6yr FTF)	69.3	69.8	70.8	70.0	70.6

Enrollments – US + Korea:

	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
UGRD Enrollment	23,249	24,097	25,323	26,553	27,054
GRAD Enrollment	10,368	10,556	10,421	10,524	10,601
LAW Enrollment	495	536	553	600	600
Total Enrollment	34,112	35,189	36,297	37,677	38,255

Access to Excellence:

- Total US enrollment growth and graduation rates are on track, as evidenced above.
- The Mason Student Services Center launch this fall as part of the Student Experience Redesign initiative has continued its successful implementation; next steps focus on the Mason Care coaching and advising network.
- New Mason Impact experiences have been approved in Linguistics, Women's and Gender Studies, Conservation, and Finance in response to student interest.
- ADVANCE continues to grow and gain recognition, most recently receiving the 2019 John N. Gardner Institutional Excellence for Students in Transition Award.
- Vigorous planning work continues with prospective partners to build an online platform for undergraduate education that builds Mason Core and general education courses into the online course portfolio, a potential major expansion of access for adult learners.

Thriving Together:

- To better support and engage faculty, Mason has partnered with Harvard COACHE on a faculty satisfaction survey. The results were recently shared with faculty in a forum and through a new website, and unit-level reports will be shared with academic leadership. The response rate on the survey was high. Overall results for Mason faculty satisfaction were positive compared to our peers; for instance, when asked about their overall satisfaction with Mason as a place to work, 67.1% of respondents replied that they were either very satisfied or satisfied, which is high compared to peer institutions. Room for growth was identified in several areas including salary and compensation, and faculty renewal, promotion and tenure. The Harvard COACHE Faculty Exit and Retention Survey launched in early November.
- In an effort to expand forums for community-wide dialogue around critical issues, students and faculty participated in the annual Immigration Monologues focusing on DACA-mented and Undocumented students within the Mason community.
- Mason submitted an application to the American Association of Colleges and Universities to host a Truth, Racial Healing, and Transformation Campus Center (notification in mid-December). Racial Healing Circles training to begin January 2020.
- To better reflect the diversity of our student body, Mason has launched a Diversity, Inclusion and Wellbeing Strategy group, which is a partnership between Faculty Affairs and Development; Compliance, Diversity, and Ethics; Human Resources; the Volgenau School of Engineering; and the College of Humanities and Social Sciences. The group will review the results of a 6-month listening tour with academic leadership this quarter.

Innovation Engine:

- Mason participated in Governor Northam's announcement in November of the finalized memoranda of understanding with Mason and other institutions in support of the Commonwealth's Tech Talent Initiative. Over 20 years, Mason will receive $235M in state capital and operating support, subject to appropriations. Mason will increase degrees in computer science and closely related fields by 30% at the bachelors' level, triple master's degrees, and match the state's $125M investment in the master's programs, including $84M for the Arlington Campus expansion.
- Mason publicly launched plans for the Arlington Campus expansion, Institute for Digital Innovation and School of Computing at an event celebrating the 40th Anniversary of the Arlington Campus. The work to plan the building and programming is being led by Champions SVP Carol Kissal, VP Trishana Bowden, VP Deb Crawford, Project Lead Associate Dean Liza Wilson Durant, and Project Manager Toni Andrews, along with a large workgroup from across the colleges.
- The second stage of the medical education study is in progress, and the working group expects to share further results in Spring 2020.

- To expand research-intensive graduate programs, a working group, in partnership with the Office of Graduate Education, is developing strategies to maximize student success, leverage internal and external resources, and increase the number of fully-funded graduate assistants to better support research-intensive programs.
- At the end of Oct 2019, research expenditures for FY 20 totaled $59.9M, 15% higher than over the same period last year. The value of proposals submitted through 10/31/19 was $159.5M, up 3% over the same period last year.
- The arts at George Mason reached a milestone on Dec. 3 with the opening of the Education and Rehearsal Wing, a $13.5 million expansion to the Hylton Performing Arts Center on the Science and Technology Campus in Prince William.

Talent Ecosystem:

- In support of Mason's effort to launch high-impact multidisciplinary curricular innovations that meet critical student and workforce needs, new master's programs are being explored and existing programs refined in alignment with the Tech Talent Investment Program (TTIP) initiative through the Arlington Graduate Education working group. Several new and updated majors, programs and certificates have been approved this quarter.
- The School of Computing/MS Development working group convened to make recommendations regarding the establishment of the School of Computing. The group has released a draft of their report. They will meet with faculty and other stakeholders in January and February to gather input prior to finalizing the report.
- In partnership with Enrollment Management, partnerships with UMW and JMU to develop pipelines between their UG programs and Mason masters programs are underway. MOU with UMW was finalized in October.

