UNIVERSITY SENATE | AGENDA | February 5, 2020

3:15PM – 5:15PM | Atrium – STAMP STUDENT UNION

1. Call to Order

2. Approval of the December 4, 2019 Senate Minutes (Action)

3. Report of the Chair

4. Special Order:
   Nate Burke
   University Health Center
   Campus Advocates Respond & Educate (CARE) to Stop Violence
   Chair, UMD Sexual Assault Prevention Committee (SAPC)
   Sexual Assault Prevention at the University of Maryland

5. PCC Proposal to Establish a Master of Science in Applied Political Analytics (Senate Document #19-20-34) (Action)

6. PCC Proposal to Establish a Bachelor of Science in Biocomputational Engineering (Senate Document #19-20-35) (Action)

7. Amendment to the University of Maryland Policies and Procedures Governing Faculty Grievances (Senate Document #19-20-28) (Action)

8. Revision to the Policy on Payment of Tuition and Fees (Senate Document #19-20-09) (Action)

9. Revision to the Senate Bylaws on Representation for the Vice President for Diversity and Inclusion (Senate Document #19-20-16) (Action)

10. University of Maryland Policy on the Use of the University's Name and Trademarks by External Entities in Research-Related Endorsements and Promotional Materials (Senate Document #19-20-36) (Action)

11. New Business

12. Adjournment

UNIVERSITY SENATE

MINUTES | DECEMBER 4, 2019

3:15PM – 5:00PM | Atrium – STAMP STUDENT UNION | MEMBERS PRESENT: 113

CALL TO ORDER

Senate Chair Lanford called the meeting to order at 3:20 p.m.

APPROVAL OF THE NOVEMBER 5, 2019 SENATE MINUTES (ACTION)

The minutes were approved as distributed.

REPORT OF THE CHAIR

- The first Senate meeting of the spring semester will be on February 5, 2020, and a complete schedule of meetings can be found at https://senate.umd.edu/senate-meetings. We expect to have a very busy semester with much of the work that is currently in our various committees coming forward for a vote so Senators should be actively engaged in the discussion of these important issues.
- Deans have already received letters outlining all of their tenured/tenure-track and professional track faculty with a request to hold elections to replace any outgoing faculty Senators.
- The candidacy/election process for all staff, student, and single-member constituency Senators for 2020-2021 will begin on January 21, 2020. Additional details about the timeline and process can be found under the “Get Involved” tab on the Senate website.

SPECIAL ORDER: PRESIDENTIAL BRIEFING

President Loh thanked Parliamentarian Novara for his service to the University and provided brief remarks on the importance of academic democracy; changes in leadership to the State legislature leading to a new era of politics; the projected budget deficit; changes to K-12 education through the Kirwan Commission, which comes with a large price tag, the Historically Black Colleges & Universities (HBCU) Coalition lawsuit that has been ongoing for 12 years; funding for capital budget projects including a new public policy building; and the adenovirus recommendations that focused around coordination of the University’s communications.

- A Senator inquired about the University’s priorities for the budget. President Loh responded that the capital budget involves long-term planning but stated that the University will put in its requests the University System of Maryland (USM). He also noted that the University hoped for salary increases (COLA & merit), that SB1052 will include joint projects with the University of Maryland - Baltimore; and that the arrival of HQ2 will have a significant impact.

PCC PROPOSAL TO ESTABLISH A POST-BACCALAUREATE CERTIFICATE IN SUPPORTING CHILDREN WITH INTENSIVE BEHAVIOR NEEDS IN A PUBLIC SCHOOL SETTING (SENATE DOCUMENT #19-20-29)

Betsy Beise, member of the Programs, Curricula, and Courses (PCC) Committee presented the proposal and provided background information.

Senators did not discuss the proposal but voted to approve with **97 in favor, 1 opposed, and 2 abstentions**.

PCC PROPOSAL TO ESTABLISH A MASTER OF ARTS IN INTERNATIONAL RELATIONS (SENATE DOCUMENT #19-20-30)

Betsy Beise, member of the Programs, Curricula, and Courses (PCC) Committee presented the proposal and provided background information.

- Dean Orr raised concerns about the overlap with the public policy program. He stated that he met with the Dean Ball and agreed that this program was only intended to create a 4+1 between Government & Politics and Jilin University so they will work together to clarify the differences between the degrees and these options. He stated that they also agreed that if in the future they decided to offer a standalone MA in International Relations, this proposal would not be the basis for that program but rather the full process with the input of other units with similar programs would be involved.
- Beise clarified that the regular process was followed but noted that there is a plan to adjust the process to include a letter of intent in the future, which will correct any inaccuracies.

The Senate voted to approve the proposal with a vote of **77 in favor, 16 opposed, and 6 abstentions**.

2019-2020 NOMINATIONS COMMITTEE SLATE (SENATE DOCUMENT #19-20-31)

Laura Dugan, Chair-Elect & Chair of the Committee on Committees presented the slate and provided background information.

Senators did not discuss the slate but voted to approve it with **90 in favor, 1 opposed, and 6 abstentions.**

REVIEW OF THE INTERIM UNIVERSITY OF MARYLAND SEXUAL MISCONDUCT POLICY (SENATE DOCUMENT #19-20-03)

REVIEW OF THE INTERIM SEXUAL MISCONDUCT STUDENT PROCEDURES (SENATE DOCUMENT #19-20-04)

REVIEW OF THE INTERIM SEXUAL MISCONDUCT FACULTY PROCEDURES (SENATE DOCUMENT 19-20-05)

REVIEW OF THE INTERIM SEXUAL MISCONDUCT STAFF PROCEDURES (SENATE DOCUMENT #19-20-06)

Rachel Gammons, Chair of the Equity, Diversity, & Inclusion (EDI) Committee, Andrea Dragan, Chair of the Student Conduct Committee, Dan Lathrop, Chair of the Faculty Affairs Committee, and Jane Hirshberg, Chair of the Staff Affairs Committee presented the proposed revisions to the policy and procedures.

A Senator raised concerns about whether providing resources for the respondents would discourage victims from reporting.
Dragan responded that the committees were focused on incorporating information on the MHEC program attorneys and aligning the University's policy and procedures with the changes to state law and USM policy, but noted that the procedures remain unchanged. All of the protections that were previously in place for victims of sexual assault, such as interim measures, remain intact.

The Senate voted to approve the policy with **95 in favor, 2 opposed, and 5 abstentions**.

The Senate voted to approve the student procedures with **92 in favor, 2 opposed, and 5 abstentions**.

The Senate voted to approve the faculty procedures with **98 in favor, 2 opposed, and 2 abstentions**.

The Senate voted to approve the faculty procedures with **93 in favor, 2 opposed, and 5 abstentions**.

NEW BUSINESS

There was no New Business

ADJOURNMENT

The meeting was adjourned at 4:18 p.m.

Sexual Assault Prevention at the University of Maryland

Nate Burke

University Health Center
Campus Advocates Respond and Educate (CARE) to Stop Violence

Chair

UMD Sexual Assault Prevention Committee

UNIVERSITY
HEALTH CENTER

Objective

- To provide a status report on the campus sexual assault prevention plan approved by President Loh and the University Senate in April 2017.

(Senate Doc. No. 16-17-11).

Agenda

- Introduction
- Sexual Assault Prevention Task Force (SAPTF) Recommendations
- Sexual Assault Prevention Committee (SAPC) Implementation Timeline
- Current Progress and Next Steps
- Questions and Contact Information

Introduction

Hello!

Office of Civil Rights & Sexual Misconduct (OCRSM)

MISSION

Broadly, the mission is to support the University's commitment to a working and learning environment free from sexual misconduct and discrimination. OCRSM is responsible for overseeing and implementing the University's compliance with Title IX as well as other federal and state civil rights laws and regulations.

RESPONSIBILITIES

Coordinate UMD's compliance with Title IX, including:

- Grievance procedures for resolving Title IX (sexual misconduct and sex discrimination) complaints.
- Monitoring outcomes, identifying and addressing any patterns, and assessing effects on the campus climate,
- Collection and analysis of information from an annual climate survey,
- Assess, respond and investigate complaints of sexual misconduct and discrimination,
- Develop and conduct compliance, policy and prevention training for faculty, staff and students,
- Promote a UMD specific sexual misconduct awareness campaign, and
- Organize and facilitates campus wide awareness events.

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CARE to Stop Violence

University Health Center

CARE Peer Programs:

- CARE Education
- CARE Outreach
- CARE Advocacy

Apply Online:
go.umd.edu/UHCPeerPrograms

Advocacy and Therapy

- **Free and Confidential Services**
- **Crisis Response**
- **Therapy Groups / Support Groups**
- **Victim Assistance Fund**
- **Information and Resources:**
  - Medical care
  - Limited academic support
  - Legal/reporting options
  - Housing options
  - Financial assistance

Education and Outreach

- **Evidence-based interactive workshops:** Sexual Violence, Consent, Relationship Violence, Healthy Masculinity, Trauma & Healing, CARE 101
- **Programming:** The Clothesline Project, Purple Light Nights, Take Back the Night
- **Consultations:** Event support and resources for student organizations and departments

Sexual Assault Prevention Task Force (SAPTF)

Background

- Convened in Fall 2016
- Gathered information:
  - Peer institutions
  - Research evidence
  - Campus community feedback
  - Federal government guidance on prevention

Results

- Released report with recommendations in Spring 2017
- Report approved by University Senate

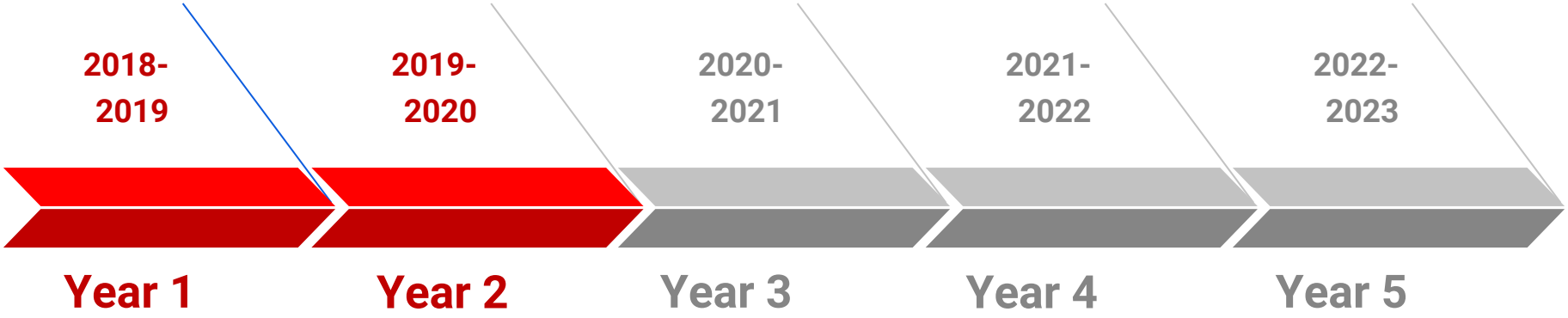
SAPTF Recommendations

- Establishment of the SAPC
- Sequential Student Programming
- College Action Plans
- University-Sponsored Events
- Centralized Prevention Website
- Messaging Campaign

Sexual Assault Prevention Committee

- Athletics
- Department of Fraternity and Sorority Life (DFSL)
- Graduate School
- Graduate Student Government (GSG)
- Office of Civil Rights and Sexual Misconduct (OCRSM)
- Orientation, Undergraduate Studies
- Preventing Sexual Assault (PSA) student organization
- Provost's Office
- Resident Life
- School of Public Health (SPH) faculty member, evaluation expert
- Strategic Communications
- Student Government Association (SGA) Sexual Misconduct Prevention Committee
- Title IX Student Advisory Board
- University Health Center / CARE

Implementation Timeline



Implementation Timeline

2018-19:

2019-20:

2020-21:

2021-22:

2022-23:

- Fourth-year undergraduate programming (in-person, not required)
- Additional non-required programming for faculty, staff, students (in-person)

Implementation Status

2018-19:

- ❑ Plan for assessment of current prevention training initiatives
- ❑ Centralized Website
- ❑ Messaging Campaign
- ❑ Plan for monitoring of intervention fidelity (first-year in-person training)

2019-20:

- ❑ First-year undergraduate programming (in-person)
- ❑ Graduate student orientation programming
- ❑ Implementation of College Action Plans
- ❑ New Faculty Orientation presentation
- ❑ Implementation of plan for monitoring of intervention fidelity (first-year in-person training)
- ❑ Implementation of plan for assessment of current prevention training initiatives

2020-21:

- ❑ Second-year undergraduate programming (online)
- ❑ Student organization leadership programming (online)
- ❑ Graduate assistant programming (online)

2021-22:

- ❑ Third-year undergraduate programming (online)
- ❑ Student leader summit (in-person)

2022-23:

- ❑ Fourth-year undergraduate programming (in-person, not required)
- ❑ Additional non-required programming for faculty, staff, students (in-person)

*Initial SAPTF timeline delayed one year

Implementation Status

2018-19:

- ☑ Plan for assessment of current prevention training initiatives
- ☑ Centralized Website
- ☑ Messaging Campaign
- ☐ Plan for monitoring of intervention fidelity (first-year in-person training)

2019-20:

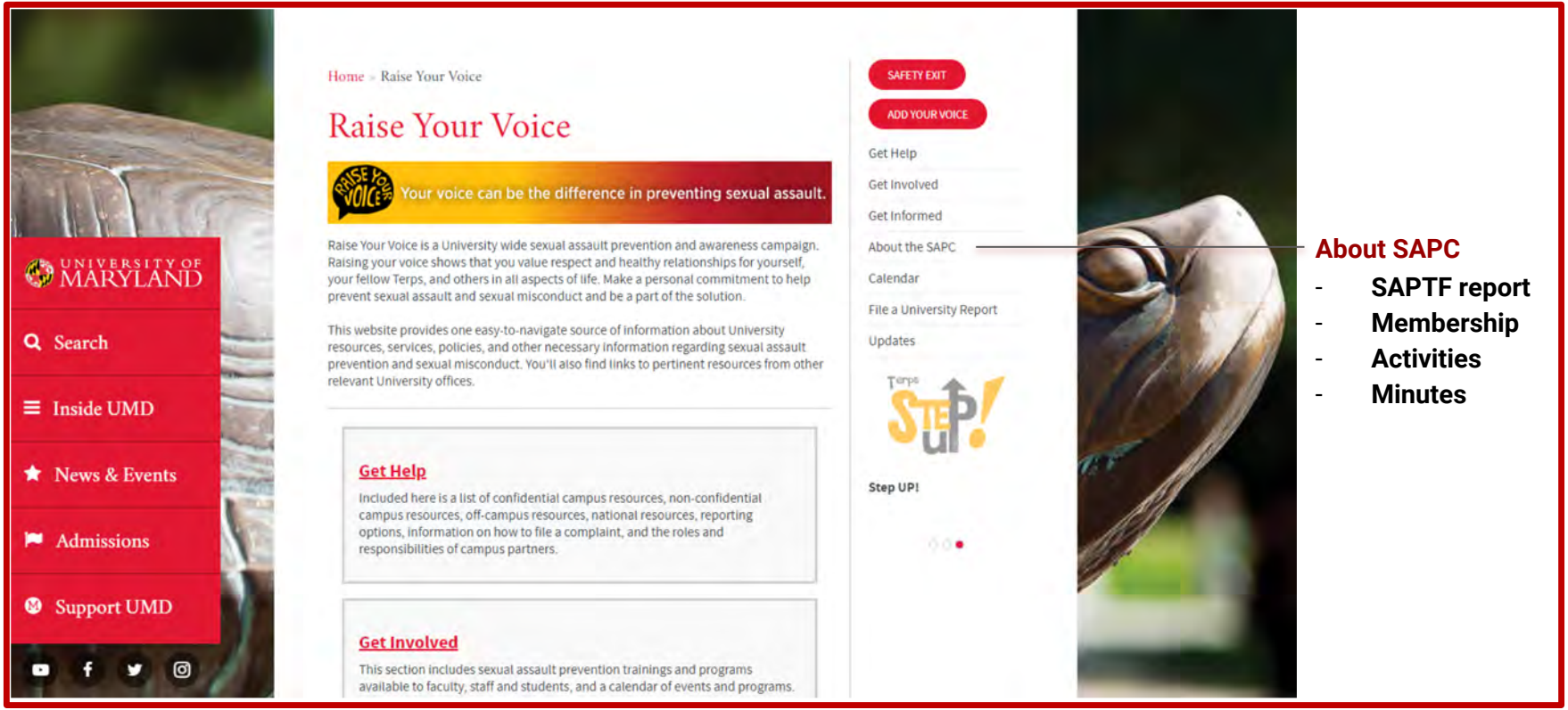
- ☑ First-year undergraduate programming (in-person)
- ☑ Graduate student orientation programming
- ☐ Implementation of College Action Plans
- ☑ New Faculty Orientation presentation
- ☐ Implementation of plan for monitoring of intervention fidelity (first-year in-person training)
- ☐ Implementation of plan for assessment of current prevention training initiatives

*Initial SAPTF timeline delayed one year

Current Activities of the SAPC

- **Raise Your Voice**
  - Centralized prevention website
  - Messaging campaign
  - Add Your Voice event log
- **College Action Plans (CAP)**
  - CAP Guide
  - Information Sessions
  - Consultations
  - Due April 1, 2020
- **EverFi Training Modules**
- **Prevention Programming**
  - Assessment Strategy
  - Fidelity Monitoring
- **Community Partnerships**
- **University-Wide Event**
- **Step Up! Bystander Training**