Development:

- As of November 21, 2019, we have raised $18.2M with $1.3M towards the endowment.
- Marts and Lundy completed the Faster Farther campaign analysis, which you will hear more about from Trishana Bowden in the Development Committee meeting.
- Work toward raising the $125M match for the Tech Talent Initiative has included meetings with current and potential new supporters. Trishana Bowden will report more on this in the Development Committee as well.
- The School of Business is entering into a capital campaign for a new building on the Fairfax Campus.
- A new Deputy Vice President for Advancement and Alumni Relations will be named by the end of this month with an anticipated start date of early February 2020. In addition, the recruitment for two directors of major gifts for university priorities are well under way and we are anticipating these individuals to join the team within the first quarter of the new year.

- On December 3, 2019, we celebrated on the SciTech campus with the Hylton Performing Arts Center community at a ribbon cutting ceremony for the Educational and Rehearsal wing.
- Our School for Conflict Analysis and Resolution will announce an exciting naming opportunity in the upcoming weeks.

Legislative Update - Federal:

Higher Education Act Reauthorization – The Education and Labor Committee, chaired by Rep. Robert Scott of Virginia, approved along a party line vote the College Affordability Act, a comprehensive reauthorization of the Higher Education Act. It is awaiting House floor action. Mason has worked closely with the other research universities in Virginia and the leading higher education associations in Washington, which in turn worked with Committee staff to produce a bill that makes major strides in helping students and families afford a quality college education. Mason expressed support for the increase in, and subsequent indexing of, the Pell maximum award, and for allowing Pell Grant awards for short-term training. Similarly, Mason welcomes the substantial increases in campus-based aid programs: Federal Work Study and Supplemental Education Opportunity Grants. In addition, Mason supports the bill's provisions simplifying loan repayment and student aid application process, increasing funding in international education programs, allowing unused Pell Grants for graduate education, stabilizing the Public Service Loan Forgiveness Program, and reinstituting subsidized loans for graduate students. Mason continues to review the potential impacts of other provisions, including reinstituting the Gainful Employment rule, enhanced data transparency requirements, a Pell bonus for college completion, and a $93 billion tuition assistance program exclusively for community colleges. Other provisions that could prove expensive and time consuming to implement include new mandates on campus climate surveys, Clery Act reporting, additional campus personnel on civil rights, and accreditation standards.

Legislative Update - State:

In the November 2019 state General Assembly elections, the Democratic Party gained control of both the House of Delegates and Senate. The House Democrats now have a majority of 55-45 in the House of Delegates. They have selected current Minority Leader Eileen Filler-Corn (Fairfax) as the Speaker-designee, Delegate Charniele Herring (Alexandria) as Majority Leader, Delegate Rip Sullivan (Fairfax) as Caucus Chair, and Delegate Alfonso Lopez (Arlington) as Majority Whip. Speaker-designee Filler-Corn has named Delegate Luke Torian (Prince William) as the incoming Chairman of the House Appropriations Committee and Delegate Vivian Watts (Fairfax) as the Chairwoman of the Finance Committee. Speaker-designee Filler-Corn will be the first female Speaker and first Jewish Speaker of the House of Delegates in Virginia's history. The Senate Democrats now have a majority of 21-19 in the Senate. They have selected Senator Dick Saslaw (Fairfax) as the Senate Majority Leader and Senator Janet Howell

(Fairfax) as the first Chairwoman of the Senate Finance Committee. The new leadership roles of Northern Virginia legislators presents important opportunities to advance the Mason mission in the General Assembly.

The Mason government relations team, Board members and other Mason supporters and I have continued vigorous engagement with our legislators and key members of the executive branch. In addition to numerous meetings with key leaders, some highlights include:

- Members of the Executive Council along with Mason Board of Visitors and supporters attended the 2019 Virginia Education and Workforce Conference hosted by the Virginia Chamber of Commerce and the Virginia Business Higher Education Council on October 8.
- Mason hosted Governor Northam on the Arlington Campus for his clean energy announcement in October and to share information about Mason's new Institute for Digital InnovAtion campus.
- The College of Health and Human Services hosted Secretary of Health and Human Resources Daniel Carey, M.D. as the keynote speaker at its Population Health Center dedication.
- I moderated a panel at SCHEV's Board of Visitors Orientation regarding how presidents and rectors work together to address issues at the university.
- Mason will host members of the House Education Committee and the Senate Education and Health Committee on the Fairfax Campus for their annual Virginia Education Summit on December 9, and Mason faculty will participate in the second day of the summit at Northern Virginia Community College on Dec. 10.

In addition, the state government relations team has been fully engaged with a number of other legislatively related events, including Growth4VA meetings, legislative committee meetings, and meetings of the State Council of Higher Education.

Looking Forward:

- December 17: Governor to release proposed two-year budget
- January 8: First day of the 2020 General Assembly
- January 10: Mason Legislative Breakfast
- February 5: Mason Alumni Reception
- February 6: Mason Lobbies
- February 11: Crossover
- March 7: Adjournment

President's Other External Activities & Speaking Engagements:

- Participated in interviews with the Washington Post and Richmond Times Dispatch on the Tech Talent initiative and Arlington Campus expansion.
- Participated in and presented at Mason's National Leadership Council.

- Served as a panelist for Bean, Kinney & Korman's Northern Virginia Leadership Series on HQ2, the Innovation Campus, and the future of tech research, education, and workforce development in Virginia. Other panelists included Tim Sands, president of Virginia Tech; Irma Becerra, president of Marymount University; and Ardine Williams, Vice President of People Operations at Amazon.
- Attended the Arlington Chamber of Commerce Annual Meeting luncheon.
- Joined the Virginia Council of Presidents meetings (including GPAC and SCHEV sessions).
- Participated in various development and cultivation activities with donors, business leaders, and 123 Club sessions.

President's Internal/Campus-Related Activities & Speaking Engagements:

- Hosted monthly dinners at Mathy House with students including participants in the Early Identification Program, ROTC/veterans on campus, and Mason Dreamers.
- Moderated the Freedom & Learning Forum featuring acclaimed Nigerian-American novelist Chimamanda Ngozi Adichie in conjunction with Fall for the Book.
- Welcomed Supreme Court Justice Elena Kagan to the second annual Roger Wilkins Lecture, a well-attended and well-received conversation between her and Robinson Professor Steve Pearlstein.
- Met with Faculty Senate, Student Senate, Staff Senate, Mason Alumni Association Board, Mason Foundation Board of Trustees, student government leaders, and various other student groups including representatives of Transparent GMU.
- Guest lectured at various classes including at the Department of Social Work and the Scalia Law School.
- Hosted and provided remarks at a recognition event honoring Mason's Board of Visitors and Board of Trustees.
- Cheered on our men's basketball team to the greatest season start in over 35 years, and supported our inspiring women's basketball team as well.
- Toured Mason's Potomac Science Center and S-CAR's Point of View International Retreat and Conference Center.
- Attended the College of Visual and Performing Arts' performance of *Rags.*
- Welcomed Mason students' families at the Family Weekend Kickoff Celebration.
- Toured the Population Health Center in the Peterson Family Health Sciences Hall.
- Gave an interview with *Voice of America* regarding the Tech Talent initiative.
- With members of the Executive Council, participated in a security test and exercise at EagleBank Arena. Participants included area first responders, Mason researchers and administrators, the Center for Innovative Technology, Smart City Works, the Virginia Department of Emergency Management, the Virginia Secretary of Public Safety and Homeland Security, and the U.S. Department of Homeland Security.
- Met with the President's Student Advisory Group to discuss topics of consequence to Mason students.

- Provided remarks at Arlington Campus event – *Celebrating Our Past, Planning Our Future*, which recognized 40years of Mason excellence at the Arlington Campus and laid foundations for the future.
- Attended and provided remarks at a meeting of the Mason Student Senate.
- Hosted a dinner conversation at the Mathy House for Mason DREAMer students.
- Hosted monthly recognition ceremonies for Mason's Employees of the Month.

Between now and the December 12 BOV meeting, I am scheduled for the following activities:

- Kick off and host dinner at the opening day of the Virginia Education Summit, an event in partnership with the Hunt Institute to allow Virginia legislators to engage with a diverse array of industry experts within the field of education.
- Serve as keynote speaker at Northern Virginia Chamber of Commerce Capital Region Workforce Summit.

President's Outside Board Service:

- Virginia Board of Education
- Northern Virginia Technology Council
- Consortium of Universities of the Washington Metropolitan Area

Select Upcoming Events:

- Mathy House Holiday Reception: December 13
- Winter Graduation: December 19
- University closed: December 21 – January 5
- Next BOV Meeting: February 27, 2020

BOARD OF VISITORS MEETING:
PROVOST'S REPORT

Thursday, December 12, 2019

2:00 PM – 2:10 PM

School of Computing

School of Computing (SoC)
Working Group Charge

- Current programmatic portfolio in computing
- Disciplinary and multidisciplinary education and research programs to be included in the new school
- New education, research and training programs that the school may promote and support, and programs that might be refined or transformed
- Organization of new school and how it will relate to and interface with the rest of the university
- Steps to be taken to increase the likelihood of a successful launch