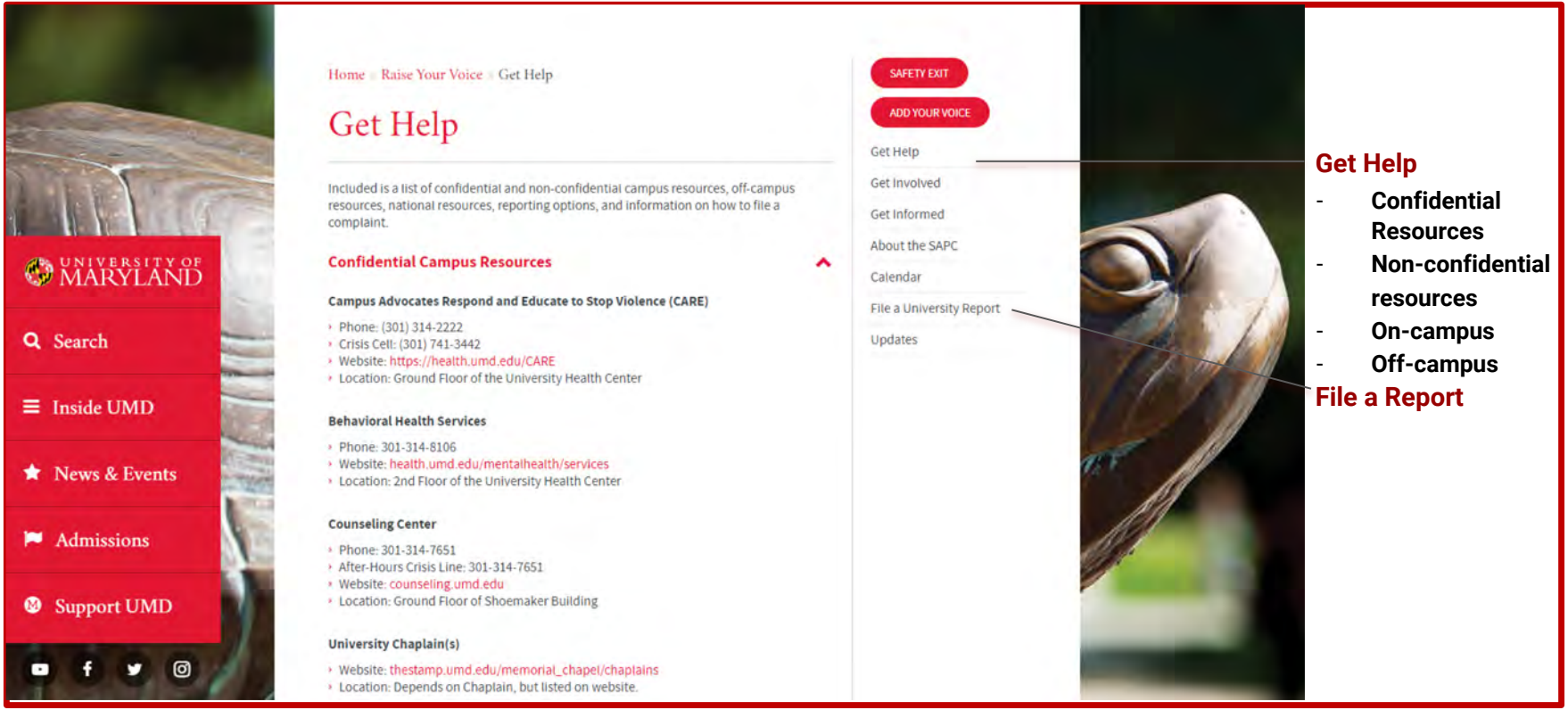
Raise Your Voice



About SAPC

- **SAPTF report**
- **Membership**
- **Activities**
- **Minutes**

Raise Your Voice



Step UP! Bystander Intervention Training

- Since 2014
- Focus on sexual assault prevention
- Bystander lens
- Fall 2019
  - 120 Workshops
  - Workshops conducted from 09/10-11/15
  - 3,510 first-year students reached so far
- 12 student facilitators
  - 7 first year educators
  - 5 returning Step Up! Educators

2018

- Staff-Peer Dyad
- Multiple locations
- Volunteer Educators

2019

- Peer-Peer Model
- Single Classroom
- Paid Student Educators

2019 Student Feedback

- 85% students satisfied with the presentation
- 88% stated the information would be useful
- 79% environment was conducive to discussion and questions
- 89% trainers were effective teachers

2019 Instructor Feedback

- 98% workshop was easy to follow
- 98% facilitators were knowledgeable about the content
- 100% content and scenarios were relatable to students
- 73% were satisfied with the engagement

College Action Plans (additional information)

What is a College Action Plan?

- A document outlining each College's definitive course of action for raising awareness about:
  - Sexual misconduct prevention resources;
  - Reporting options; and
  - Reporting obligations of faculty/staff within their respective Colleges.
- To promote campus-wide activities, consistent messaging, and University campaign materials; to get everyone on the same page across campus.

Why do Colleges need their own action plans?

- Rather than being fully comprehensive, a CAP commits each college to a few specific strategies that work best for their respective populations.

How will progress on College Action Plans be measured?

- Development leads will work with SAPC and CARE throughout AY2019-2020
- SAPC will report on the status of all CAPs during the Feb. Senate meeting
- CAPs will be continuously implemented from AY2020-2021 onward
- SAPC will report annually on CAP implementation to the Senate
- Provost will produce a CAP annual report

University Training Requirements (additional information)

Undergraduate and Transfer Students
- Orientation Session
- Sexual Misconduct Training
- Bystander intervention training (Step UP!)
- Second- and third-year follow-up trainings *starting 2020 and 2021 respectively

Graduate Students
- Sexual Misconduct Training

Faculty and Staff
- Sexual Misconduct Training

Additional Optional Training
- Student organization leaders, student athletes, fraternities and sororities
- CARE educational programs

Wrap Up

1. Currently on track with implementation timeline
2. CAPs due April 1st to SAPC and June 1st to Provost
3. All SAPC information and resources on Raise Your Voice website
4. Additional questions or feedback:
   Nate Burke nburke3@umd.edu

Questions?

CARE to Stop Violence is the **free, confidential** advocacy, therapy, and prevention education service on campus.

University Health Center
Ground Floor
M-F | 9 AM - 5 PM
No Appointment Needed
301.314.2222
uhc-care@umd.edu

health.umd.edu/care

@CAREUMD

24/7 Crisis Line: 301.741.3442
Fall & Spring Semesters

Sexual Assault Prevention at the University of Maryland

Nate Burke

University Health Center
Campus Advocates Respond and Educate (CARE) to Stop Violence

Email: nburke3@umd.edu

Chair
UMD Sexual Assault Prevention Committee

UNIVERSITY
HEALTH CENTER

PCC Proposal to Establish a Master of Science in Applied Political Analytics (PCC 19027)

PRESENTED BY	**Janna Bianchini, Chair, Senate Programs, Curricula, & Courses Committee**
REVIEW DATES	**SEC – January 27, 2020 | SENATE – February 5, 2020**
VOTING METHOD	**In a single vote**
RELEVANT POLICY/DOCUMENT	**NA**
NECESSARY APPROVALS	**Senate, President, University System of Maryland Board of Regents, and Maryland Higher Education Commission**

ISSUE

The Department of Government and Politics (GVPT) and the Joint Program in Survey Methodology (JPSM), within the College of Behavioral and Social Sciences (BSOS), propose to establish a Master of Science in Applied Political Analytics. This program will prepare students for careers at the intersection of political science and data science. Empirical analysis in political science is entering a new era of Big Data where a broad range of data sources have become available to researchers. Examples include network data from political campaigns, data from social media generated by individuals, campaign contributions and lobbying expenditures made by firms and individuals, and international trade flows data. People planning to work in this field need two different sets of skills. They must have the technical background to work with data sets of an order of magnitude unimaginable to previous generations. Developing and working with social and behavioral data presents unique challenges in measurement design, data collection, ethics and governance, communication, data management, modeling, and analysis. They must also have a rich background in political science so that they can meaningfully apply these analytical skills to important policy questions and issues.

The proposed program consists of 12 three-credit courses (36 credits total). 18 credits will be provided by GVPT, and 18 credits will be provided by JPSM. GVPT courses include the following: Research Design for Political Analytics; Voting, Campaigns, and Elections, Coding in Statistical Software; Public Opinion; the Logic and Practice of Measurement; and National Security and International Relations. JPSM courses include the following: Statistical Modeling I; Statistical Modeling II; Fundamentals of Data Collection I; Questionnaire Design and Evaluation; Fundamentals of Computing and Data Display; and Fundamentals of Inference.

GVPT and JPSM together are particularly well situated to offer a graduate program in political analytics. Political science has become increasingly quantitative, and GVPT has in recent years developed an exciting and innovative undergraduate program that features several courses focused on data analysis related to political questions. These courses have become quite popular with GVPT undergraduates as they see them as providing clear skills that are attractive to employers. The expectation is that many of the students who will enroll in the master's program will come from the GVPT bachelor's program as part of a combined bachelor's/master's program that will be

proposed after the master's program is approved. With GVPT providing the foundations of political science and many of the students, JPSM, the nation's oldest and largest program focused on offering graduate training in the principles and practices of survey research, will provide coursework that enables students to delve more deeply into the technical aspects of data collection, survey methods, and statistical modeling. This technical training will allow students to stand out in a growing, but crowded, job market for political analysts.

The program will be self-supported through tuition revenue.

This proposal was approved by the Graduate School Programs, Curricula, and Courses committee on November 21, 2019, and the Senate Programs, Curricula, and Courses committee on December 6, 2019.

RECOMMENDATION(S)

The Senate Committee on Programs, Curricula, and Courses recommends that the Senate approve this new degree program.

COMMITTEE WORK

The committee considered this proposal at its meeting on December 6, 2019. Margaret Pearson, Professor and Interim Chair of Government and Politics, Chris Antoun, Assistant Research Professor in the Joint Program in Survey Methodology, and Wayne McIntosh, Associate Dean of the College of Behavioral and Social Sciences, presented the proposal and responded to questions from the committee. The proposal was approved by the committee.

ALTERNATIVES

The Senate could decline to approve this new degree program.

RISKS

If the Senate declines to approve this degree program, the university will lose an opportunity to offer a self-supported master's program that trains students to apply advanced data science skills to important political questions and issues.

FINANCIAL IMPLICATIONS

The advising, administrative, and instructional infrastructure already exist. Tuition revenue will be used to cover all program expenses and recoup an initial investment to start the program. Consequently, the program has no significant adverse financial implications.

University of Maryland PCC
Program/Curriculum/Unit Proposal

PCC Log No: 19027

Program: Master of Science Degree in Applied Political Analytics

Department/Unit: JPSM / GVPT

College/School: BSOS

Proposal Contact Person (with email):

Type of Action (check one):

- ☐ Curriculum change (includes modifying minors, concentrations/specializations and creating informal specializations)
  - ☐ Curriculum change is for an LEP Program
- ☐ *Rename a program or formal Area of Concentration*
- ☐ *Establish/Discontinue a formal Area of Concentration*
- ☐ Other:
- ☒ *Establish a new academic degree/certificate program*
- ☐ Create an online version of an existing program
- ☐ Establish a new minor
- ☐ *Suspend/Discontinue a degree/certificate program*
- ☐ Establish a new Master or Certificate of Professional Studies program
  - ☐ New Professional Studies program will be administered by Office of Extended Studies

Italics indicate that the proposal must be presented to the full University Senate for consideration.

Approval Signatures - *Please print name, sign, and date. For proposals requiring multiple unit approvals, please use additional cover sheet(s).*

1. Department Committee Chair N/A
2. Department Chair Margaret Pearson 9-9-19 Margaret Pearson
3. College/School PCC Chair Kristi Hall 10/17/19 Kristi Hall
4. Dean 10/17/19 Wayne McIntosh
5. Dean of the Graduate School (if required) 12/1/19
6. Chair, Senate PCC Janne Bianchini 12-6-19
7. University Senate Chair (if required)
8. Senior Vice President and Provost

Instructions:
When approved by the dean of the college or school, please send the proposal and signed form to the Office of the Associate Provost for Academic Planning and Programs, 1119 Main Administration Building, Campus-5031, and email the proposal document as an MSWord attachment to pcc-submissions@umd.edu.

Summary of Proposed Action (use additional sheet if necessary):

Unit Code(s) (to be entered by the Office of Academic Planning and Programs):

University of Maryland PCC
Program/Curriculum/Unit Proposal

PCC Log No:

Program: Master of Science Degree in Applied Political Analytics

Department/Unit: Joint Program in Survey Methodology / GVPT

College/School: BSOS

Proposal Contact Person (with email): Frauke Kreuter fkreuter@umd.edu

Type of Action (check one):

- ☐ Curriculum change (includes modifying minors, concentrations/specializations and creating informal specializations)
  - ☐ Curriculum change is for an LEP Program
- ☐ *Rename a program or formal Area of Concentration*
- ☐ *Establish/Discontinue a formal Area of Concentration*
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Approval Signatures - *Please print name, sign, and date. For proposals requiring multiple unit approvals, please use additional cover sheet(s).*

1. Department Committee Chair N/A
2. Department Chair Frauke Kreuter Digitally signed by Frauke Kreuter Date: 2019.09.09 22:17:03 +02'00'
3. College/School PCC Chair Kristi Hall Kristi L Hall 10/17/19
4. Dean 10/17/19 Wayne McIntosh
5. Dean of the Graduate School (if required)
6. Chair, Senate PCC
7. University Senate Chair (if required)
8. Senior Vice President and Provost

Instructions:
When approved by the dean of the college or school, please send the proposal and signed form to the Office of the Associate Provost for Academic Planning and Programs, 1119 Main Administration Building, Campus-5031, **and** email the proposal document as an MSWord attachment to pcc-submissions@umd.edu.

Summary of Proposed Action (use additional sheet if necessary):

Unit Code(s) (to be entered by the Office of Academic Planning and Programs):

In order to complete this form, you will need to copy this template to your own document, then complete, print, and submit this proposal with the PCC Cover Sheet

Program: Master of Science Degree in Applied Political Analytics

Date of Proposal:

Start Term for New Program: Fall 2020

A new degree program proposal will need to be approved not just by campus but also by the University System of Maryland (USM) Board of Regents and the Maryland Higher Education Commission (MHEC). New certificate programs need to be approved by the USM Chancellor and MHEC. The following prompts are based on academic policies for programs and reflect campus requirements and MHEC requirements. The prompts also include questions frequently asked by review committees. See http://mhec.maryland.gov/institutions_training/Pages/acadaff/AcadProgInstitApprovals/NewAcademicProgramProposals.aspx for more information about MHEC requirements. Please feel free to add additional information at the end of this document or in a separate appendix.

Mission and Purpose

1. Describe the program and explain how it fits the institutional mission statement and planning priorities. The University Mission Statement and Strategic Plan can be found on this site: https://www.umd.edu/history-and-mission.

The Department of Government and Politics (GVPT) and the Joint Program in Survey Methodology (JPSM) are proposing the development of a joint Master of Science Degree in Applied Political Analytics. This program will prepare students for careers at the intersection of political science and data science. Empirical analysis in political science is entering a new era of Big Data where a broad range of data sources have become available to researchers. Examples include network data from political campaigns, data from social media generated by individuals, campaign contributions and lobbying expenditures made by firms and individuals, and international trade flows data. How can we take advantage of these new data sources and improve our understanding of politics?

The proposed program supports two particular elements of the University' Mission Statement. First, the Mission Statement stresses the importance of multi-disciplinary approaches and says in part that the University "… is at the forefront of advanced knowledge in areas that increasingly depend on multi-disciplinary approaches, including energy, the environment, health, climate change, food safety, security, and information sciences." Second, the Mission Statement lists among its objectives for graduate education "Expand excellent professional graduate programs that are nationally recognized for their contributions to the practice of the professions, for their pioneering curricula, and for their spirit of innovation and creativity."

The proposed program is at its heart multi-disciplinary. People planning to work in this field need two different sets of skills. They must have the technical background to work with data sets of an order of magnitude unimaginable to previous generations. Developing and working with social and behavioral data presents unique challenges in measurement design, data collection, ethics and governance, communication, data management, modeling, and analysis. They must also have a rich background in political science so that they can meaningfully apply these analytical skills to important policy questions and issues.

The proposed program is a pioneering effort. There are only a handful of programs that train graduate students to work at the intersection of political science and data science. We expect the proposed program to be recognized quickly as a leading program in this growing field.

GVPT and JPSM are particularly well qualified to offer a graduate program in political analytics. GVPT has developed an exciting and innovative undergraduate program in quantitative analysis of politics. They offer a variety of courses for students who desire more rigorous training in data analytics within the major. A recent external review of the department was particularly impressed that these courses both teach and require programming in R, a skill that students recognize will give them an advantage in future careers. The external review committee argued that few other major departments offer a similarly developed array of courses in methods at the undergraduate level.

JPSM is the nation's oldest and largest program originally focused on offering graduate training in the principles and practices of survey research. Over the last years the scope within JPSM has dramatically increased to include administrative data and other digital trace. Studying errors and biases in the process of collecting such data, creating measurements from those data, and developing methods to analyze these data by themselves and in conjunction with survey data is now an added focus. This also opens the door to further collaboration with experts in data curation, management and access. JPSM has a core group of five faculty with partial appointments in departments in BSOS such as Sociology and Economics as well as Departments outside of BSOS such as Mathematics and Biostatistics.

Program Characteristics

2. Provide the catalog description of the proposed program. As part of the description, please indicate any areas of concentration or specializations that will be offered.

The Master of Science Degree in Applied Political Analytics is offered jointly by the Department of Government and Politics and the Joint Program in Survey Methodology. The program provides advanced training in the application of data science to the analysis of key issues in political science. The program will prepare students for careers in the private sector, research centers, NGO's, and federal, state, and local government agencies.

The Master of Science in Applied Political Analytics consists of 18 credits in political science and 18 credits in data science. Students will complete a major project in one of their courses that will give them the opportunity to apply the core skills that they have acquired in the program to address real-world problems.

3. What are the educational objectives of the program?

The curriculum will include graduate courses in the Department of Government and Politics and the Joint Center for Survey Methodology. The proposed curriculum has been designed to meet five objectives:

- Provide a more rigorous theoretical background in at least one major sub-field in political science.
- Enhance a student's existing understanding of political analysis (from undergraduate coursework) with a rigorous introduction to additional analytical tools
- Provide a venue for students to practice theoretically rigorous political analysis with their expanded tool set.
- Provide a rigorous understanding of the fundamentals of data science.
- Introduce students to the key tools of "Big Data" collection, management, and analysis.

4. Describe any selective admissions policy or special criteria for students interested in this program.

We expect most students to enroll in this program as part of a 4+1 joint Bachelor's/Master of Science program in Applied Political Analytics. GVPT and JPSM plan to submit a separate PCC proposal for this program and we will outline the admissions policy for 4+1 students in that proposal.

Students who do not apply to the 4+1 program must meet the admissions criteria as established by the Graduate School:

- Applicants must have earned a four-year baccalaureate degree from a regionally accredited U.S. institution, or an equivalent degree from an institution outside the U.S.
- Applicants must have earned a 3.0 GPA (on a 4.0 scale), or the equivalent on other scales, in all prior undergraduate and graduate coursework.
- Applicants must provide an official copy of transcripts for all of their post-secondary work.
- International students must fulfill all requirements relating to international academic credentials, evidence of English proficiency, and financial certification. These requirements are available on the Graduate School's web site https://gradschool.umd.edu/admissions/international-admissions.

Applicants to the program must meet the following additional requirements:

- Complete the following undergraduate coursework
    - GVPT 422 Quantitative Politics Analysis or an equivalent course on quantitative methods of data analysis in the social sciences
    - At least two additional quantitative methods courses that focus on data analysis in the social sciences. University of Maryland GVPT graduates can satisfy this requirement by completing two of the following three courses:
        - GVPT 420: The Logic and Practice of Measuring Political Behavior
        - GVPT 421: Advanced Quantitative Methods
        - GVPT 424: Quantitative Study of International Relations
- Complete an essay describing the applicant's experience and interest in politics and data science.
- Submit two letters of recommendation.
- Submit results from the Graduate Record Examination General test.