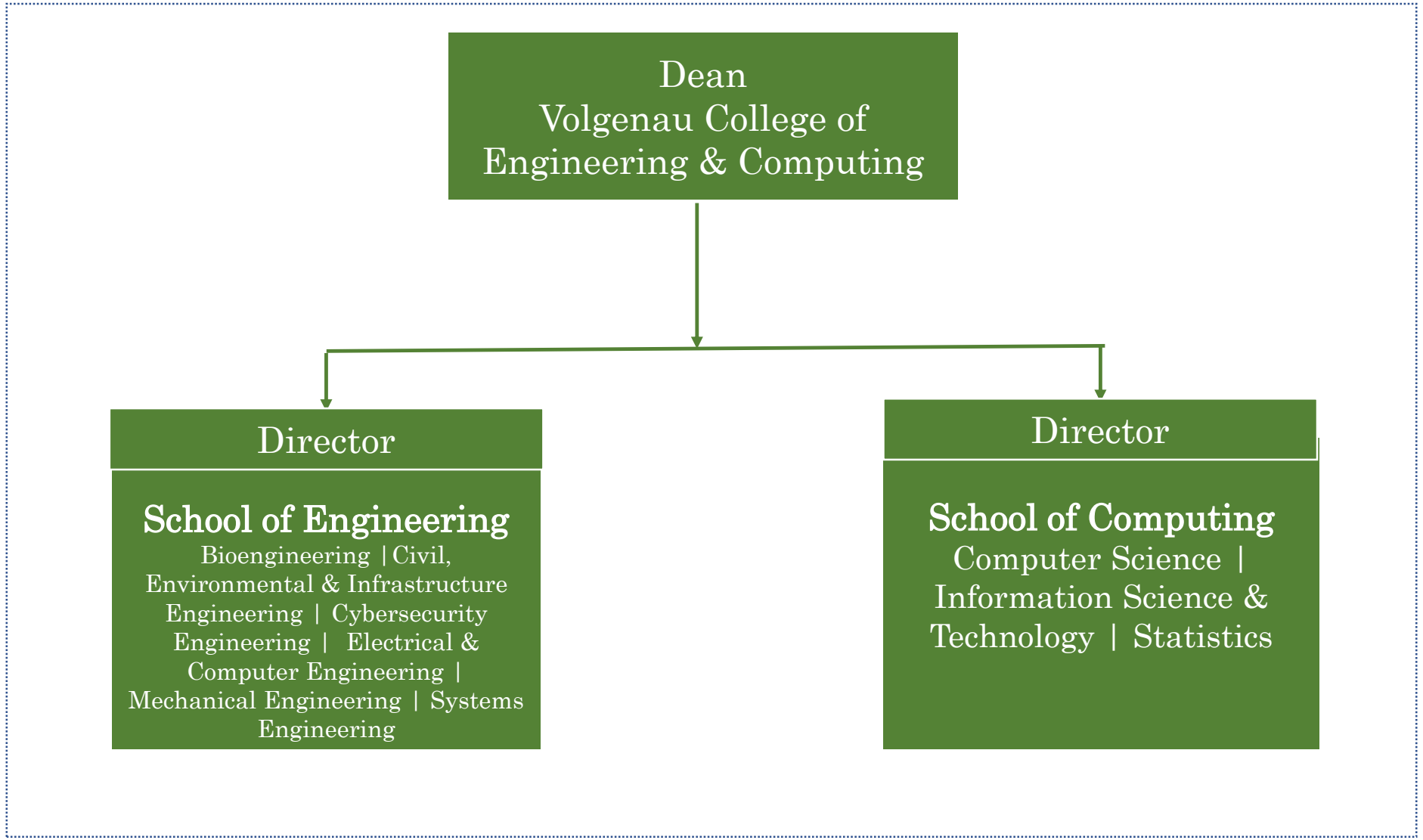
Our Computing Programs

13 Undergraduate Majors (enrolling 6,291 students, ~24% of all undergrads)
Applied Computer Science | Cloud Computing | Computational and Data Science | Computer Engineering | Computer Game Design | Computer Science | Cybersecurity Engineering | Cybersecurity | Information Systems and Operations Management | Information Technology | Mathematics | Statistics | Systems Engineering