5. Indicate the course requirements with course numbers, titles and credits. If applicable, indicate if any course will also count for a general education requirement. In an appendix, provide the course catalog information (credits, description, prerequisites, etc.) for all of the courses. Note that suffixed "selected" or "special" topics courses should be avoided. If suffixed-selected or special topics courses are offered regularly in the new program, you should make the courses permanent. Also, please review the basic requirements of degree programs or certificate programs to ensure that they meet the minimum policy requirements.

Please note: new courses or modifications to courses need to be submitted through the Testudo Curriculum Management system and will need to follow the normal VPAC course proposal review process. You may submit individual course changes to VPAC concurrently with the PCC proposal; however, the course changes may be held depending on the outcome of the PCC proposal.

Students in this program will be required to take 12 three-credit courses. GVPT will develop six new courses to be included in the program; the department will develop separate proposals for those courses. Initially, JPSM will include students in this program in its existing graduate courses. As the program grows, JPSM will offer separate sections of those courses for students in this program. Both units plan to add additional courses to the program as the program expands so that students have the opportunity to choose courses that best meet their education objectives.

GVPT6xx	Research Design for Political Analytics
GVPT6xx	Voting, Campaigns, and Elections
GVPT6xx	Coding in Statistical Software
GVPT6xx	Public Opinion
GVPT6xx	The Logic and Practice of Measurement
GVPT6xx	National Security and International Relations
SURV615	Statistical Modeling I
SURV616	Statistical Modeling II
SURV621	Fundamentals of Data Collection I
SURV630	Questionnaire Design and Evaluation
SURV727	Fundamentals of Computing and Data Display
SURV740	Fundamentals of Inference

Catalog information for all of these courses is included in Appendix A to this proposal.

6. Summarize the factors that were considered in developing the proposed curriculum (such as recommendations of advisory or other groups, articulated workforce needs, standards set by disciplinary associations or specialized-accrediting groups, etc.).

The field of Political Science has become increasingly quantitative, and GVPT has in recent years added several courses focused on analysis of data related to political questions. These courses have become quite popular with GVPT students as they see them as providing clear skills that are attractive to employers. GVPT alumni have indicated in several cases that they have gotten jobs based on the skills they acquired in these types of classes. In the Spring of 2018, GVPT had an external review and the external review committee commended the department in its strength in undergraduate instruction in political methodology and encouraged further development in that area.

Employers across the government, private, and non-profit sectors increasingly understand that data can help them reach their organizations' goals. In a 2017 report from LinkedIn[1], data related jobs were prominent among the top 10 fastest growing jobs. The report also indicates that data scientist positions have shown a 650% rate of growth and large shortage of qualified applicants to fill those jobs. In the campaign world alone, the last several election cycles have seen a proliferation of new companies specializing in data analytics and existing firms adding capacity in this area.

Whether it is understanding which message to use to encourage a citizen to register to vote or what services are needed to support programs to reduce radicalization among at-risk youth, data driven strategies are a key to success. In order to be most effective, the workforce needs more than just technical skills. That is, with a firm foundation in the theoretical and empirical research the most successful employees will be able to communicate more effectively with clients and adapt to new questions and issues as they arise. The MS in Political Analytics program is designed to provide students with this foundation.

[1] https://economicgraph.linkedin.com/research/LinkedIns-2017-US-Emerging-Jobs-Report last visited 12/5/18.

7. Sample plan. Provide a term by term sample plan that shows how a hypothetical student would progress through the program to completion. It should be clear the length of time it will take for a typical student to graduate. For undergraduate programs, this should be the *four-year plan.*

GVPT and JPSM are developing a proposal to incorporate the MS in Political Analytics in a combined Bachelor's/MS program (i.e., a 4 + 1). We expect most of the students in this program will be 4 + 1 students who will begin the program in their senior year. We expect them to take four courses while still undergraduates and to then complete the program in two semesters by taking four courses per semester. A sample program for those students would be as follows:

- Year 1 (senior year for 4 + 1 students)
  - GVPT6xx Research Design for Political Analytics
  - GVPT6xx Coding in Statistical Software
  - SURV615 Statistical Modeling I
  - SURV621 Fundamentals of Data Collection I

- Year 2 (5th year for 4 + 1 students)
  - GVPT6xx Public Opinion
  - GVPT6xx Voting, Campaigns, and Elections
  - GVPT6xx The Logic and Practice of Measurement
  - GVPT6xx National Security and International Relations
  - SURV616 Statistical Modeling II
  - SURV630 Questionnaire Design and Evaluation
  - SURV727 Fundamentals of Computing and Data Display
  - SURV740 Fundamentals of Inference

We anticipate some students will start the Master of Science Degree in Applied Political Analytics after completing their undergraduate degrees. Those students could complete the program in three semesters of full-time course work. We expect some people will pursue this degree as part-time students while continuing to work. The program is flexible and can accommodate those students. If students take two courses each semester they will complete the program in three academic years. They will be able to accelerate their progress if JPSM and GVPT decide to offer some courses during the summer as the program grows.

8. Indicate whether the program will be offered either online or off-campus. Please note that MHEC requires a separate proposal for off-campus delivery. If the program will be offered exclusively online or will have both a face-to-face and online version of the program, please complete this additional form and add as an appendix:
https://docs.google.com/document/d/1ojpUBt4mAWlNPCiQNzZ48UH68zGPYj31TPgEOfW3q1E/

All of the courses in the proposed program will be taught at the College Park campus. The courses taught by JPSM will take advantage of its video conferencing technology to link College Park classrooms with its partners, the University of Michigan and Westat.

9. If the program will be offered in a non-semester format, identify the term structure that will be used for the program:

- **Approved Campus 12-Week Term (see Academic Calendars)**
- ***Non-Standard Term**

***If you are using a non-standard term structure, indicate whether relevant offices, such as the Registrar's Office and International Scholar & Student Services, have been notified and support the program. Non-standard terms need to fit within the university's scheduling system calendar, and non-standard terms need to work with international student visa requirements.**

Term structure: The program will be offered in a traditional semester format.

10. For Master's degree programs, describe the thesis requirement and/or the non-thesis requirement.

The program will not have a thesis requirement.

11. List the intended student learning outcomes. In an appendix, provide the plan for assessing these outcomes.

The Master of Science in Applied Political Analytics Program has five learning outcomes, which are listed below:

- Provide a more rigorous theoretical background in at least one major sub-field in political science.
- Enhance a student's existing understanding of political analysis (from undergraduate coursework) with a rigorous introduction to additional analytical tools
- Provide a venue for students to practice theoretically rigorous political analysis with their expanded tool set.
- Provide a rigorous understanding of the fundamentals of data science.
- Introduce students to the key tools of "Big Data" collection, management, and analysis.

In one of the substantive political science courses the students will take toward the end of the program (Public Opinion, Voting, Campaigns, and Elections, The Logic and Practice of Measurement, and National Security and International Relations), they will complete a major final project which demonstrates each of these skills. We will assess all student's achievement of these learning outcomes each year.

A faculty committee that oversees the Master of Science in Applied Political Analytics program, led by a full professor, will develop rubrics which will be used to assess student mastery of each of these learning objectives. Faculty members will then use the rubric to assess each major project produced in each academic year. The rubric will contain categories related to the specific learning outcome and students will be assessed as "Advanced," "Proficient," "Developing" or "Novice" in each category. The individual categories will be

aggregated to produce an overall score. Our overall goal is that 80% of the students are scored as "Advanced" or "Proficient" on the learning outcome assessed.

This assessment will be conducted annually. We will assess 1-2 learning outcomes per year, and every outcome will be assessed at least every four years.

The results of this assessment will be discussed in the faculty committee, as well as among the faculty of GVPT and JPSM. We will use this discussion to continually improve the overall curriculum and the content of the specific courses offered within the MS degree to enhance student learning.

12. Identify specific actions and strategies that will be utilized to recruit and retain a diverse student body.

GVPT, JPSM, and the College of Behavioral and Social Sciences more broadly are committed to the recruitment, retention and professional development among members of minority groups, and to increase graduation rates of diverse student populations. We will work closely with the BSOS Assistant Dean for Diversity Kim Nickerson to develop programs and strategies to advance our diversity objectives. Our diversity plans will include, for example,

- Working closely with campus minority student groups so that students from groups that are under-represented in political science are aware of our program.
- Developing a program to match students with faculty mentors.
- Reaching out to Historically Black Colleges and Universities and other schools with significant numbers of minority undergraduates.
- Taking advantage of the American Political Science Association's many programs to promote diversity.

The Department of Government and Politics and the Joint Program in Survey Methodology are committed to supporting students and ensuring a fear-free, inclusive space where all students can thrive. GVPT and JPSM recognize non-binary gender identifications, as well as the difference between assigned biological sex and gender expression. They encourage students, faculty, and staff to share and honor preferred pronouns and names.

Relationship to Other Units or Institutions

13. If a required or recommended course is offered by another department, discuss how the additional students will not unduly burden that department's faculty and resources. Discuss any other potential impacts on another department, such as academic content that may significantly overlap with existing programs. Use space below for any comments. Otherwise, add supporting correspondence as an appendix.

There are no required or recommended courses in this program offered by another department.

14. Accreditation and Licensure. Will the program need to be accredited? If so, indicate the accrediting agency. Also, indicate if students will expect to be licensed or certified in order to engage in or be successful in the program's target occupation.

This program will not need to be accredited.

15. Describe any cooperative arrangements with other institutions or organizations that will be important for the success of this program.

There will not be any cooperative arrangements with other institutions

Faculty and Organization

16. Faculty and organization. Who will provide academic direction and oversight for the program? As an appendix, please indicate the faculty involved in the program. Include their titles, credentials, and courses they may teach for the program. Please also describe the unit's faculty training practices.

The proposed program will be administered by the campus Office of Extended Studies.

GVPT and JPSM will choose a program director from their tenured faculty. The GVPT director of graduate studies will initially serve as director. We will also form an advisory board for the program that will include at least one faculty member from GVPT and one faculty member from JPSM, a current student in the program, and one or more members from outside the university. The outside members will be from institutions that employ people with the skills and background of the graduates of the proposed program.

The program will hire Professional Track (PTK) Faculty who will be responsible for teaching in the program. We will assess the need for Teaching Assistants in these courses based on the number of students enrolled in the program and the subject matter in each individual course. We anticipate that a number of courses will be taught by recent GVPT PhD's. Initially we will include students in this program in current JPSM 600-level classes. JPSM will add additional sections of those classes as this program grows.

The College of Behavioral and Social Sciences (BSOS) and the College of Information Science (the iSchool) recently announced the creation of the Center for the Advances in Data and Measurement (CADM). The proposed Master of Science Degree in Applied Political Analytics will benefit greatly from CADM.

CADM has three objectives:

- Develop the university's capacity to conduct contract and applied research in data science and measurement in support of social science and related areas.
- Recruit, retain, and support the work of leading scholars from diverse disciplines who produce high impact data science and measurement research in support of social sciences.
- Educate the next generation of researchers and data scientists onsite and through long distance education for careers such as survey methodologists, political analysts, quantitative sociologists, applied economists, computational criminologists, social media analysts, data journalists, city planners.

CADM will continue all of JPSM's graduate programs including its PhD in Survey Methodology, Master's in Survey Methodology (to be renamed Master's in Data Management), International Program in Survey and Data Science, and its certificates in Survey Methodology and Survey Statistics. It will also administer the iSchool's Master's in Information Management program. CADM will have an excellent infrastructure to administer the proposed program. CADM administrators and faculty have extensive experience with a broad range of graduate level programs.

Resource Needs and Sources

17. Each new program is required to have a library assessment prepared by the University Libraries in order to determine any new library resources that may be required. Please contact the University Libraries staff person who is your departmental/programmatic liaison or Daniel Mack at dmack@umd.edu, Associate Dean of Collections, to request a library assessment that will be added as an appendix. Please note that this assessment must be done by the University Libraries.

Please see the library assessment we have included in Appendix B to this proposal.

18. Discuss the adequacy of physical facilities, infrastructure and instructional equipment.

The proposed program will not lead to any additional burdens on existing physical facilities, infrastructure, or instructional equipment.

19. Discuss the instructional resources (faculty, staff, and teaching assistants) that will be needed to cover new courses or needed additional sections of existing courses to be taught. Indicate the source of resources for covering these costs.

We plan to use the tuition revenue to offset the cost of hiring instructors and adjunct faculty, graduate assistants, and a part-time advisor. It is understood that the proposed program will not receive any tuition if undergraduates take courses in the program as part of a 4+1 bachelor's degree and master's degree.

20. Discuss the administrative and advising resources that will be needed for the program. Indicate the source of resources for covering these costs.

We do not anticipate the proposed program placing significant additional burdens on the CADM, JPSM, and GVPT administrative infrastructure. We will pay for a part-time advisor from the revenue generated by the program (please see our response to question 19).

21. The Maryland Higher Education Commission (MHEC) commission requires financial tables to describe the program's financial plan for the next five years. Please consult with our office before completing these templates: https://docs.google.com/spreadsheets/d/1V6iSZG05edMitWP6CAOXjCoGO58Gf6VXxPaacKfrhZ4/edit#gid=0. Once finalized in consultation with our office, these tables must be added as attachments. Use the space below for any additional comments on program funding.

Please see the financial tables we have included in Appendix C to this proposal.

Implications for the State (Additional Information Required by MHEC and the Board of Regents)
If the proposed program is for a Post-Baccalaureate Certificate that is derived entirely from existing courses within an existing Master's degree program, then you **only** need to respond to prompts 22 (on market demand) and 25 (curriculum of current master's degree program).

22. Explain how there is a compelling regional or statewide need for the program. Argument for need may be based on the need for the advancement of knowledge and/or societal needs, including the need for "expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education." Also, explain how need is consistent with the Maryland State Plan for Postsecondary Education.

Not surprisingly, the Washington DC area is extremely attractive to people who are interested in careers in politics or public policy. Their plans might include, for example, positions on Capitol Hill or in an NGO such as the World Bank or International Monetary Fund, a research organization such as the Brookings Institution, a political campaign, or one of the federal agencies.

Many, however, will find it difficult to stand out in a crowded job market. And the market is indeed crowded; each year US colleges and universities grant degrees to more than 160,000 undergraduates who majored in one of the social sciences or history. The proposed MS in Political Analytics will give people valuable marketable skills that will give them a significant competitive advantage in the Washington market. Many people are interested in politics and public policy. Graduates of the proposed program will be very well positioned to compete for jobs in those areas.

23. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program. Possible sources of information include industry or disciplinary studies on job market, the USBLS Occupational Outlook Handbook, or Maryland state Occupational and Industry Projections over the next five years. Also, provide information on the existing supply of graduates in similar programs in the state (use MHEC's Office of Research and Policy Analysis webpage for Annual Reports on Enrollment by Program) and discuss how future demand for graduates will exceed the existing supply. As part of this analysis, indicate the anticipated number of students your program will graduate per year at steady state.

The U.S. Bureau of Labor Statistics (BLS) estimates that employment in mathematical science occupations is projected to grow 27.9 percent from 2016 to 2026, much faster than the average for all occupations, resulting in about 50,400 new jobs. Three of the four detailed occupations that comprise this broader employment category are expected to be among the top 30 fastest growing occupations through 2026.[2] BLS classifies data scientists as statisticians; BLS estimates that the demand for statisticians will grow by 34 percent in the 2016-2026 period. With the explosion of data across all industries, it's not surprising that data scientist has topped the list of best

[2] See https://www.bls.gov/opub/btn/volume-7/big-data-adds-up.htm.

jobs in America for three straight years, with a median base salary of $110,000 and more than 4,500 job openings, according to **Glassdoor's 2018 50 Best Jobs in America report.**

In March 2018, the Department of Government & Politics distributed a survey to GVPT majors enrolled in 300 and 400-level courses (586 unique students) asking about their interest in a program like the one proposed here. Eighty-six students took the survey, with 63 completing all questions. The students were primarily juniors (38%) and seniors (33%). Respondents were asked to rate the importance of a set of skills to achieving their career objectives, including data analysis, research design, questionnaire design, public speaking, and writing. The majority of students recognized data analysis and research design skills, the core components of the proposed program as important for their career objectives. With regard to data analysis skills, 46% of the respondents indicated these skills were "extremely important" and another 24% said they were "very important." Additionally, 39% responded that research design was extremely important, with another 31% indicating these skills were "very important."

We also asked respondents about the likelihood that they would enroll in a graduate program in Political Analytics like the one we are proposing. Seniors were asked how likely they would have been to enroll, the other respondents were asked how likely they would be to enroll. Thirty-seven percent of the respondents indicated they would be "very likely" to enroll; 38% said "somewhat likely" and 14% were undecided. Overall, this survey suggests that GVPT students see gaining data analysis skills as important to their career objectives and are interested in a graduate program like the MS in Political Analytics.

24. Identify similar programs in the state. Discuss any differences between the proposed program and existing programs. Explain how your program will not result in an unreasonable duplication of an existing program (you can base this argument on program differences or market demand for graduates). The MHEC website can be used to find academic programs operating in the state: http://mhec.maryland.gov/institutions_training/pages/HEPrograms.aspx.

There are data science graduate programs in the state and the Washington, DC area but none are directly comparable to the proposed program.

- Johns Hopkins offers an online and an online\on-site master's degree program in data science. Their program does not include an option to work at the intersection of political science and data science.
- George Washington's Master's in Data Science would allow a student to take at most two courses in political science.
- Georgetown's Master of Science in Analytics does not include an option to take coursework in political science.
- American University's Master of Data Science does have an option to focus on the application of data science to public policy and politics and so is closest in design to the proposed program. Given the well-recognized strengths of GVPT and JPSM we are confident we can compete effectively with the American University program.
- The MS in Business Analytics at the Robert H. Smith School of Business and UMBC's and Loyola data science programs are focused almost exclusively on business applications of data science.

25. Discuss the possible impact on Historically Black Institutions (HBIs) in the state. Will the program affect any existing programs at Maryland HBIs? Will the program impact the uniqueness or identity of a Maryland HBI?

The proposed program will have little or no impact on Maryland's Historically Black Institutions. Bowie recently received a $400,000 NSF grant to incorporate data science in its undergraduate program. The grant is likely to lead Maryland's first undergraduate certificate program in data science analytics. We do not believe Bowie State plans to develop a graduate program in data science. Morgan State has a multidisciplinary bioinformatics program that is quite different from the program proposed here.

26. For new Post-Baccalaureate Certificates derived from existing master's programs only, include the complete curriculum of the existing master's program.

Not applicable.

Appendix A
Course Descriptions

GVPT6xx: Research Design for Political Analytics (3 credits)

This course will introduce students to the empirical research techniques used in political science. Students will explore the core questions that motivate political science research and the approaches used to answer those questions. Students will understand when and how to implement research designs that utilize experiments, surveys, case studies, historical data, and administrative data.

GVPT6xx: Coding in Statistical Software (3 credits)

This course will introduce students to different statistical software packages l used in empirical political research and which they will use in later substantive courses. Students will receive instruction in beginning programming in these packages, which will STATA and R.

GVPT6xx: Public Opinion (3 credits)

This course will investigate how citizens in a democracy think about politics, form attitudes, and how public opinion shapes and is shaped by the political environment. While being exposed to core debates in public opinion and the study of public opinion, students will use a number of surveys that have been central to advancing our knowledge of public opinion.

GVPT6xx: Voting, Campaigns, and Elections (3 credits)

This course will introduce students to the theoretical and empirical research on political participation, campaigns, and elections. By gaining an understanding of the literature and working with a variety of data sets, including surveys and voter history files, students will be equipped to carry out their own research on these topics.

GVPT6xx: The Logic and Practice of Measurement (3 credits)

This course will introduce students to core concepts necessary to measure political behavior. Students will learn to take ideas from the concept stage to measurement of the concepts as part of a research design to answer theoretically motivated questions about political behavior and other political activity.

GVPT6xx: National Security and International Relations (3 credits)

This course will introduce students to key areas of research in national security and international relations. Students will learn the major approaches to empirical research on national and international security and work with datasets focused on terrorist attacks and civil conflict.

SURV615: Statistical Methods I (3 credits)

The purpose of this class is to learn basic statistical methods through the use of linear model theory and regression. Particular topics covered include one- and two-sample t-tests, multiple linear regression, analysis of variance, regression diagnostics, model-buiding techniques, random effects models, and mixed models. The emphasis will be to understand and apply the methods presented, and develop a feel for how problems in data analysis can be viewed in several different ways. In all cases the emphasis will be on understanding the techniques, rather than deriving their theoretical properties. The student will be expected to apply the techniques on weekly homework assignments, a midterm project, and a final project.

SURV616: Statistical Methods II (3 credits)

Builds on the introduction to linear models and data analysis provided in Statistical Methods I. Topics include: Multivariate analysis techniques (Hotelling's T-square, Principal Components, Factor Analysis, Profile Analysis, MANOVA); Categorical Data Analysis (contingency tables, measures of association, log-linear models for counts, logistic and polytomous regression, GEE) and Lifetime Data Analysis (Kaplan-Meier plots, logrank tests, Cox regression).

SURV621: Fundamentals of Data Collection I (3 credits)

This course is the first semester of a two-semester sequence that provides a broad overview of the processes that generate data for use in social science research. Students will gain an understanding of different types of data and how they are created, as well as their relative strengths and weaknesses. A key distinction is drawn between data that are designed, primarily survey data, and those that are found, such as administrative records, remnants of online transactions, and social media content. The course combines lectures, supplemented with assigned readings, and practical exercises. In the first semester, the focus will be on the error that is inherent in data, specifically errors of representation and errors of measurement, whether the data are designed or found. The psychological origins of survey responses are examined as a way to understand the measurement error that is inherent in answers. The effects of the mode of data collection (e.g., mobile web versus telephone interview) on survey responses also are examined.

SURV630: Questionnaire Design and Evaluation (3 credits)

This course focuses on the development of the survey instrument, the questionnaire. Topics include wording of questions (strategies for factual and non-factual questions), cognitive aspects, order of response alternatives, open versus closed questions, handling sensitive topics, combining individual questions into a meaningful questionnaire, issues related to question order and context, and aspects of a questionnaire other than questions. Questionnaire design is shown as a function of the mode of data collection such as face-to-face interviewing, telephone interviewing, mail surveys, diary surveys, and computer-assisted interviewing.

SURV727: Fundamentals of Computing and Data Display (3 credits)

Empirical social scientists are often confronted with a variety of data sources and formats that extend beyond structured and handleable survey data. With the emergence of Big Data, especially data from web sources play an increasingly important role in scientific research. However, the potential of new data sources comes with the need for comprehensive computational skills in order to deal with loads of potentially unstructured information. Against this background, the first part of this course provides an introduction to web scraping and APIs for gathering data from the web and then discusses how to store and manage (big) data from diverse sources efficiently. The second part of the course demonstrates techniques for exploring and finding patterns in (non-standard) data, with a focus on data visualization. Tools for reproducible research will be introduced to facilitate transparent and collaborative programming. The course focuses on R as the primary computing environment, with excursus into SQL and Big Data processing tools.

SURV740: Fundamentals of Inference (3 credits)

This course is one of the fundamental 3 courses required by all students in the Master's Program in Survey Methodology, and focuses on the fundamentals of statistical inference in the finite population setting.

The course is design to overview and review fundamental ideas of making inferences about populations. It will emphasize the basic principles of probability sampling; focus on differences between making predictions and making inferences; explore the differences between randomized study designs and observational studies;

consider model-based vs. design-based analytic approaches; review techniques designed to improve efficiency using auxiliary information; and consider non-probability sampling and related inferential techniques.

Appendix B
Library Assessment

DATE: July 19, 2019
TO: Robert Schwab
Professor Emeritus
Department of Economics
FROM: On behalf of the University of Maryland Libraries:
Judy Markowitz, Librarian for Government & Politics, Public Policy, Women's Studies, LGBT Studies
Maggie Saponaro, Director of Collection Development Strategies
Daniel Mack, Associate Dean, Collection Strategies & Services
RE: Library Collection Assessment for MS in Applied Political Analytics

We are providing this assessment in response to a proposal by the Department of Government and Politics (GVPT) and the Joint Program in Survey Methodology (JPSM) to create the Master of Science in Applied Political Analytics. GVPT and JPSM asked that we at the University of Maryland Libraries assess our collection resources to determine how well the Libraries support the curriculum of this proposed program.

Journals

The University of Maryland Libraries currently subscribe to many scholarly journals—almost all in online format--that focus on Political Science and Data Science.

The Libraries subscribe to all of the top ranked journals listed in the Political Science and Social Sciences, Mathematical Methods categories in the Social Sciences Edition/Science Edition of *Journal Citation Reports.* * The following titles are the top ten titles for those categories, all of which are available online:

Political Science

- International Organization
- American Journal of Political Science
- Political Communication (embargo on the most recent 18 months, use ILL)
- British Journal of Political Science
- Policy Studies Journal
- Annual Review of Political Science
- American Political Science Review
- Environmental Politics
- Journal of Democracy
- Governance: An International Journal of Policy, Administration and Institutions

Social Sciences, Mathematical Methods

- Structural Equation Modeling: A Multidisciplinary Journal
- Econometrica: Journal of the Econometric Society
- Review of Economcis and Statistics
- EPJ Data Science
- Sociological Methods & Research
- Journal of Mathematical Psychology
- Psychometrika

- Journal of Business & Economic Statistics
- Risk Analysis
- Mathematical Finance

In addition, we also subscribe to the top tier titles in the categories of Mathematics and Statistics & Probability. *Note: *Journal Citation Reports* is a tool for evaluating scholarly journals. It computes these evaluations from the relative number of citations compiled in the *Science Citation Index* and *Social Sciences Citation Index* database tools.

Databases

The Libraries' *Database Finder* (http://www.lib.umd.edu/dbfinder) resource offers online access to databases that provide indexing and access to scholarly journal articles and other information sources such as congressional publications and statistics. Databases that provide access to materials relevant to the fields in the proposed program include but are not limited to:

Government and Politics:

Academic Search Ultimate
Almanac of American Politics
America. History and Life
CQ Almanac
CQ Committee Coverage
CQ Congress Collection
CQ Voting and Elections Collections
Congressional Publications
Cross-National Time Series-Data Archive
EconLit
Historical Statistics of the United States
International Political Science Abstracts
JSTOR
National Journal Policy Database
Oxford Handbooks Online: Political Science
PAIS
Politics in America
Project Muse
Proquest Legislative Insight
Roper iPOLL
SocINDEX
Worldwide Political Science Abstracts

Data/Mathematics/Statistics:

ArXiv, E-Print Archive (Open Access)
Collection of Biostatistics Research Archive (COBRA)
Handbook of Statistics
Lecture Notes in Mathematics
MathSciNet: Mathematical Reviews on the Web
Resources for Economists – Data
ScienceDirect
SIAM eBooks
SimplyAnalytics
Social Explorer
SpringerLink
Statistical Abstract of the United States

Web of Science Core Collection (includes Social Sciences Citation Index)

In many and likely in most cases, these databases provide full text copies of the relevant documents. For the journal articles and book chapters we own that are available only in print format, the Libraries will scan and send a digital copy via email. For those documents we do not own, the Libraries will acquire them using Interlibrary Loan.

Monographs

A search of the University of Maryland Libraries' WorldCat UMD catalog was conducted, using a variety of relevant keyword and subject terms. The search shows our current collection of scholarly monographs in print and e-format related to GVPT, Data, Mathematics and Statistics is sufficient to support the new proposed program.

Many of the broad keyword/s and subjects can be further defined by adding additional keywords such as: data, united states, statistics, presidents, states…

For example, political campaigns data; public opinion presidents

Broad keyword/s and subjects include:

elections
political campaigns
politics and government
public opinion
coding theory
research design
social sciences research methodology
social sciences statistical methods
statistical models
survey methodology
surveys and questionnaires

The Libraries will continue to acquire monographs in the subject areas that support the proposed program. Titles not already part of the collection can usually be added upon request.

Interlibrary Loan Services

Interlibrary Loan Services will obtain books we do not own or are checked out. In addition, Interlibrary Loan will provide digital copies of journal articles and book chapters whether we own in print or do not own. (https://www.lib.umd.edu/access/ill)

Additional Materials and Resources

In addition to journals, monographs and databases available through the University Libraries, students in the proposed program will have access to media, datasets, software, and technology.

Library Media Services (http://www.lib.umd.edu/lms) houses media in a variety of formats that can be utilized both on-site and via ELMS course media.

GIS Datasets are available through the GIS Data Repository (http://www.lib.umd.edu/gis/dataset).

Statistical consulting, workshops and additional research support is available through the Research Commons (http://www.lib.umd.edu/rc).

Technology support and services are available through the Terrapin Learning Commons (http://www.lib.umd.edu/tlc).

The UM Libraries' have a professional staff of Librarians providing an important resource for help in locating information. In addition, subject specialists are available to provide instruction sessions for specific courses within the proposed program.

Government and Politics:

Judy Markowitz (judym@umd.edu)

Mathematics:

Nevenka Zdravkovska (nevenka@umd.edu)

Research Data Services (Data Archiving, Data Management Plans, Managing Data, Open Data)
lib-research-data@umd.edu

Other Research Collections
The Libraries are a member of the Inter-university Consortium for Political and Social Research (ICPSR) enabling access to the data deposited there. Because of the University's unique physical location near Washington D.C., Baltimore and Annapolis, University of Maryland students and faculty have access to some of the finest libraries, archives and research centers in the country vitally important for researchers. These include the Library of Congress, the National Archives and the Washington Research Library Consortium.

Data Sets
When possible, the Libraries acquire data sets to support research. Access to specific data sets is often limited because of cost or limitations placed by publishers.

Public Opinion
We have access to the Roper iPOLL, but not Gallup. There have been many requests from GVPT faculty and graduate students for the Gallup databases, but the cost is prohibitive.

Conclusion
The Libraries' current monograph, journals and databases are adequate to support teaching and learning for the Master of Science Degree in Applied Political Analytics. For public opinion polls, the Libraries also provide access to Roper iPOLL, by not to Gallup. Subject Specialists and other Librarians as well as Interlibrary Loan, Research Commons and Research Data Services are available to support the program.

Appendix C
Financial Tables

	Year 1	Year 2	Year 3	Year 4	Year 5
Undergraduate credits	240	240	240	240	240
Undergraduate tuition	0	0	0	0	0
Graduate credits	270	1020	1020	1020	1020
Credit hour rate	1074	1106	1139	1174	1209
Graduate tuition	289980	1128344	1162195	1197061	1232972
Number of GA's	4	5	6	6	6
GA stipend	23431	24134	24858	25604	26372
Total GA stipends	93724	120670	149148	153622	158231
GA tuition	17208	17724	18256	18804	19368
Total GA tuition	68832	88621	109536	112822	116207
GA fringe benefits	30929	39821	49219	50695	52216
Total GA	193485	249112	307902	317139	326653
Number of faculty	1.0	2.0	2.5	2.5	2.5
Faculty salary	100000	103000	106090	109273	112551
Total faculty salary	100000	206000	265225	273182	281377
Faculty fringe benefits	33000	67980	87524	90150	92854
Total faculty	133000	273980	352749	363332	374232
Number of administrative support	1	1	1	1	1
Adminstrative salary	60000	61800	63654	65564	67531
Total administrative salary	60000	61800	63654	65564	67531
Adminstrative fringe benefits	19800	20394	21006	21636	22285
Total administrative	79800	82194	84660	87200	89816
Equipment	5000	5000	5000	5000	5000
Library	5000	5000	5000	5000	5000
New or renovated space	0	0	0	0	0
Other expenses: operational expenses	50000	50000	50000	50000	50000
Total expenses	466285	665286	805311	827671	850701
Resources less expenditures	-176305	463059	356883	369390	382272
OES	28998	112834	116219	119706	123297
Net to GVPT\JPSM	-205303	350224	240664	249684	258974

Response to the Graduate PCC Committee Concerning Competitive Programs

Several area programs might be considered competitors to the JPSM-GVPT initiative. Programs in Maryland and DC would be the greatest competition for our efforts to leverage our location near the US and Maryland capitals.

Within the USM system, UMBC currently offers a Data Science MPS at Baltimore and Shady Grove campuses. These are offered through UMBC's Department of Computer Science and Electrical Engineering (https://professionalprograms.umbc.edu/data-science/). This program is focused on technical skills of data analysis, and – unlike ours – is not built around applications of interest to politics.

In the Washington DC area, American University and Georgetown University offer programs in data science with a link to policy issues. American has a program track in Applied Public Affairs (https://www.american.edu/programs/shared/data-science/). This program draws the great majority of its faculty from computer science, in contrast with our program's efforts to draw from a well-established political science tradition. Georgetown's program (https://mccourt.georgetown.edu/master-in-data-science-for-public-policy) combines a more traditional public policy curriculum with data science applications. This is perhaps the closest to our program, but at a substantially higher cost (see below).

In addition, the costs of the American and Georgetown programs are substantially higher. Compared with our per credit rate of $1,079, American's per credit cost is $1759 and Georgetown's is $2139.

Respectfully submitted,

Margaret Pearson
Interim Chair, GVPT
November 26, 2019

PCC Proposal to Establish a Bachelor of Science in Biocomputational Engineering (PCC 19030)

PRESENTED BY	**Janna Bianchini, Chair, Senate Programs, Curricula, and Courses Committee**
REVIEW DATES	**SEC – January 27, 2020 | SENATE – February 5, 2020**
VOTING METHOD	**In a single vote**
RELEVANT POLICY/DOCUMENT	**NA**
NECESSARY APPROVALS	**Senate, President, University System of Maryland Board of Regents, and Maryland Higher Education Commission**

ISSUE

The Fischell Department of Bioengineering within the A. James Clark School of Engineering proposes to establish a Bachelor of Science in Biocomputational Engineering. Biocomputational engineering brings together the field of bioengineering, a discipline grounded in fundamentals of physics, chemistry, and biology, with computation and data science, which enhances the value of all fields. The objective of the biocomputational engineering program is to provide a breadth of fundamentals in biology and quantitative problem solving while developing skills in computation and data science. These skills can be applied to the modeling of complex biological systems and the analysis of complex biological data sets, leading to the creation of new knowledge from the molecular to the organ to the system levels, and to the development of innovative processes for disease prevention, diagnosis, and treatment. This synthesis of bioengineering, computation, and data science will give graduates unique capabilities to solve existing and emerging challenges of the modern medical world.

This program will be offered at the Universities of Shady Grove and is mainly intended for students who have completed an associate's degree from a Maryland public community college. The program will be supported through a targeted enhancement-funding request to the State of Maryland, and through tuition revenue. Reallocated funds assume support from the state's Workforce Development Initiative targeted towards programs to be delivered at the Universities at Shady Grove.

The program will offer courses at the 300 and 400-level, which constitute the junior and senior year of the program. The curriculum will require 48 credits of core courses and 12 credits of program-specific electives. The program is designed to include fundamentals associated with bioengineering, including quantitative physiology, molecular thermodynamics, analysis of complex fluids, and synthetic biology, while also adding valuable computational skills, such as programming in Python and Matlab, machine learning, image processing, and bioinformatics. The program will produce a unique body of graduates with fundamentals in bio/biomedical engineering and strong computational skills with expertise in data science as applied to biological systems.

This proposal was approved by the Senate Programs, Curricula, and Courses committee on December 6, 2019.

RECOMMENDATION(S)

The Senate Committee on Programs, Curricula, and Courses recommends that the Senate approve this new degree program.

COMMITTEE WORK

The committee considered this proposal at its meeting on December 6, 2019. Ian White, Associate Chair in the Fischell Department of Bioengineering, and Bill Churma, Associate Director of Academic and Student Affairs in the Fischell Department of Bioengineering, presented the proposal and responded to questions from the committee. The proposal was approved by the committee.

ALTERNATIVES

The Senate could decline to approve this new degree program.

RISKS

If the Senate declines to approve this degree program, the University will lose an opportunity to take advantage of additional state funding to provide University of Maryland students at Shady Grove with a new program option in a growing technological industry.

FINANCIAL IMPLICATIONS

The program will be supported through a targeted enhancement funding request to the State of Maryland, and through tuition revenue. Reallocated funds assume support from the state's Workforce Development Initiative targeted towards programs to be delivered at the Universities at Shady Grove.