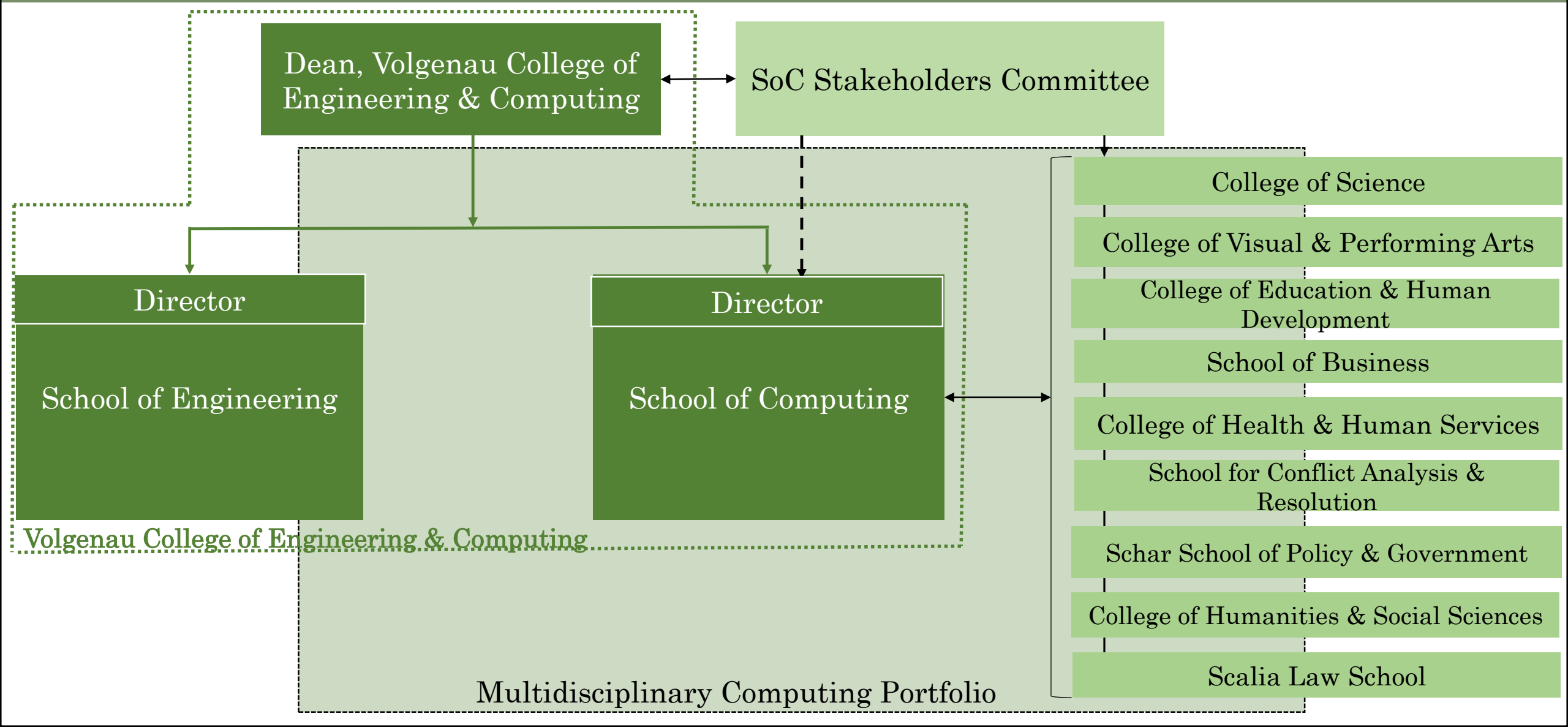
21 Masters Programs (enrolling 1,453 students, ~20% of all masters students)
Applied Information Technology | Bioinformatics & Computational Biology | Biostatistics | Computational Science | Computer Engineering | Computer Forensics | Computer Game Design | Computer Science | Cybersecurity | Data Analytics Engineering | Geoinformatics & Geospatial Intelligence | Health Informatics | Information Security & Assurance | Information Systems | Mathematics | Operations Research | Secure Information Systems | Software Engineering | Statistical Science | Systems Engineering | Telecommunications

10 PhD Programs (enrolling 566 students, ~26% of all PhD students)
Bioinformatics & Computational Biology | Computational Science & Informatics | Computational Social Science | Computer Science | Earth Systems and Geoinformation Science | Electrical & Computer Engineering | Information Technology | Mathematics | Statistical Sciences | Systems Engineering & Operations Research