666: BIOCOMPUTATIONAL ENGINEERING

In Workflow

1. D-BIOE Curriculum Manager (churma@umd.edu; helim@umd.edu; ianwhite@umd.edu)
2. D-BIOE PCC Chair (ajones21@umd.edu; helim@umd.edu; ianwhite@umd.edu)
3. D-BIOE Chair (churma@umd.edu; ianwhite@umd.edu; jpfisher@umd.edu)
4. ENGR Curriculum Manager (ENGR Curriculum Manager@umd.edu)
5. ENGR PCC Chair (mcbell@umd.edu; nroop@umd.edu; sash1@umd.edu)
6. ENGR Dean (kkiger@umd.edu; mcbell@umd.edu; nroop@umd.edu; sash1@umd.edu)
7. Academic Affairs Curriculum Manager (mcolson@umd.edu)
8. Senate PCC Chair (jcwb@umd.edu; mcolson@umd.edu)
9. University Senate Chair (mcolson@umd.edu)
10. President (mcolson@umd.edu)
11. Board of Regents (mcolson@umd.edu)
12. MHEC (mcolson@umd.edu)
13. Provost Office (mcolson@umd.edu)
14. Undergraduate Catalog Manager (lyokoi@umd.edu)

Approval Path

1. Thu, 26 Sep 2019 01:09:16 GMT
   Bill Churma (churma): Approved for D-BIOE Curriculum Manager
2. Thu, 26 Sep 2019 02:24:34 GMT
   Ian White (ianwhite): Approved for D-BIOE PCC Chair
3. Thu, 26 Sep 2019 12:37:23 GMT
   John Fisher (jpfisher): Approved for D-BIOE Chair
4. Thu, 26 Sep 2019 17:17:14 GMT
   Michael Colson (mcolson): Approved for ENGR Curriculum Manager
5. Tue, 08 Oct 2019 14:45:28 GMT
   Michael Colson (mcolson): Rollback to D-BIOE Chair for ENGR PCC Chair
6. Tue, 08 Oct 2019 15:52:04 GMT
   Bill Churma (churma): Approved for D-BIOE Chair
7. Tue, 08 Oct 2019 16:00:31 GMT
   Michael Colson (mcolson): Approved for ENGR Curriculum Manager
8. Mon, 28 Oct 2019 19:19:52 GMT
   Suzanne Ashour-Bailey (sash1): Approved for ENGR PCC Chair
9. Tue, 29 Oct 2019 18:50:03 GMT
   Kenneth Kiger (kkiger): Approved for ENGR Dean
10. Wed, 27 Nov 2019 20:03:20 GMT
    Michael Colson (mcolson): Approved for Academic Affairs Curriculum Manager
11. Fri, 06 Dec 2019 14:33:52 GMT
    Janna Bianchini (jcwb): Approved for Senate PCC Chair

New Program Proposal

Date Submitted: Thu, 26 Sep 2019 01:06:40 GMT

Viewing: 666 : Biocomputational Engineering
Last edit: Mon, 28 Oct 2019 19:19:40 GMT

Changes proposed by: Bill Churma (churma)

Program Name

Biocomputational Engineering

Program Status

Proposed

Effective Term

Fall 2021

Catalog Year

2021-2022

Program Level

Undergraduate Program

Program Type

Undergraduate Major

Delivery Method

Off Campus

Does an approved version of this program already exist?

No

Departments

Department
Fischell Department of Bioengineering

Colleges

College
The A. James Clark School of Engineering

Degree(s) Awarded

Degree Awarded
Bachelor of Science

Proposal Summary

A new bachelor of science degree program in Biocomputational Engineering is proposed for delivery at the Universities at Shady Grove. The program is designed to produce graduates with the preparative foundation in bioengineering and quantitative data science, either for employment or for pursuit of advanced degree educational programs. Successful students will have a foundational breadth in computational bioengineering, which includes strong fundamentals in biology combined with quantitative problem solving skills. In addition, the program aims to equip its students with applicable skills in data science to position them to contribute to the fields of bioengineering, the biological sciences, and medicine beyond the capabilities of bioengineering and biomedical engineering graduates. Programs at the Universities at Shady Grove are years 3 and 4 only and are designed to be a transfer pathway for students from regional community colleges. The most common partner with the Universities at Shady Grove is Montgomery College.

Program and Catalog Information

Provide the catalog description of the proposed program. As part of the description, please indicate any areas of concentration or specializations that will be offered.

Biocomputational engineering brings together the field of bioengineering, a discipline grounded in fundamentals of physics, chemistry, and biology, with computation and data science, which enhances the value of all fields. The objective of the biocomputational engineering program is to provide a breadth of fundamentals in biology and quantitative problem solving while developing skills in computation and data science that can be applied to the modeling of complex biological systems and the analysis of complex biological data sets in order to create new knowledge from the molecular to organ to system levels, and to develop innovative processes for the prevention, diagnosis, and treatment of disease. The synthesis of bioengineering, computation, and data science gives the graduates unique capabilities to solve existing and emerging challenges of the modern medical world.

Catalog Program Requirements:

PRIOR STUDY

Prior to being admitted to the Biocomputational Engineering major, students should have completed the Engineering LEP gateway courses, basic math/science courses, lower-level General Education requirements (or an Associate's Degree from a Maryland public institution), and 60 credits.

Course	Title	Credits
ENGL101	Academic Writing	3
MATH140	Calculus I	4
MATH141	Calculus II	4

MATH241	Calculus III	4
MATH246	Differential Equations for Scientists and Engineers	3
PHYS161	General Physics: Mechanics and Particle Dynamics	3
PHYS260	General Physics: Vibration, Waves, Heat, Electricity and Magnetism	3
PHYS261	General Physics: Vibrations, Waves, Heat, Electricity and Magnetism (Laboratory)	1
ENES100	Introduction to Engineering Design	3
CHEM135	General Chemistry for Engineers	3
CHEM136	General Chemistry Laboratory for Engineers	1
CHEM231	Organic Chemistry I	3
CHEM232	Organic Chemistry Laboratory I	1
BSCI170	Principles of Molecular & Cellular Biology	3
or BIOE120	Biology for Engineers	
Matlab	Course Matlab Not Found (Matlab programming course -- e.g. BIOE241 or equivalent)	3
Gen Ed	Course Gen Ed Not Found (Lower-level general education requirements or AA/AS degree from a Maryland public institution)	18
Total Credits		60

REQUIRED COURSES

Course	Title	Credits
ENBC301	Course ENBC301 Not Found (Introduction to Biocomputational Engineering)	1
ENBC311	Course ENBC311 Not Found (Python for Data Analysis)	3
ENBC312	Course ENBC312 Not Found (Object Oriented Programming in C++)	3
ENBC321	Course ENBC321 Not Found (Machine Learning for Data Analysis)	3
ENBC322	Course ENBC322 Not Found (Algorithms)	3
ENBC331	Course ENBC331 Not Found (Applied Linear Systems and Differential Equations)	3
ENBC332	Course ENBC332 Not Found (Statistics, Data Analysis, and Visualization)	3
ENBC341	Course ENBC341 Not Found (Biomolecular Engineering Thermodynamics)	3
ENBC342	Course ENBC342 Not Found (Computational Fluid Dynamics and Mass Transfer)	3
ENBC351	Course ENBC351 Not Found (Quantitative Molecular and Cellular Biology)	3
ENBC352	Course ENBC352 Not Found (Molecular Techniques Laboratory)	2
ENBC353	Course ENBC353 Not Found (Synthetic Biology)	3
ENBC425	Course ENBC425 Not Found (Imaging and Image Processing)	3
ENBC431	Course ENBC431 Not Found (Finite Element Analysis)	3
ENBC441	Course ENBC441 Not Found (Computational Systems Biology)	3
ENBC491	Course ENBC491 Not Found (Senior Capstone Design in Biocomputational Engineering)	3
ENGL393	Technical Writing	3
Elective Courses		12
Total Credits		60

See Appendix 1 for course descriptions.

ELECTIVE COURSES

Students are required to take four technical electives (12 credits). The courses must be selected from an approved list of engineering and biology courses; the list will be updated regularly by the Program Director. At least two of the elective courses must be from the category of engineering, mathematics, or programming, while at most two of the electives can be from the category of biology courses. The program will offer electives; at the same time, the program will arrange for opportunities for electives outside the program, including USG programs offered by other universities.

Course	Title	Credits
Possible technical electives		12
ENBC411	Course ENBC411 Not Found (Advanced Programming in Python)	
ENBC413	Course ENBC413 Not Found (Data Analysis with R)	
ENBC435	Course ENBC435 Not Found (Numerical Methods)	
ENBC442	Course ENBC442 Not Found (Computational Molecular Dynamics)	
ENBC443	Course ENBC443 Not Found (Multiscale Simulation Methods)	
ENBC444	Course ENBC444 Not Found (Modeling Protein Folding)	

ENBC445	Course ENBC445 Not Found (Spatial Control of Biological Agents)
ENBC455	Course ENBC455 Not Found (Bioinformatics Engineering)

Sample plan. Provide a term by term sample plan that shows how a hypothetical student would progress through the program to completion. It should be clear the length of time it will take for a typical student to graduate. For undergraduate programs, this should be the four-year plan.

PLAN OF STUDY for YEARS 3 and 4

Junior Year

Semester 1	Credits	Semester 2	Credits
ENBC301 (Introduction to Biocomputational Engineering)	1	ENBC312 (Object Oriented Programming in C++)	3
ENBC311 (Python for Data Analysis)	3	ENBC322 (Algorithms)	3
ENBC331 (Applied Linear Systems and Differential Equations)	3	ENBC342 (Computational Fluid Dynamics and Mass Transfer)	3
ENBC332 (Statistics, Data Analysis, and Data Visualization)	3	ENBC352 (Molecular Techniques Laboratory)	2
ENBC341 (Biomolecular Engineering Thermodynamics)	3	Elective 1	3
ENBC351 (Quantitative Molecular and Cell Biology)	3		
	16		14

Senior Year

Semester 1	Credits	Semester 2	Credits
ENBC321 (Machine Learning for Data Analysis)	3	ENBC425 (Imaging and Image Processing)	3
ENBC353 (Synthetic Biology)	3	ENBC441 (Computational Systems Biology)	3
ENBC431 (Finite Element Analysis)	3	ENBC491 (Senior Capstone Design in Biocomputational Engineering)	3
ENGL393	3	Elective 3	3
Elective 2	3	Elective 4	3
	15		15

Total Credits 60

List the intended student learning outcomes. In an attachment, provide the plan for assessing these outcomes.

Learning Outcomes
(1) An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
(2) An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
(3) An ability to communicate effectively with a range of audiences.
(4) An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
(5) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
(6) An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
(7) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

New Program Information

Mission and Purpose

Describe the program and explain how it fits the institutional mission statement and planning priorities.

The fields of Biomedical Engineering and Bioengineering are impacting our society by delivering new imaging and diagnostics technologies, new therapeutic delivery methods, and the possibility of new methods for the repair or construction of tissues and organs. At the same time, computational methods and data science are perfusing into every field of engineering, as well as the life sciences, economics, law, and others. The proposed program aims to provide its students with a foundational breadth in computational bioengineering, which includes strong fundamentals in biology combined with quantitative problem solving skills. In addition, the program aims to equip its students with applicable skills in data science to position them to contribute to the fields of bioengineering, the biological sciences, and medicine beyond the capabilities of bioengineering and biomedical engineering graduates. As a result, graduates will be well-positioned for rewarding careers while also providing a workforce that will fill needs within the state of Maryland.

The proposed program would be created in alignment with the missions of the University of Maryland and the A. James Clark School of Engineering. A key aspect of the mission of the University of Maryland College Park for undergraduate education is that, "The University will continue to elevate the quality and accessibility of undergraduate education, with programs that are comprehensive and challenging, and that serve students well as a foundation for the workplace, advanced study, and a productive, fulfilling life." Aligned with this, our program seeks to produce graduates with the preparative foundation in bioengineering and quantitative data science, either for employment or for pursuit of advanced degree educational programs. The University's detailed mission statement continues, focusing on a commitment to "foster education, critical thinking and intellectual growth, ensuring the knowledge and impact of our graduates are both robust and sustainable." This aligns closely with our aim to produce graduates with awareness of their field and an understanding of how they can utilize their unique skill sets in bioengineering and data science to address challenges facing society in both the near and long term.

The proposed program is equally aligned with the A. James Clark School of Engineering Strategic plan, which describes as its mission to "improve millions of lives," and has ascribed the term MPact to this mission. The School of Engineering has defined, among others, the following goals to MPact society. Specifically, the college aims to "Create and demonstrate the value of engineering education, research, and service on economic development at the campus, local, state, national, and global levels." The program is certainly geared to impact economic development at the campus and metropolitan levels by generating alumni that will fill the need for expertise in biological sciences, quantitative problem solving, and data science. In addition, graduates from the program will be provided with a foundation in professional ethics to encourage them to positively impact their profession, community, and society at all scales.

Program Characteristics

What are the educational objectives of the program?

1. Produce graduates with the educational depth, technical skills, and practical experiences to be competitive for placement in biocomputational engineering careers or post-graduate educational pursuits;

2. Produce graduates with an awareness of their field and an understanding of how they can address the data-driven computational biomedical challenges facing society in both the near and long term;

3. Produce graduates with a foundation in professional ethics who will actively seek to positively impact their profession, community, and society.

Describe any selective admissions policy or special criteria for students interested in this program.

As an undergraduate program within the A. James Clark School of Engineering, the Biocomputational Engineering major will seek approval to be designated as a Limited Enrollment Program (LEP). Admission to this program will follow the School of Engineering's admissions criteria found on the LEP website: http://www.lep.umd.edu.

Students beyond their first semester and those off campus wishing to transfer are required to meet the following gateway criteria:

- Completion of MATH141 (Calculus II) with a minimum grade of B-
- Completion of PHYS161 (Physics I) with a minimum grade of B-
- Completion of either CHEM135 or CHEM271 or CHEM134 with a minimum grade of C-. (Students who take CHEM134 must also have completed CHEM131 with a minimum grade of C-.)

Additionally, students seeking admission to the Biocomputational Engineering major will need to fulfill the following requirements:

- Completion of all prior study courses (as outlined in section #7) with a minimum grade of C-.
- Completion of all lower-level University General Education requirements.
- Completion of at least 60 applicable degree credits.

A minimum grade point average of 3.0 in all courses taken at the University of Maryland and all other institutions is required for internal and external transfer students.

Due to the similarity in curriculum content and the physical location of course offerings, students in the Bioengineering program at UMCP will not be eligible to add Biocomputational Engineering as a second major or degree (and vice versa).

The proposed curriculum will offer courses at the 300- and 400-level, which constitute the junior and senior year of the program. The program is primarily intended for students transferring from a Maryland public community college. While students at the College Park campus can pursue the program, they will not be able to seek admission into the School of Engineering and the Biocomputational Engineering major until they have completed the Engineering LEP gateway courses, required prior study major courses, lower-level General Education requirements (or an Associate's Degree), and have earned at least 60 credits.

Summarize the factors that were considered in developing the proposed curriculum (such as recommendations of advisory or other groups, articulated workforce needs, standards set by disciplinary associations or specialized-accrediting groups, etc.).

Bioengineering is a growing field, and one that will have a significant impact on society. At the same time, computational methods and data science are perfusing into every field of engineering, as well as the life sciences. A need exists for graduates trained in the fundamentals of engineering and life sciences with strong skills in computational methods and data science. In fact, a survey of the Bioengineering Department's External Advisory Board demonstrated significant enthusiasm for the program's goals of generating graduates with knowledge of life sciences, engineering, programming, and computation. The advisory board rated the demand for these graduates at a score of 4.67 out of 5. The advisory board also emphasized that the Biopharmaceutical industry (which has a strong base in Maryland), the Biomedical Instrumentation industry, and hospitals and insurance companies are currently targeting employees with this skill set.

The program is designed to include fundamentals associated with Bioengineering, including quantitative physiology, molecular thermodynamics, analysis of complex fluids, and synthetic biology. To this the program adds valuable skills, including programming in Python and Matlab, machine learning, image processing, and bioinformatics. The program will produce a unique body of graduates with fundamentals in bio/biomedical engineering and strong computational skills with expertise in data science as applied to biological systems.

Identify specific actions and strategies that will be utilized to recruit and retain a diverse student body.

Recruitment for the Biocomputational Engineering major will target students attending Montgomery College (MC), which has a very diverse student population. Per the Office of Institutional Research & Analysis, 52% of students at MC are from an underrepresented minority group; from this population 27.4% are African American and 24.6% are Hispanic (Source: MC at Glance https://cms.montgomerycollege.edu/research/). The program will also recruit in other Maryland community colleges through transfer fairs, Universities at Shady Grove recruitment programs, and individual institution visits.

To ensure the success of a diverse student body, the program will implement a mandatory advising system, where students will be required to meet with an academic advisor each semester to track their academic progress. In addition to mandatory semester advising, staff advisors will work closely with faculty to identify students in need of early intervention through such actions as issuing mid-term grades. Furthermore, the program will identify any major courses with a high drop, withdrawal, or fail (DWF) rate, and will provide academic support to students in those courses. Finally, the program will work with the existing academic support units at Shady Grove, such as the Center for Academic Success, to provide academic coaching and support services to our students (https://shadygrove.umd.edu/student-services/center-for-academic-success).

Off Campus

Indicate the location for this off-campus program.

At the launch of the program, courses will only be offered in classrooms at the Universities at Shady Grove.

Describe the suitability of the site for the off-campus programs.

This program is designed specifically for delivery in the new Biomedical Sciences and Engineering Education Building (BSE, or Building IV) at the Universities at Shady Grove. The curriculum is designed to articulate well with the most common source of transfer students to USG, Montgomery College.

Describe the method of instructional delivery, including online delivery, on-site faculty, and the mix of full-time and part-time instructors (according to MHEC 13B.02.03.20.D(2), "At least # of the classes offered in an off-campus program shall be taught by full-time faculty of the parent institution").

The program will be offered in a semester format only, on site at the Universities at Shady Grove. The department will have a mix of tenure track and professional track faculty in residence at USG and may also utilize faculty from the College Park campus.

Discuss the resources available for supporting faculty at the location. In an attachment, please indicate the faculty involved in the program. Include their titles, credentials, and courses they may teach for the program.

It is anticipated that two tenure-track (TTK) faculty and four professional-track (PTK) lectures will serve as full-time instructors at the Shady Grove campus and will teach all of the ENBC courses. Faculty at the UMCP campus within the Bioengineering Department will be offered the opportunity to move to the Shady Grove campus. All other spots will be filled through external hires before the program launch. A tenured faculty (located at the Shady Grove campus at least two days per week) will serve as Program Director.

All faculty will receive guidance from the Bioengineering Department, which considers teaching to be critical to the success of its program. All faculty will also be directed to consult with UMCP's Teaching and Learning Transformation Center (TLTC) for guidance on improving instruction performance and incorporating new practices into the classroom.

A description of the faculty who would provide instruction is provided in Appendix 3.

Discuss how students will have reasonable and adequate access to the range of student support services (library materials, teacher interaction, advising, counseling, accessibility, disability support, and financial aid) needed to support their learning activities.

To fully serve the academic and support needs of the Biocomputational Engineering students, the program will employ one full-time academic advisor at Shady Grove. Anticipating student growth, additional part-time or full-time advisors will be needed in subsequent years. All academic advisors will report directly to the Fischell Department of Bioengineering Associate Director of Academic and Student Affairs. Academic advisors at Shady Grove will manage course scheduling, perform academic advising each semester, track degree requirements, and provide academic and support resources when appropriate. The academic advising team will also assist in outreach efforts and building a strong community among prospective and current students.

Additionally, the Biocomputational Engineering major will identify a Faculty Program Director who will reside at Shady Grove at least two days per week. The Faculty Program Director will work closely with the UMCP liaisons as well as all TTK and PTK faculty in addressing student and instructor concerns, developing electives, and performing assessment measures.

Additional services are provided for all programs at the Universities at Shady Grove through USG's Center for Academic Success.

Discuss how the off-campus program will be comparable to the existing program in terms of academic rigor. What are the learning outcomes for the online offering? Do they differ from the existing on-site program?

The Biocomputational Engineering program will maintain the rigor that is characteristic of the A. James Clark School of Engineering. As an Engineering program accredited by ABET, the learning outcomes of this program will be consistent with those for all engineering programs. The learning outcomes and assessment process can be found in appendix 2.

Describe the quality control and evaluation of the off-campus program's effectiveness. How will the program be evaluated?

The Biocomputational Engineering program will strive for continuous improvement through annual assessment. The program will complete annual learning outcome assessments for the Middle States Accreditation process in addition to a Self Study every six years for ABET accreditation. Seven student learning outcomes will be assessed in pursuit of continuous improvement, in accordance with ABET accreditation.

Relationship to Other Units or Institutions

If a required or recommended course is o#ered by another department, discuss how the additional students will not unduly burden that department's faculty and resources. Discuss any other potential impacts on another department, such as academic content that may significantly overlap with existing programs. Use space below for any comments. Otherwise, attach supporting correspondence.

Only one of the required courses will not be delivered by the Biocomputational Engineering program within the Bioengineering Department: ENGL 393. The Provost's Office will coordinate with the Professional Writing program in the English Department to offer a section of ENGL393 for Engineering majors at USG.

Accreditation and Licensure. Will the program need to be accredited? If so, indicate the accrediting agency. Also, indicate if students will expect to be licensed or certified in order to engage in or be successful in the program's target occupation.

While accreditation is not required, it will make the program more appealing. It is expected that accreditation from ABET will be pursued three years after launch.

Describe any cooperative arrangements with other institutions or organizations that will be important for the success of this program.

The program does not require cooperation from any other organizations, as all required courses (except for ENGL393) will be taught within the Biocomputational Engineering program.

Faculty and Organization

Who will provide academic direction and oversight for the program? In an attachment, please indicate the faculty involved in the program. Include their titles, credentials, and courses they may teach for the program.

It is anticipated that two TTK faculty and four PTK lectures will serve as full-time instructors at the Shady Grove campus and will teach all of the ENBC courses. Faculty at the UMCP campus within the Bioengineering Department will be offered the opportunity to move to the Shady Grove campus. All other spots will be filled through external hires before the program launch. A tenured faculty (located at the Shady Grove campus at least two days per week) will serve as Program Director.

All faculty will receive guidance from the Bioengineering Department, which considers teaching to be critical to the success of its program. All faculty will also be directed to consult with UMCP's Teaching and Learning Transformation Center (TLTC) for guidance on improving instruction performance and incorporating new practices into the classroom.

A description of the faculty who would provide instruction is provided in Appendix 3.

Indicate who will provide the administrative coordination for the program

The Biocomputational Engineering major will be managed by a Faculty Program Director who will reside at Shady Grove at least two days per week. The Faculty Program Director will work closely with the UMCP liaisons as well as all TTK and PTK faculty in addressing student and instructor concerns, developing electives, and performing assessment measures.

Admissions will be administered by UMCP's Undergraduate Admissions Shady Grove Coordinator and the Biocomputational Engineering Program Director. Following procedures previously established at the Universities at Shady Grove, the Clark School's Assistant Director of Transfer Student Advising and Admissions will review the accepted Biocomputational Engineering cohort to ensure all students meet the Clark School's LEP admission criteria. It is expected that admissions will require only a minimal burden upon the Clark School staff and the Fischell Department of Bioengineering staff.

The assigned laboratory space for the program will be managed in tandem by the Biocomputational Engineering full-time PTK faculty and hired technical support staff.

Resource Needs and Sources

Each new program is required to have a library assessment prepared by the University Libraries in order to determine any new library resources that may be required. This assessment must be done by the University Libraries. Add as an attachment.

See appendix 4 for a library assessment prepared by the University Libraries. The Universities at Shady Grove's Priddy library is part of the UMCP Libraries. In addition, all resources that are available on the UMCP campus are also available to UMCP students at Shady Grove.

Discuss the adequacy of physical facilities, infrastructure and instructional equipment.

The program will be delivered in the new Biomedical Sciences and Engineering Education (BSE) building (also called Building IV) at the Universities at Shady Grove. This state-of-the-art educational facility has a suite of shared active-learning classrooms, computing resources, wet labs, a dental clinic, product design laboratory and maker space, as well as offices for faculty and staff delivering the curricula and student support services. The biocomputational engineering program expects to have 1-2 dedicated laboratory spaces for its programmatic needs.

Discuss the instructional resources (faculty, staff, and teaching assistants) that will be needed to cover new courses or needed additional sections of existing courses to be taught. Indicate the source of resources for covering these costs.

It is expected that two TTK faculty and four PTK lecturers will represent the program at USG. This is sufficient to provide 8 courses per semester, which enables coverage of all of the planned ENBC courses (the program requires sixteen ENBC courses, but three of those are 1 credit only). Adjunct faculty may also be contracted to cover courses as needed. Class sizes are expected to be on the order of 30 students, and thus teaching assistants will not be needed. Undergraduate Teaching Fellows (senior students in the program) will be used to support courses when possible.

Discuss the administrative and advising resources that will be needed for the program. Indicate the source of resources for covering these costs.

To fully serve the academic and support needs of the Biocomputational Engineering students, the program will initially employ one full-time academic advisor at Shady Grove. Anticipating student growth, additional part-time or full-time advisors will be needed in subsequent years. All academic advisors will report directly to the Fischell Department of Bioengineering Associate Director of Academic and Student Affairs. Academic advisors at Shady Grove will manage course scheduling, perform academic advising each semester, track degree requirements, and provide academic and support resources when appropriate. The academic advising team will also assist in outreach efforts and building a strong community among prospective and current students.

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The assigned laboratory space for the program will be managed in tandem by the Biocomputational Engineering full-time PTK faculty and hired technical support staff.

Use the Maryland Higher Education Commission (MHEC) commission financial tables to describe the program's financial plan for the next five years. See help bubble for financial table template. Use space below for any additional comments on program funding.

See Appendix 5

Implications for the State (Additional Information Required by MHEC and the Board of Regents)

Explain how there is a compelling regional or statewide need for the program. Argument for need may be based on the need for the advancement of knowledge and/or societal needs, including the need for "expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education." Also, explain how need is consistent with the Maryland State Plan for Postsecondary Education (https://mhec.state.md.us/About/Documents/2017.2021%20Maryland%20State%20Plan%20for%20Higher%20Education.pdf)**.**

In recent years the Bioengineering program at UMCP has placed about 30% of its graduates into graduate programs, and about 50-60% of its graduates into industry, including biopharmaceutical, biomedical instrumentation, and consulting jobs; nearly all graduates are placed before their graduation day. However, the department's advisory board has communicated that there are additional jobs to be filled, with an emphasis on programming, computation, and data analysis that goes beyond the capabilities of the department's graduates. While graduates in computer science are considered for these jobs, employers in the biopharma and biomedical space prefer multi-disciplinary talents, including fundamental knowledge in life sciences.

While a new program could be launched at UMCP, we are proposing to launch the program at USG specifically to target the talented pool of students who complete an engineering program at a community college and aim to work in the biopharma and biomedical industries. By attracting this population into the field, the proposed program will contribute strongly to the diversity of their employers, which are generally hiring from degree programs lacking in diversity.

Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program. Possible sources of information include industry or disciplinary studies on job market, the USBLS Occupational Outlook Handbook (https://www.bls.gov/ooh)**, or Maryland state Occupational and Industry Projections** (http://www.dllr.state.md.us/lmi/iandoproj) **over the next five years. Also, provide information on the existing supply of graduates in similar programs in the state (use MHEC's Office of Research and Policy Analysis webpage** (http://mhec.maryland.gov/publications/Pages/research) **for Annual Reports on Enrollment by Program) and discuss how future demand for graduates will exceed the existing supply. As part of this analysis, indicate the anticipated number of students your program will graduate per year at steady state.**

The Provost's Office provided the Bioengineering Department with job outlook data from Emsi (https://www.economicmodeling.com/data/). The analysis projected job trends in the field of bioinformatics in the MD/VA/DC region. Note that in the proposed program we use the term "bioinformatics" specifically to imply the analysis of genomic and proteomic data; however, the term is frequently used to describe more generally information science, data analysis, and computation as applied to the life sciences. The analysis suggests that in Maryland, bioinformatics jobs will increase from about 60,000 to about 70,000 between 2018 and 2028, a 16% change (it predicts a 7% regional change and a 16% national change over the same period). Note that this analysis does not include the expected Amazon headquarters in Northern Virginia.

The Emsi report cites Booz Allen Hamilton, Leidos Holdings, and Oracle as likely employers. In addition to Amazon, the department's External Advisory Board has identified the following as employers for the graduates of the proposed program: Becton Dickinson (BD), Roche, Abbott, Beckman, Siemens, GE, Amgen, Kite Pharma, Edwards Life Sciences, numerous hospitals and insurance companies, and most biopharmaceutical companies. In addition, federal and federally-supported laboratories, including NIH, FDA, NRL, NIST, and APL are in need of employees with computational skills and fundamentals in life science and engineering.

Identify similar programs in the state. Discuss any di#erences between the proposed program and existing programs. Explain how your program will not result in an unreasonable duplica on of an existing program (you can base this argument on program di#erences or market demand for graduates). The MHEC website can be used to find academic programs operatinng in the state: http://mhec.maryland.gov/institutions_training/pages/HEPrograms.aspx

The most closely related program to the proposed Biocomputational Engineering program is the Bioengineering program that already exists at College Park (and exists within the same Bioengineering Department as the proposed program). The first half of the program is almost the same, but the second half of the programs differ significantly. The proposed program offers opportunities for training in programming, computational methods, and data science that go well beyond that of a "track" or "specialization." Thus, the graduates from the proposed program would be unique in the Clark School.

Bowie State University offers a Bioinformatics degree that has similarities to the proposed program, including the opportunity for training in both the life sciences and computer programming. At the same time, UMUC offers a degree in Biotechnology, while UMBC offers a degree in Translational Life Science Technology. Some overlap will exist in the skill sets between these graduates and graduates from the proposed program. However, the key difference is that the proposed program is an engineering degree, and thus will emphasize an engineering approach to problem solving above all else.

Discuss the possible impact on Historically Black Institutions (HBIs) in the state. Will the program affect any existing programs at Maryland HBIs? Will the program impact the uniqueness or identity of a Maryland HBI?

Currently no HBIs offer similar undergraduate programs (Morgan State University offers a Master's Degree in Bioinformatics, implying that the proposed program could serve as a feeder program).

Supporting Documents

Attachments

Appendix1-ENBC.pdf
Appendix2-ENBC.pdf
Appendix3-ENBC.pdf
Appendix4-ENBC.pdf
Appendix5-ENBC.pdf

Reviewer Comments

Michael Colson (mcolson) (Tue, 08 Oct 2019 14:45:28 GMT): Rollback: Trying to rollback for college.

Key: 666

APPENDIX 1: Course Descriptions

ENBC301: Introduction to Biocomputational Engineering
Credits: 1
Grading method: regular, pass-fail, and audit
Prerequisites: none
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in Biocomputational Engineering major.
Description: Provides practical tools to help Biocomputational Engineering majors to think critically about their goals and career paths and to utilize their major to set their career trajectory.

ENBC311: Python for Data Analysis
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: none
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Credit only granted for: BIOE489A or BIOE442 or ENBC311.
Description: Provides an introduction to structured programming, computational methods, and data analysis techniques with the goal of building a foundation allowing students to confidently address problems in research and industry. Fundamentals of programming, algorithms, and simulation are covered from a general computer science perspective, while the applied data analysis and visualization portion makes use of the Python SciPy stack.

ENBC312: Object Oriented Programming in C++
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: none
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Provides an introduction to object oriented programming in the C++ language.

ENBC321: Machine Learning for Data Analysis
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC312 and ENBC332 with a grade of “C-” or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Provides an introduction to artificial intelligence methods for mining big data sets and for making decisions using data sets.

ENBC322: Algorithms
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC311 with a grade of “C-” or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Credit only granted for: ENEB355 or ENBC322.

Description: Utilizing the Python programming language for a systematic study of the complexity of algorithms related to sorting, graphs and trees, and combinatorics. Algorithms are analyzed using mathematical techniques to solve recurrences and summations.

ENBC331: Applied Linear Systems and Differential Equations
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of MATH246 and Matlab prior study requirement with a grade of “C-” or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Credit only granted for: BIOE371 or ENBC331.
Description: Applications of linear algebra and differential equations to bioengineering and biomolecular systems. Designed to instruct students to relate mathematical approaches in bioengineering to their physical systems. Examples will emphasize fluid mechanics, mass transfer, and physiological systems.

ENBC332: Statistics, Data Analysis, and Data Visualization
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: none
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Credit only granted for: BIOE372 or ENBC332 or STAT464.
Description: This course will instruct students in the fundamentals of probability and statistics through examples in biological phenomenon and clinical data analysis. Data visualization strategies will also be covered.

ENBC341: Biomolecular Engineering Thermodynamics
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of MATH246 and PHYS260 with a grade of “C-” or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Credit only granted for: BIOE232 or ENBC341 or CHBE301.
Description: A quantitative introduction to thermodynamic analysis of biomolecular systems. The basic laws of thermodynamics will be introduced and explained through a series of examples related to biomolecular systems.

ENBC342: Computational Fluid Dynamics and Mass Transfer
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC341 and Matlab prior study requirement with a grade of “C-” or better; and must have completed (with a grade of “C-” or better) or be concurrently enrolled in ENBC331.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Credit only granted for: BIOE331 or ENBC342.
Description: Principles and applications of fluid mechanics and mass transfer with a focus on topics in the life sciences and an emphasis on computational methods and modeling. Content includes conservation of mass, momentum, and energy, as well as the application of these fundamental relations to hydrostatics, control

volume analysis, internal and external flow, and boundary layers. Applications to biological and bioengineering problems such as tissue engineering, bioprocessing, imaging, and drug delivery.

ENBC351: Quantitative Molecular and Cellular Biology
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: Completion of BSCI170 or BIOE120 with a grade of "C-" or better.
Co-requisites: none
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Quantitative analysis of the behavior of cellular and molecular systems.

ENBC352: Molecular Techniques Laboratory
Credits: 2
Grading method: regular, pass-fail, and audit
Prerequisites: Must have completed (with a grade of "C-" or better) or be concurrently enrolled in ENBC351.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Wet lab experiments to observe cellular and molecular processes and phenomenon.

ENBC353: Synthetic Biology
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: Completion of BSCI170 or BIOE120 with a grade of C- or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Credit only granted for: BIOE461 or ENBC353.
Description: Students are introduced to the scientific foundation and concepts of synthetic biology and biological engineering. Current examples that apply synthetic biology to fundamental and practical challenges will be emphasized. The course will also address the societal issues of synthetic biology, and briefly examine interests to regulate research in this area.

ENBC411: Advanced Programming in Python
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC311 with a grade of "C-" or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Advanced programming methods with an emphasis on biocomputational applications.

ENBC413: Data Analysis with R
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC332 with a grade of "C-" or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Provides an introduction to programming techniques for data analysis with the statistical software "R."

ENBC425: Imaging and Image Processing
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC321 with a grade of “C-” or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Examines the physical principles behind major biomedical imaging modalities, including X-Ray, CT, MRI. Instructs students in mathematical tools for extracting information from images. Provides an introduction to the use of machine learning for interpreting images. Matlab and/or Python utilized for image processing exercises.

ENBC431: Finite Element Analysis
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of MATH246 with a grade of “C-” or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Instructs students to use computer tools to analyze the thermal and mechanical properties of devices or systems. The course will focus specifically on the biomechanics of biomedical devices.

ENBC435: Numerical Methods
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: none
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: The review of numerous mathematical methods to simplify complex problems.

ENBC441: Computational Systems Biology
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC351 with a grade of “C-” or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Introduction to building computer models that analyze dynamic functions within a cell, organ, tissue, or organism.

ENBC442: Computational Molecular Dynamics
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC341 and ENBC332 with a grade of “C-” or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Credit only granted for: BIOE464 or ENBC442.
Description: Designed to introduce students to the principles, methods, and software used for simulation and modeling of macromolecules of biological interest such as proteins, lipids, and polysaccharides. Class topics:

Basic statistical thermodynamics, force fields, molecular dynamics/ monte carlo methods, conformational analysis, fluctuations & transport properties, free-energy calculations, multiscale modeling.

ENBC443: Multiscale Simulation Methods
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC341 and ENBC332 with a grade of "C-" or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Credit only granted for: BIOE463 or ENBC443.
Description: Introduction to approaches to modeling a system at different scales, such as atomic, molecular, and macromolecular. Examples will focus on proteins for which models include the interactions with water, atomic interactions within the molecule, and interactions between multiple molecules; models that span both short and long time scales are also studied.

ENBC444: Modeling Protein Folding
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC341 and ENBC332 with a grade of "C-" or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Computational prediction of the structure of proteins with applications in protein misfolding diseases such as Alzheimer's Disease and other prion diseases.

ENBC445: Spatial Control of Biological Agents
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC342 with a grade of "C-" or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Description and solution of the movement of passive and active biological agents in homogeneous and heterogeneous bioenvironments using partial differential equations and numerical methods. Identification and diagnosis of hot spots. Prescription of control strategies using techniques from Artificial Intelligence (AI) and verification of effectiveness. Applications environments may include landscapes and tissues.

ENBC455: Bioinformatics Engineering
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of ENBC311 with a grade of "C-" or better.
Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Introduces students to core problems in bioinformatics, along with databases and tools that have been developed to study them. Students will learn to utilize Python to process data sets.

ENBC491: Senior Capstone Design in Biocomputational Engineering
Credits: 3
Grading method: regular, pass-fail, and audit
Prerequisites: completion of 18 credits in ENBC courses.

Restriction: Permission of ENGR-Fischell Department of Bioengineering department; and must be in the Biocomputational Engineering major.
Description: Senior design project, in which students work in teams to utilize the skills acquired through the major to identify and solve quantitative problems in bioengineering. Ethics in bioengineering and biotechnology will also be covered.

ENGL393: Technical Writing
Credits: 3
Grading method: regular
Prerequisites: ENGL101.
Restriction: Must have earned a minimum of 60 credits.
Description: The writing of technical papers and reports.

APPENDIX 2: Plan to Assess Student Learning Outcomes

The Biocomputational Engineering program will strive for continuous improvement through annual assessment. The program will complete annual learning outcome assessments for the Middle States Accreditation process in addition to a Self Study every six years for ABET accreditation. Seven student learning outcomes will be assessed in pursuit of continuous improvement, in accordance with ABET accreditation. The learning outcomes are as follows.

The student learning outcomes are aligned exactly with the outcomes assessed in accordance with ABET.

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

The ABET accreditation cycle is six years. Each learning outcome above is mapped to one or more courses in the program for assessment, as follows.