A College and Two Schools



with a Multidisciplinary Mandate



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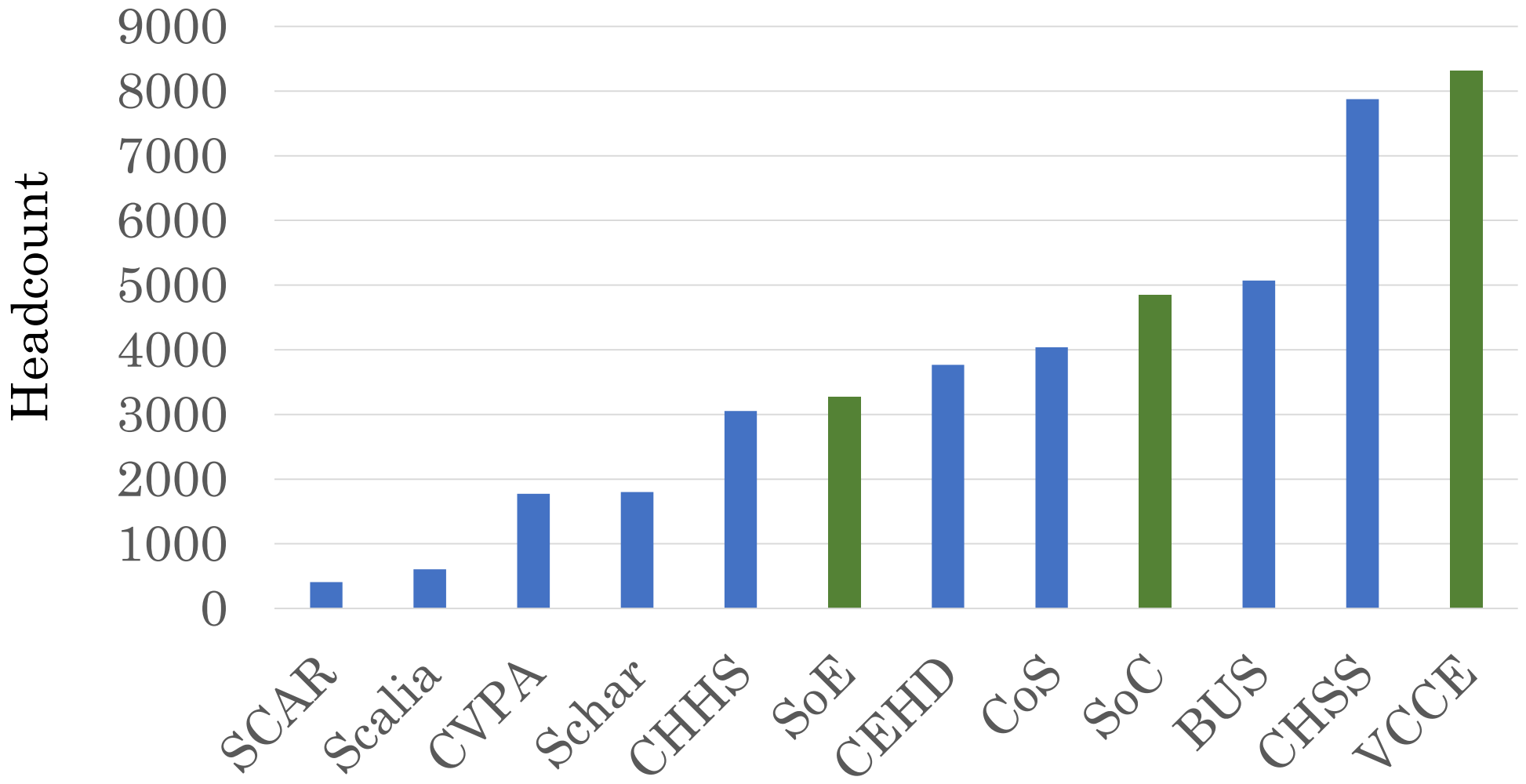
Bioinformatics & Computational Biology | Computational Science & Informatics | Computational Social Science | Computer Science | Earth Systems and Geoinformation Science | Electrical & Computer Engineering | Information Technology | Mathematics | Statistical Sciences | Systems Engineering & Operations

Student Enrollment by Unit

circa Fall 2019



Timeline


Complete Faculty Listening Sessions & Finalize Report Feb '20
Launch SoC July '20
TTIP MOU Signed Oct '19
WG Draft Report Released for Stakeholder Input Dec '19
SoC Working Group (WG) Charged Jan '19
TTIP Projections Submitted May '19

COACHE Update

COACHE: A Key Strategy for Faculty Support

Harvard Collaborative for Academic Careers in Higher Education [COACHE] → national best practice for retaining faculty talent

- Opportunity to benchmark our data with select peers
  - •Better understand faculty satisfaction at Mason, identifying areas of strength and areas for growth
  - •Create Mason-specific action plans that strengthen faculty well-being and success

ITEM NUMBER VI.A:	**Exclusion of the interim President from the National Industrial Security Program personnel security clearance requirement.**
PURPOSE OF ITEM:	This Action Item is required to avoid the requirement for interim President Anne Holton to obtain a personnel security clearance.
BRIEF NARRATIVE:	Under the provision of the National Industrial Security Program, the senior management official and the Facility Security Officer must always be cleared to the level of the Facility Clearance Level (FCL). The University has a Top Secret FCL which allows researchers to work on classified contracts up to and including the Top Secret level. The Facility Security Officer possesses the required Top Secret clearance. During the time that Ms. Holton is serving as interim president while a search for a new president is conducted, Dr. Deborah Crawford, Vice President for Research, Innovation, and Economic Impact, has been appointed to the role of senior management official. Dr. Crawford possesses the required Top Secret clearance. Both the President and other officials as determined by the "Cognizant Security Agency" (CSA) must be granted personnel security level clearances or be excluded by formal resolution. Our CSA, the Defense Counterintelligence and Security Agency, has determined that President Holton must be effectively excluded from all classified information disclosed to the organization. This exclusion must be made a matter of record by the University's executive body.
STAFF RECOMMENDATION:	Staff recommends Board approval

RESOLUTION ON CLASSIFIED INFORMATION ACCESS

WHEREAS, current Department of Defense Regulations contain a provision making it mandatory that the Senior Management Official and Facility Security Officer meet the eligibility requirements for access to classified information established for a contractor facility clearance; and

WHEREAS, said Department of Defense Regulations permit the exclusion of certain officers from the requirements for access to classified information, provided that this action is recorded in the corporate minutes.

NOW THERFORE BE IT DECLARED that Dr. Deborah Crawford, Vice President for Research, Innovation, and Economic Impact, has been appointed as Senior Management Official while the search is conducted for a new president. Dr. Crawford and the Facility Security Officer possess the required eligibility for access to classified information; and

BE IT RESOLVED that, when a new president is selected that individual, if they do not already possess such, shall immediately apply for the required eligibility for access to classified information; and

BE IT RESOLVED AND DIRECTED that Interim President Anne Holton shall not require, shall not have, and can be effectively and formally excluded from access to all CLASSIFIED information disclosed to the University and shall not affect adversely University policies or practices in the performance of classified contracts for the Department of Defense or the Government contracting activities (User Agencies) of the National Industrial Security Program.

IN WITNESS WHEREOF I have hereunto set my hand and affixed the seal of George Mason University, this day of 12 December 2019

Horace L. Blackman - Secretary

The SACSCOC Revised Principles of Accreditation: Impact on the Board Bylaws

Janette Muir
Associate Provost for Academic Initiatives & Services

Matthew Smith
Director of Accreditation

Where are we?

Two SACSCOC Standards are not addressed sufficiently in the current Bylaws

Standard	Description
4.1 (Core Requirement)	Governing Board Characteristics
4.2.a	Mission Review
4.2.b	Board/Administrative Distinction
4.2.c	CEO Evaluation/Selection
4.2.d	Conflict of Interest
4.2.e	Board Dismissal
4.2.f	External Influence
4.2.g	Board Self-Evaluation
4.3	Multi-level governance

Where are we going?

Proposed Action Timeline:

- ***December 12, 2019*: Discuss status with Board**
- *January/February 2020*: Draft text for bylaws amendments finalized
- *February 27, 2020*: Draft of amended bylaws considered and voted upon by the Board.
- *July 30, 2020*: Board completes first annual self assessment.
- *End of Summer 2021:* Self-Study Report demonstrates compliance

Considerations for February Meeting: 4.2.e – Board Dismissal

Standard 4.2.e states:
"The governing board has appropriate and fair processes for the dismissal of a board member."

- Recommendation of the SACSCOC President
  - Look at guidance provided by Association of Governing Boards of Universities & Colleges
- Bylaws of other VA universities researched
  - Peers' board bylaws typically adopt the exact language of 23.1-1304

Considerations for February Meeting: 4.2.g – Board Evaluation

Standard 4.2.g states:
"The governing board defines and regularly evaluates its responsibilities and expectations."

- Recommendation of the SACSCOC President
  - Adopt the policies of the Commonwealth
- Bylaws of other VA universities researched
  - Peers' board bylaws typically adopt language specifying only the **frequency of evaluation and *how* the evaluation processes are to be determined**

RESOLUTION OF THE BOARD OF VISITORS OF GEORGE MASON UNIVERSITY TO AUTHORIZE NEGOTIATION WITH THE GOVERNOR TO DEVELOP A MANAGEMENT AGREEMENT UNDER THE RESTRUCTURED HIGHER EDUCATION FINANCIAL AND ADMINISTRATIVE OPERATIONS ACT OF 2005

WHEREAS, the 2005 Session of the General Assembly enacted Chapters 933 and 945, Acts of Assembly, known as the Restructured Higher Education Financial and Administrative Operations Act (the "Act") now codified at Chapter 10 of Title 23.1, Sections 23.1-1000, et seq. of the Code of Virginia (1950), as amended; and