SLO 1: ENBC342, ENBC331
SLO 2: ENBC353
SLO 3: ENBC491
SLO 4: ENBC491
SLO 5: ENBC491
SLO 6: ENBC352
SLO 7: ENBC321

Each course will be assessed once every three years (i.e., twice per ABET cycle) to determine whether the program is achieving each outcome; at least one course will be assessed every year (as indicated in the table below). The assessment will be conducted by the instructor; the instructor will then submit the assessment to the Bioengineering Department's Undergraduate Studies Committee. This committee will provide recommendations for modifications to the instructor. The process will be carefully documented on a form included in the assessment template. This process is currently utilized by the Bioengineering program at UMCP.

	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5	SLO 6	SLO 7
Year 1	ENBC331 ENBC342	ENBC353					

Year 2						ENBC352	ENBC321
Year 3			ENBC491	ENBC491	ENBC491		

The assessment reports will follow a template developed by the Undergraduate Studies Committee in the Fischell Department of Bioengineering. The template contains a rubric to standardize the assessment. In addition, the template contains fields to track the discussion by the Undergraduate Studies Committee, the feedback provided by the committee, and the date of approval. The template is presented below.

Template begins here

Introduction

Course title (ENBC###) is a junior/senior level, required course for the undergraduates in the Biocomputational Engineering program at the University of Maryland. *Notable history of the course (New course? Major changes? Long established course?)*

Details about course content.

Details about major contents; how students earn their grades (exams, projects, reports, presentations, problem sets, labs, etc.)

Student Outcomes

Course title (ENBC###) is meant to address the following Student Outcomes:
(List all applicable ABET outcomes.)

Mapping to Student Outcomes

In addition, a mapping of the Student Outcomes to courses has been established in the Bioengineering Program so that each Student Outcome is specifically assessed approximately every three years. The *Course title (ENBC###)* course most heavily focuses upon Student Outcome*(s) list outcomes here*.

Quantitative Assessment

To assess the students' performance in Outcome (#), *describe in detail what was assessed and how it was assessed. Refer to the rubric below. Clearly describe what constitutes mastery of the subject.*

Scoring Rubric

Outcome *(#): outcome text*
One sentence description of the assessment.

4. Complete mastery of the assessed concept.
3. Sufficient mastery of the assessed concept to apply the learning as a post-graduate.
2. Sufficient mastery of only portions of the assessed concept or insufficient mastery of the assessed concept to apply the learning as a post-graduate.
1. Complete lack of mastery of the assessed concept.
0. No attempt

Expected Attainment Level

The expected attainment level for completing Student Outcomes is a class average score of 3.0, implying that on average students will be successful applying the assessed outcome as a post-graduate.

Result of Assessment

State the mean and standard deviation. State any additional observations about the scores.

Conclusions and Recommendations

Briefly summarize again what was assessed and whether it was successful. Elaborate further on the meaning or implication of the success or failure. State any recommendations to improve the course in order to increase the score.

For administrative use only	
Date received	
Date discussed by UGS committee	
Comments or recommendations from the committee	
Summary of revisions	
Date approved	
Director UGS name	
Director UGS signature	

Template ends here

In addition to the course assessment process, a senior exit survey will be conducted prior to graduation every year. Students will be asked to assess their capabilities related to the seven learning outcomes above. These results will be reviewed by the Undergraduate Studies Committee and recommendations for improvements to the curriculum will be provided to the program's Director as needed.

Appendix 3: Program Faculty

The Fischell Department of Bioengineering will provide opportunities for its current TTK and PTK faculty to transition to the USG program[1]. All remaining positions will be added through external hires. The three TTK faculty will have the choice to locate their research program at USG or UMCP, though they will provide instruction at the USG campus. In line with the current policy in the Fischell Department of Bioengineering, tenured faculty teach three courses per year, though if they meet the "research active" threshold, they teach two courses per year. Junior TTK faculty teach two courses per year. PTK lectures are expected to teach 5.5 courses per year. The PTK faculty will be located at USG full time.

The descriptions of the faculty positions are provided below.

TTK #1
Research strengths: multi-scale modeling and protein folding with applications in disease.
Capable of teaching:

- ENBC332: Statistics, Data Analysis, and Data Visualization
- ENBC341: Biomolecular Engineering Thermodynamics
- ENBC442: Computational Molecular Dynamics
- ENBC443: Multiscale Simulation Methods
- ENBC444: Modeling Protein Folding

TTK #2
Research strengths: multi-scale modeling and molecular assembly; cells and or biomaterials.
Capable of teaching:

- ENBC332: Statistics, Data Analysis, and Data Visualization
- ENBC341: Biomolecular Engineering Thermodynamics
- ENBC442: Computational Molecular Dynamics
- ENBC443: Multiscale Simulation Methods
- ENBC444: Modeling Protein Folding

PTK #1
Research strengths: computational systems biology.
Capable of teaching:

- ENBC331: Applied Linear Systems and Differential Equations
- ENBC342: Computational Fluid Dynamics and Mass Transfer
- ENBC351: Quantitative Molecular and Cellular Biology
- ENBC431: Finite Element Analysis
- ENBC441: Computational Systems Biology
- ENBC445: Spatial Control of Biological Agents

PTK #2
Teaching strengths: Computer programming and machine learning.
Capable of teaching:

- ENBC301: Introduction to Biocomputational Engineering
- ENBC311: Python for Data Analysis
- ENBC312: Object Oriented Programming in C++

[1] List of current BIOE TTK and PTK faculty is included at the end of appendix 3.

- ENBC321: Machine Learning for Data Analysis
- ENBC322: Algorithms
- ENBC411: Advanced Programming in Python
- ENBC425: Imaging and Image Processing

PTK #3
Teaching strengths: Biomedical engineering and biotechnology.
Capable of teaching:

- ENBC301: Introduction to Biocomputational Engineering
- ENBC351: Quantitative Molecular and Cellular Biology
- ENBC352: Molecular Techniques Laboratory
- ENBC353: Synthetic Biology
- ENBC455: Bioinformatics Engineering
- ENBC491: Senior Capstone Design in Biocomputational Engineering

PTK #4
Teaching strengths: Mathematical methods in engineering, programming.
Capable of teaching:

- ENBC301: Introduction to Biocomputational Engineering
- ENBC311: Python for Data Analysis
- ENBC312: Object Oriented Programming in C++
- ENBC321: Machine learning for Data Analysis
- ENBC331: Applied Linear Systems and Differential Equations
- ENBC332: Statistics, Data Analysis, and Data Visualization
- ENBC342: Computational Fluid Dynamics and Mass Transfer
- ENBC425: Imaging and Image Processing
- ENBC431: Finite Element Analysis

Current List of Fischell Department of Bioengineering TTK and PTK Faculty

Faculty Name	**Rank**
Aranda-Espinoza, Helim	Associate Professor
Bentley, William	Professor
Clyne, Alisa	Associate Professor
Duncan, Gregg	Assistant Professor
Eisenstein, Edward	Associate Professor
Fisher, John	Professor
He, Xiaoming	Professor
Herold, Keith	Professor Emeritus
Huang, Huang-Chiao	Assistant Professor
Jay, Steven	Associate Professor

Jewell, Christopher	Associate Professor
Johnson, Arthur	Professor Emeritus
Jones, Angela	PTK
Locascio, Laurie	Professor
Ma, Lan	PTK
Maisel, Katharina	Assistant Professor
Matysiak, Silvina	Associate Professor
Montas, Hubert	Associate Professor
Pranda, Marina	PTK
Scarcelli, Giuliano	Assistant Professor
Stroka, Kimberly	Assistant Professor
Tao, Yang	Professor
White, Ian	Associate Professor
Zhang, Li-Qun	Professor

Appendix 4: Library Assessment

DATE: September 24, 2019

TO: Ian M. White

Associate Chair and Director of Undergraduate Studies

Fischell Department of Bioengineering

FROM: On behalf of the University of Maryland Libraries:

Sarah Over, Engineering Librarian

Amy Trost, Data Services Librarian, Priddy Library

Maggie Saponaro, Head of Collection Development Strategies

Daniel Mack, Associate Dean, Collection Strategies & Services

RE: Biocomputational Engineering Library Collection Assessment

We are providing this assessment in response to a proposal by the Bioengineering Department in the A. James Clark School of Engineering to create a new major in Biocomputational Engineering to be offered at the Universities at Shady Grove. The request asked that we at the University of Maryland Libraries assess our collection resources to determine how well the Libraries support the curriculum of this proposed program.

Serial Publications

The University of Maryland Libraries currently subscribe to a large number of scholarly journals, with almost all in online format that focus on various areas in bioengineering, computation, and data science, including those relevant to this proposed program in biocomputational engineering such as machine learning. Those serials not available online can be requested via the article/chapter request form within Interlibrary Loan (ILL, https://www.lib.umd.edu/access/ill) so that faculty and students at Shady Grove can utilize these publications without traveling to College Park.

The Libraries subscribe to many of the top ranked journals that are listed in the Biotechnology & Applied Microbiology, Computer Science – Interdisciplinary, and Engineering, Biomedical categories in *Journal Citation Reports.** These journals include the following, all of which are available online:

- **Nature Biotechnology**
- **Biotechnology Advances**
- **IEEE Transactions on Pattern Analysis and Machine Intelligence**

- **Annual Review of Biomedical Engineering**
- **Medical Image Analysis**
- **IEEE Transactions on Biomedical Engineering**
- **IEEE Journal of Biomedical and Health Informatics**
- **Machine Learning**
- **Other IEEE publications**

Since biocomputational engineering involves medicine as well, there are highly-ranked core journals to which the Libraries in College Park do not currently subscribe to as these are available at other UMD institutions (i.e. Baltimore). However, articles in journals that we do not own likely will be available through ILL (more details given later in this document).

**Journal Citation Reports* is a tool for evaluating scholarly journals. It computes these evaluations from the relative number of citations compiled in the *Science Citation Index* and *Social Sciences Citation Index* database tools.

Databases

The Libraries' *Database Finder* (http://www.lib.umd.edu/dbfinder) resource offers online access to databases that provide indexing and access to scholarly journal articles and other information sources. Many of these databases cover subject areas that would be relevant to this proposed program, especially due to the variety of applications for biocomputational engineering. Databases that would most be useful for this program include: *ACM Digital Library*, *BioOne*, *IEEE Xplore*, *IEEE/Wiley eBooks*, *Merck Index*, and *Springer eBooks in Computer Science*. Some of the more interdisciplinary databases that would be relevant to this curriculum include: *Knovel*, *ScienceDirect*, *SIAM eBooks*, *SPIE eBook Collection*, and *Web of Science.* The Libraries also indexes free/open databases such as *PubMed* in its database list that this program can take advantage of for instruction.

In many and likely in most cases, these indexes offer full text copies of the relevant journal articles. In those instances that the journal articles are available only in print format, the Libraries can make copies via Interlibrary Loan article/chapter request.

Monographs

The Libraries regularly acquire scholarly monographs in a variety of topics relevant to biocomputational engineering. Monographs not already part of the collection can usually be added directly to the collection at Shady Grove upon request.

A search of the University of Maryland Libraries' WorldCat UMD catalog was conducted for monographs, using a variety of relevant subject terms. UMD owns thousands of titles relevant to this proposed program, including:

- **Bioengineering – 1266 items**
- **Bioinformatics – 2314 items**
- **Biotechnology – 6286 items**
- **Data visualization – 638 items**
- **Machine learning – 3335 items**

In addition, we own hundreds of monographs published within the last five years, insuring the program has access to relevant and recent holdings.

A further search revealed that the Libraries' membership in the Big Ten Academic Alliance (BTAA) dramatically increases these holdings with an increase to 4682 title-search results for "bioinformatics" and 8789 results for "machine learning." As with our own materials, students can request that chapters from these BTAA books if the books are not available electronically. Finally, monographs can be sent to Priddy Library for pickup, avoiding the need to travel to College Park, which may be inconvenient for students and faculty in this program.

Interlibrary Loan Services

These services offer online delivery of bibliographic materials that otherwise would not be available online. As a result, these services are especially helpful for users at Shady Grove (or online courses). All Interlibrary Loan services are available free of charge for users.

The article/chapter request within ILL scans and delivers journal articles and book chapters either from UMD's print collection or another university. In most cases, the article or chapter will be delivered electronically to the user within three business days. Book requests within ILL are generally fulfilled in print format with the requested item sent to the location specified by the user. Time for fulfillment depends on the location the book is coming from, but for other Maryland institutions and the BTAA, this may be as little as a couple days.

Additional Materials and Resources

In addition to the serials, monographs, and databases available, students in the proposed program will have access to a wide range of media, datasets, software, and technology. In College Park, media is available in a variety of formats that can be utilized both on-site and via ELMS course media. GIS Datasets are available through the GIS Data Repository (http://www.lib.umd.edu/gis/dataset) while statistical consulting and additional research support is available through the Research Commons (http://www.lib.umd.edu/rc) and technology support and services are available through the Terrapin Learning Commons (http://www.lib.umd.edu/tlc).

Students can access print textbooks required for their classes through Priddy Library's Course Reserves program. This is a critical service due to the rising cost of textbooks.

Additionally, although not likely to be highly used by this program, UMD does have a number of microform collections, which may be of use for interdisciplinary portions of the curriculum. Finally, the STEM Library has patent and trademark consultation services, which are provided by our Patents & Trademarks librarian, James Miller (jmiller2@umd.edu).

The engineering subject specialist at Shady Grove, Amy Trost (atrost1@umd.edu, 301-738-6122), and the subject specialist librarian for Bioengineering in College Park, Sarah Over (sover@umd.edu, 301-405-9142) will both serve as important resources to programs such as the one proposed.

Other Research Collections

Because of the University's unique physical location near Washington D.C., Baltimore and Annapolis, students and faculty have access to some of the finest libraries, archives and research centers in the country vitally important for researchers in this discipline. These include the Library of Congress, the National Archives, the Smithsonian, and more.

Conclusion

With our substantial journals holdings and databases, as well as additional support services and resources, the University of Maryland Libraries have the resources to support teaching and learning in biocomputational engineering. These materials are supplemented by a strong monograph collection and additional holdings through the Big Ten Academic Alliance. Although there is a deficiency in the medical serials, these are not likely to be heavily used by students at the undergraduate engineering level, and those needed by faculty teaching courses can be requested via Interlibrary Loan. As a result, our assessment is that the University of Maryland Libraries are able to meet the curricular and research needs of the proposed Biocomputational Engineering program to be offered at the Universities at Shady Grove.

Appendix 5: Financial Tables

Resources and Expenditures
Biocomputational Engineering Proposal

TABLE 1: RESOURCES

Resources Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1.Reallocated Funds					
2. Tuition/Fee Revenue (c+g below)	$ 233,600	$ 481,216	$ 743,479	$ 893,414	$ 1,051,675
a. #FT Students	20	40	60	70	80
b. Annual Tuition/Fee Rate	$ 11,680	$ 12,030	$ 12,391	$ 12,763	$ 13,146
c. Annual FT Revenue (a x b)	$ 233,600	$ 481,216	$ 743,479	$ 893,414	$ 1,051,675
d. # PT Students	0	0	0	0	0
e. Credit Hour Rate	$ 485.00	$ 499.55	$ 514.54	$ 529.97	$ 545.87
f. Annual Credit Hours	16	16	16	16	16
g. Total Part Time Revenue (d x e x f)	$ -	$ -	$ -	$ -	$ -
3. Grants, Contracts, & Other External Sources	$ -	$ -	$ -	$ -	$ -
4. Other Sources	$ 900,000	$ 900,000	$ 900,000	$ 900,000	$ 900,000
TOTAL (Add 1 - 4)	**$1,133,600**	**$1,381,216**	**$1,643,479**	**$1,793,414**	**$1,951,675**

Tuition revenue is based on AY19-20 rates for the A. James Clark School of Engineering. It does not include mandatory fees or laboratory fees. Other Sources assumes support from the Governor's Workforce Development Initiative targeted towards programs to be delivered at the Universities at Shady Grove.

TABLE 2: EXPENDITURES

Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Full time Faculty (b+c below)	$665,000	$684,950	$846,598	$871,996	$898,156
a. #FTE	5.0	5.0	6.0	6.0	6.0
b. Total Salary	$500,000	$515,000	$636,540	$655,636	$675,305
c. Total Benefits	$165,000	$169,950	$210,058	$216,360	$222,851
2. Part time Faculty (b+c below)	$60,000	$60,000	$60,000	$60,000	$60,000
a. #FTE	1.0	1.0	1.0	1.0	1.0
b. Total Salary	$60,000	$60,000	$60,000	$60,000	$60,000
c. Total Benefits	$0	$0	$0	$0	$0
3. Admin. Staff (b+c below)	$279,300	$287,679	$395,079	$406,932	$419,139
a. #FTE	3.0	3.0	4.0	4.0	4.0
b. Total Salary	$210,000	$216,300	$297,052	$305,964	$315,142
c. Total Benefits	$69,300	$71,379	$98,027	$100,968	$103,997
4. Technical Support staff (b+c below)	$106,400	$109,592	$112,880	$116,266	$119,754
a. #FTE	1.0	1.0	1.0	1.0	1.0
b. Total Salary	$80,000	$82,400	$84,872	$87,418	$90,041
c. Total Benefits	$26,400	$27,192	$28,008	$28,848	$29,713
5. Graduate Assistants (b+c below)	$26,600	$53,200	$53,200	$79,800	$79,800
a. #FTE	1.0	2.0	2.0	3.0	3.0
b. Stipend	$20,000	$40,000	$40,000	$60,000	$60,000
c. Tuition Remission + benefits	$6,600	$13,200	$13,200	$19,800	$19,800
6. Equipment	$20,000	$20,000	$20,000	$20,000	$20,000
7. Library	$5,000	$5,000	$5,000	$5,000	$5,000
8. New or Renovated Space	$0	$0	$0	$0	$0
9. Marketing/Advertising	$25,000	$25,000	$25,000	$25,000	$25,000
10. Other Expenses: Operational Expenses	$50,000	$50,000	$50,000	$50,000	$50,000
11. Office Space Rental	$10,500	$10,815	$11,139	$11,474	$11,818
12. Classroom Rental	$0	$9,000	$9,270	$9,548	$9,835
13. OES admin fee	$23,360	$48,122	$74,348	$89,341	$105,168
14. Admin increments/overloads	$20,000	$20,000	$20,000	$20,000	$20,000
15. Scholarships	$75,000	$75,000	$75,000	$100,000	$125,000
TOTAL (Add 1 - 15)	**$1,366,160**	**$1,458,358**	**$1,757,514**	**$1,865,357**	**$1,948,670**

UNIVERSITY SENATE | TRANSMITTAL | #19-20-28

Senate Faculty Affairs Committee

Amendment to the University Of Maryland Policies and Procedures Governing Faculty Grievances

PRESENTED BY	**Daniel Lathrop, Chair**
REVIEW DATES	**SEC – January 27, 2020 | SENATE – February 5, 2020**
VOTING METHOD	**In a single vote**
RELEVANT POLICY/DOCUMENT	**II-4.00(A) – University of Maryland Policies and Procedures Governing Faculty Grievances**
NECESSARY APPROVALS	**Senate, President**

ISSUE

In November 2019, a proposal was submitted to the Senate Executive Committee suggesting a minor revision to the University of Maryland Policies and Procedures Governing Faculty Grievances (II-4.00[A]). The proposal asked that the limitations of the policy be clarified. On November 20, 2019, the SEC voted to charge the Faculty Affairs Committee with review of the proposal.