WHEREAS, on May 11, 2005, the Board of Visitors passed a resolution that committed George Mason University (the "University") to meeting the goals of the Act as set forth in former Virginia Code § 23-38.88.B (now recodified as § 23.1-1002(A)); and

WHEREAS, the Act includes Article 4 (Virginia Code §§ 23.1-1004 et seq.) entitled "Restructured Financial and Administrative Authority; Covered Institutions; Management Agreements," which sets out the requirements for a public university or college of the Commonwealth to gain the greatest degree of authority over financial and administrative operations, subject to certain accountability, audit and reporting measures specified by the General Assembly of Virginia; and

WHEREAS, it is the sense of the Board of Visitors that the University is qualified to be, and should be, governed by the authorizations and requirements set forth in Article 4 of the Act and as may otherwise be prescribed by applicable law;

NOW, THEREFORE, BE IT RESOLVED BY THE RECTOR AND VISITORS OF GEORGE MASON UNIVERSITY, that the Board of Visitors hereby attests to the ability of the University to manage successfully its administrative and financial operations without jeopardizing its financial integrity and stability; and accordingly authorizes the President of the University to submit to the Governor a written request for the University to be governed by Article 4 of the Act, providing a copy of such written request to the Chairpersons of the House Committee on Appropriations, the House Committee on Education, the Senate Committee on Finance, and the Senate Committee on Education and Health. The University's request shall be supported by the documentation called for by 23.1-1004 and 23.1-1005 of the Virginia Code, including documenting the University's expertise and resources to perform successfully its public educational mission and setting forth its performance and accountability standards; and

BE IT FURTHER RESOLVED, that the President and Senior Vice President for Administration and Finance are authorized to enter into negotiations with the Governor and appropriate Cabinet Secretaries to develop a management agreement with the Commonwealth as provided for in the Act that will grant the greatest degree of financial and managerial autonomy to the University as provided in Article 4, which management agreement shall be submitted to the Board of Visitors for its review and approval.

Adopted: December 12, 2019

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Horace L. Blackman – Secretary
Board of Visitors

RESOLUTION OF THE BOARD OF VISITORS OF GEORGE MASON UNIVERSITY TO APPROVE AMENDMENT OF CAPITAL LEASE FOR STUDENT HOUSING BUILDING IN PRINCE WILLIAM

WHEREAS, the Industrial Development Authority of the County of Prince William issued its Tax-Exempt Student Housing Revenue Bonds (George Mason University Foundation Prince William Housing LLC Project) Series 2011A (the "Series 2011A Bonds") in the original aggregate principal amount of $14,640,000 and its Taxable Student Housing Revenue Bonds (George Mason University Foundation Prince William Housing LLC Project) Series 2011B (the "Series 2011B Bonds" and, together with the Series 2011A Bonds, the "Series 2011 Bonds") in the aggregate principal amount of $985,000 for the benefit of George Mason University Foundation Prince William Housing LLC (the "LLC") in connection with the acquisition, construction and equipping of a student residence hall consisting of approximately 152 beds and common/support spaces, in approximately 80,858 total square feet of space, plus associated parking, approximately 10,000 square feet of university program space and approximately 15,000 square feet of unimproved shell space (collectively, the "Facilities"), all with respect to a building owned by the LLC and located across George Mason Circle from the Hylton Performing Arts Center at the western edge of the Prince William Campus of George Mason University (the "University"); and

WHEREAS, in connection with the issuance of the Series 2011 Bonds, the University entered into a capital lease (the "Lease") between the LLC, as lessor, and the University, as lessee, with respect to certain premises, including the Facilities; and

WHEREAS, the LLC has determined to refinance its debt incurred in connection with the issuance of the Series 2011 Bonds (the "Refinancing"), which debt is secured, in part, by an assignment of the rent payments made by the University pursuant to the Lease;

WHEREAS, in order to facilitate the Refinancing, the University wishes to enter into an amendment of the Lease (the "Amendment") to adjust the rent payments thereunder and update certain provisions thereof; and

WHEREAS, the proposed terms of the Amendment have been presented to the Board of Visitors of the University (the "Board").

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF VISITORS OF GEORGE MASON UNIVERSITY THAT:

1. The Board hereby authorizes the University to enter into the Amendment consistent with the terms presented to the Board.

2. The President and the Senior Vice President for Administration and Finance, either of whom may act alone, are hereby authorized and directed to execute and deliver the Amendment and all related certificates and instruments and to take all such further action as may be considered necessary or desirable in connection with the Refinancing.

3. The resolution shall take effect immediately.

Adopted: December 12, 2019

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Horace L. Blackman – Secretary
Board of Visitors