RECOMMENDATION(S)

The Faculty Affairs Committee recommends that the proposed revision to the University of Maryland Policies and Procedures Governing Faculty Grievances (II-4.00[A]) as shown immediately following this report be approved.

COMMITTEE WORK

The Faculty Affairs Committee began its review at its meeting on December 2, 2019. It discussed the issues with the proposers, the Associate Provost for Faculty Affairs and the Faculty Ombuds Officer. It also met with the Executive Secretary & Director of the Senate, who manages formal grievances that are submitted to the Senate for review. The committee also consulted with the Office of General Counsel during its review.

The committee discussed the various types of review processes on campus, and noted that the policies and guidelines establishing those processes typically include appeal procedures. The committee raised concerns with the ability of the grievance process to appropriately review complaints related to sensitive matters like those that arise during investigations, where subject-matter expertise may be required and where confidentiality is critical. The committee agreed that processes governed by existing policies and processes that have their own appeal mechanisms should not be able to be grieved further through the Faculty Grievance Policy. The committee developed language to clarify the role of the policy.

After due consideration, the Faculty Affairs Committee voted to approve proposed revisions to the Faculty Grievance Policy at its meeting on December 2, 2019. The policy language was

subsequently revised after consultation with the Office of General Counsel, and the committee was notified of the revisions.

ALTERNATIVES

The Senate could choose not to approve the recommended revisions to the University of Maryland Policies and Procedures Governing Faculty Grievances. However, it would lose an opportunity to clarify the limitations of the policy.

RISKS

There are no risks to the University in adopting this recommendation.

FINANCIAL IMPLICATIONS

There are no known financial implications in adopting this recommendation.

AMENDMENT TO THE UNIVERSITY OF MARYLAND POLICIES AND PROCEDURES GOVERNING FACULTY GRIEVANCES

2019-2020 Committee Members

Daniel Lathrop (Chair)
John Bertot (Ex-Officio Provost's Rep)
Michele Eastman (Ex-Officio President's Rep)
Marc Pound (Ex-Officio CUSF Rep)
Jacqueline Richmond (Ex-Officio Director of Human Resources Rep)
Ellin Scholnick (Ex-Officio Ombuds Officer)
Caryn Bell (Faculty Senator)
Caroline Boules (Faculty Senator)
Agislaos Iliadis (Faculty Senator)
Nicole LaRonde (Faculty Senator)
Mark Fuge (Faculty)
Shevaun Lewis (Faculty)
Jessica O'Hara (Faculty)
Janice Reutt-Robey (Faculty)
Kevin Roy (Faculty)
Don Webster (Faculty)
Lexxie Monahan (Staff)
Deanna Barath (Graduate Student)
Ashley Hixson (Graduate Student)
Benjamin Lin (Undergraduate Student)

Date of Submission

January 2020

BACKGROUND

In November 2019, a proposal was submitted to the Senate Executive Committee suggesting a minor revision to the University of Maryland Policies and Procedures Governing Faculty Grievances (II-4.00[A]). The proposal noted that while the policy is intended to address issues that arise in the workplace such as inter-personal problems or employment-related disagreements, the policy is not intended to allow for a second review of issues that have been considered and resolved through another process at the University. The proposal asked that the limitations of the policy be clarified. On November 20, 2019, the SEC voted to charge the Faculty Affairs Committee with review of the proposal (Appendix 1).

COMMITTEE WORK

The Faculty Affairs Committee began its review at its meeting on December 2, 2019. It discussed the issues with the proposers, the Associate Provost for Faculty Affairs and the Faculty Ombuds Officer. It also met with the Executive Secretary & Director of the Senate, who manages formal grievances that are submitted to the Senate for review. The committee also consulted with the Office of General Counsel during its review.

The committee discussed the various types of review processes on campus, and noted that the policies and guidelines establishing those processes typically include appeal procedures. Investigations such as those related to policies on scholarly misconduct, sexual misconduct, and non-discrimination, are expected to be the final investigation on the matter at hand. Likewise, appeals of promotion and tenure decisions are governed through the APT policy and the determinations made through that process are final. However, due to a lack of clarity in the limitations of the grievance process, the current Faculty Grievance Policy allows an additional opportunity to address issues that have already been considered in the context of a separate process.

The committee raised concerns with the ability of the grievance process to appropriately review complaints related to sensitive matters like those that arise during investigations. In the investigation process, the issue at hand is reviewed by those who have the knowledge and expertise necessary to understand the case; a Faculty Hearing Board formed by the Senate to hear a grievance on the same matter would likely lack the subject-matter expertise needed to understand the nuances of the case. It would be difficult for a Faculty Hearing Board to review a grievance without repeating many of the steps in the investigatory proceeding in order to fully understand the case before it. In addition, a grievance would require that confidential materials and matters be discussed with a wider group, limiting the University's ability to uphold its responsibility for maintaining confidentiality in those processes.

The committee agreed that processes governed by existing policies and processes that have their own appeal mechanisms should not be able to be grieved further through the Faculty Grievance Policy. The committee developed language to clarify the role of the policy. In developing the language, the committee focused on findings or decisions reached, as well as on disciplinary action enacted as a result of other existing processes on campus.

After due consideration, the Faculty Affairs Committee voted to approve proposed revisions to the Faculty Grievance Policy at its meeting on December 2, 2019. The policy language was subsequently revised after consultation with the Office of General Counsel, and the committee was notified of the revisions.

RECOMMENDATIONS

The Faculty Affairs Committee recommends that the proposed revision to the University of Maryland Policies and Procedures Governing Faculty Grievances (II-4.00[A]) as shown immediately following this report be approved.

APPENDICES

Appendix 1 — Charge from the Senate Executive Committee

II-4.00(A) UNIVERSITY OF MARYLAND POLICIES AND PROCEDURES GOVERNING FACULTY GRIEVANCES

(Passed by the Campus Senate, April 23, 1990 and approved by the President, December 13, 1990; Amended March 4, 2002, April 5, 2018. This procedure replaces all faculty grievance procedures previously in effect at all administrative levels of the University of Maryland College Park.)

I. INTRODUCTION

A. Purpose

Legitimate problems, differences of opinion, conflicts, or complaints sometimes arise in the relationship between the University, as an employer, and its faculty. Both the faculty member with a grievance and the University benefit when the University responds to grievances promptly and fairly. This grievance procedure attempts to handle grievances as informally as possible and at a level in the University structure that is accessible to faculty members. The procedure also attempts to handle grievances in a timely, consistent, and simple manner.

B. Who May File a Grievance?

All persons with faculty status irrespective of their administrative duties or assignments at the time of the action or inaction prompting the grievance may use this grievance procedure. The faculty members covered by the Grievance Procedures are all those whose titles are in the University of Maryland Policy on Appointment, Promotion and Tenure Policy II-1.00(A) or in the University System Policy II-1.00, whether that person is full-time or part-time, as long as the faculty appointment is the person's primary position at the University of Maryland.

Grievances by more than one faculty member may be put together in a single grievance if each faculty member signs the grievance and the material actions or inactions and issues are substantially the same for each.

C. What is a Grievance?

Faculty members may file a grievance under this procedure for issues including but not limited to academic freedom, salary, assignments, and the nature and conditions of a faculty member's work. **Specific limitations on grievance complaints can be found in section I.D of this Policy.** Grievances cannot be filed against written campus and System policies. Grounds for a grievance are limited to actions or inactions by an administrator or a faculty member that are believed to be:

1. Unfair, which shall mean arbitrary and capricious, lacking in justifiable cause or basis in official policy, inequitable with respect to treatment, or excessive in relation to what would be a reasonable and available alternative course of action;

2. Discriminatory, which shall mean that the action or inaction was made on the basis of a protected status (e.g., race, ethnicity, gender, age, religion, sexual orientation, etc.); or

3. Improperly reached, which shall mean the decision was reached either in violation of University policy or without the consultations or approvals required by departmental or college regulations prior to making such decisions.

D. Limitations

No complaint shall be reviewed under these faculty grievance procedures if:

1. The complaint pertains to a subject that is reviewable under, or is specifically excluded from review by any other System or institutional policy, **or pertains to a finding or decision reached through a process established in a University policy that includes an appeal mechanism,** such as policies on sexual misconduct, non-discrimination, **promotion and tenure,** and ~~research~~ **scholarly** misconduct;

2. **The complaint pertains to a disciplinary action, including termination or suspension, imposed following the outcome of an institutional investigatory or compliance process;**

~~2~~**3**. The complaint pertains to an official policy, regulation, or procedure of the System or the institution; a decision or action by the Board of Regents, the Chancellor, or the President; or any matter the remedy for which would contravene or interfere with ~~any such~~ **an** official policy, regulation, procedure, decision, ~~or~~ action**, or institutional legal obligation**;

~~3~~**4**. The complaint pertains to **a fiscal irregularity finding,** broad fiscal management, organization, or structure of the University System of Maryland or constituent institutions; or

~~4~~**5**. The complaint pertains to an issue or proposes a remedy that is not under the control of the institution and/or of the University System **of Maryland**.

A faculty member may not use any other University grievance procedure simultaneously or successively with respect to the same or substantially similar issue or complaint, or with issues or complaints arising out of or pertaining to the same set of facts. In addition, no other University grievance procedure may be used to challenge the actions, determinations, or recommendations of any person(s) or board(s) acting pursuant to these procedures. A faculty member who elects to use this procedure for the resolution of a

grievance agrees to abide by the final decision arrived thereunder, and shall not subject this decision to review under any other procedure within the University System of Maryland.

A grievant may choose to pursue resolution under this process and pursue resolution through civil or criminal means, at their own initiation and expense. Administrative processes are separate from and have different standards than legal processes. Legal processes and the University's internal administrative process will proceed separately and independently.

E. The Faculty Ombuds Officer

The University of Maryland shall have a Faculty Ombuds Officer, who serves as a neutral and impartial officer to provide confidential and informal assistance to faculty and administrators in resolving concerns related to their work. Operating outside ordinary administrative structure, the Faculty Ombuds Officer shall serve as a counselor, fact-finder, mediator, and negotiator, but not as an advocate for any party to a dispute.

The Faculty Ombuds Officer shall serve all faculty and academic administrators. They shall attempt to resolve disputes informally before they enter formal grievance channels, and shall advise those who seek information about what constitutes a grievance and what the grievance procedures are. The Officer shall have access to suitable legal counsel, and should prepare an annual report and offer recommendations for policy change to the University Senate and the President.

The Faculty Ombuds Officer shall to the extent possible respect the confidentiality and privacy of faculty pursuing resolution under this grievance procedure. However, the Faculty Ombuds Officer may communicate with others on a need to know basis, as is appropriate to facilitate the grievance process or to attempt to address a complaint.

The Faculty Ombuds Officer shall be appointed by the President following a search conducted by a committee jointly appointed by the Senate Executive Committee of the University Senate and the President. Removal shall be by mutual consent of the President and a majority of the elected faculty members of the Senate Executive Committee.

II. PROCEDURES

A. Definitions

A *grievance allegation* is a preliminary informal statement of a grievable issue presented to the Faculty Ombuds Officer. It is based on the same standards as a grievance complaint, but seeks a remedy through the process of private discussion and consultation rather than formal grievance.

A *grievance complaint* is a formal written statement of a grievable issue using a prescribed form available from the Faculty Ombuds Officer. The grievance complaint should clearly articulate the grounds and scope of the grievance as well as the desired remedy.

A *formal grievance* is the formal written statement that is submitted to begin the adjudication process, after the mediation phase has concluded.

A *grievant* is the faculty member or members initiating a grievance allegation or grievance complaint.

The *respondent* is the person or persons whose actions or inactions are the focus of the grievance allegation or grievance complaint.

A *mediation agreement* is a formal written statement agreed upon by both the grievant and respondent that serves to resolve a grievance complaint.

Bad faith means an allegation that is knowingly false and/or is made or done with a knowing or reckless disregard for information that would negate the allegation.

Retaliation means an adverse action taken against an individual who has submitted a grievance and/or participated in the grievance process in good faith, where there is a clear causal link between the grievance and an adverse action. In determining whether retaliation has occurred, the individual needs to provide documentation supporting a claim of retaliation; the other party needs to articulate a legitimate reason for the adverse action.

Days in the calendar of complaint procedures shall mean business days. The grievance procedure calendar excludes Saturdays, Sundays, days on which the University is officially closed, and the time period from the end of the spring semester to the start of the following fall semester.

B. Information about Procedures

The Faculty Ombuds Officer is responsible for providing information regarding the preliminary consultation, mediation, and adjudication procedures and their relation to other policies and procedures of the University. This officer shall explain, in response to inquiries by faculty members, the conditions for using the various steps of the grievance procedure.

The grievance process consists of three phases. The Preliminary Consultation phase will normally proceed over a period of fifty (50) days. Once it has been determined that the consultation cannot achieve a satisfactory result through informal discussion, the grievant will have fifteen (15) days to file a grievance complaint to enter mediation. The Mediation phase will normally last up to twenty-five (25) days, though it can be extended

with the consent of both parties. The Adjudication phase may proceed after mediation concludes, and will move forward as expeditiously as possible.

Faculty are expected to begin the grievance process within seventy-five (75) days of a grievable action or inaction, or within seventy-five (75) days of first learning of the action or inaction, whichever is later. Such action or inaction may be the latest in a long standing pattern or practice, in which case the pattern may be considered as part the grievance, if the grievance is submitted within seventy-five (75) days from the most recent example of a pattern of action or inaction.
Grievants will not be reprimanded or discriminated against in any way for initiating a legitimate allegation or complaint. University administrators and faculty shall not engage in or threaten retaliation. Complaints of retaliation should be referred to the appropriate administrator, who would normally be the supervisor of the individual alleged to be engaging in retaliation, for review and any appropriate disciplinary action. Grievants who bring forward allegations that are found to be in bad faith may be subject to appropriate disciplinary actions.

The process for addressing a grievance set forth in these procedures is confidential. The parties, witnesses, members of committees involved in the process, advocates, and administrators who are informed of the grievance on a need to know basis, are expected to preserve confidentiality at all stages of the process, including preliminary consultation, mediation, and adjudication.

1. **Preliminary Consultation.** The preliminary consultation stage should normally proceed over a period not to exceed fifty (50 days), and is initiated by a grievance allegation brought to the Faculty Ombuds Officer. During this stage, the Faculty Ombuds Officer reviews the allegation with the grievant and the respondent, provides information and resources to the grievant, clarifies with the grievant the nature of the complaint, and counsels the grievant on their options for resolving the grievance as well as the process for engaging in mediation and adjudication should their allegation rise to the level of a formal complaint. In some cases, the grievant may have attempted to resolve the dispute privately prior to consulting with the Faculty Ombuds Officer, but such private attempts are not required in order to engage the assistance of the Faculty Ombuds Officer.

   If through preliminary consultation with the parties, the allegation is settled to the satisfaction of all parties, no formal record need be filed with the Faculty Ombuds Officer, but a written record of such agreement may be filed at the request of the grievant. If the grievance allegation is not settled through preliminary consultation and the grievant wishes to proceed to mediation, the grievant must file a grievance complaint with the Faculty Ombuds Officer before the timeframe for preliminary consultation ends in order to proceed to mediation.

   It is the responsibility of the Faculty Ombuds Officer to determine the essential nature of the dispute so that it can be resolved; the essential nature of the dispute may in fact differ from that described in the allegation. Following counsel with

the Faculty Ombuds Officer, the grievant's allegation should be revised as appropriate during the development of the grievance complaint.

2. **Mediation.** Mediation begins when the grievant files the written grievance complaint with the Faculty Ombuds Officer. The complaint shall contain a clear and concise statement of the action(s) or inaction(s) giving rise to the grievance, including the date of the action(s) or inaction(s) and the name(s) of the respondent(s) responsible. Also, the complaint should specify the adverse effect that the action(s) or inaction(s) has had or may have on the faculty member, and the remedy sought. The complaint should include the grievant's contact information.

   From the time that the grievance complaint is filed, the Faculty Ombuds Officer shall have twenty-five (25) days in which to conduct mediation. If needed and by mutual consent of the parties, the Faculty Ombuds Officer may take additional time for mediation. The Faculty Ombuds Officer shall mediate the dispute by working with the parties to seek a solution satisfactory to both. All parties are expected to make good faith efforts at mediation. If mediation fails to produce a satisfactory solution, mediation may end unless both parties agree to continue.

   If mediation results in a resolution of the conflict, a confidential written report and mediation agreement shall be forwarded to all parties to the dispute. The original copy of the report shall be retained by the Faculty Ombuds Officer.

   The grievant may withdraw from the grievance process at any point by giving the Faculty Ombuds Officer written notice. If the grievant withdraws from the grievance process prior to the end of mediation, the grievant may not proceed to adjudication.

   If, at any time during the mediation period, the Faculty Ombuds Officer believes the parties cannot reach agreement, or if the mediation fails to produce a satisfactory solution after the initial mediation period of twenty-five (25) days and any additional time agreed to by both parties, the mediation effort shall cease and the grievant may submit the dispute to adjudication.

3. **Adjudication.** Upon receipt of notice to the grievant by the Faculty Ombuds Officer of failure of the mediation process, the grievant shall have fifteen (15) days to revise the grievance complaint and submit the formal grievance to the Executive Secretary and Director of the University Senate for adjudication. Within five days (5) of the receipt of the formal grievance, the Executive Secretary and Director shall inform the respondent(s), the Associate Provost for Faculty Affairs, and the Faculty Ombuds Officer of the grievant's action and request that the Faculty Ombuds Officer provide a summary statement of the mediation effort and an assessment of whether the allegations within the grievance are within the jurisdiction of the grievance policy. The Faculty

Ombuds Officer shall submit the assessment within ten (10) days of the Executive Secretary and Director's request.

a. Administration:

The Office of the Executive Secretary and Director of the Senate shall be assigned responsibility for keeping a record of the grievance, initial notification of persons involved, and monitoring compliance with procedures. The Executive Secretary and Director of the Senate shall serve as the coordinator of and advisor to the Faculty Hearing Board. A confidential complete record shall be kept by the Executive Secretary and Director of all hearings and documents referenced during the adjudication process for three (3) years following the end of the grievance process.

b. Forming The Faculty Grievance Hearing Board

All elected Faculty Senators are eligible to serve on the Faculty Grievance Hearing Board. Hearing Boards should include a diverse group of tenured and tenure-track (T/TT) and professional track (PTK) faculty, whenever possible and as appropriate to the case. The Senate Chair-Elect is responsible for facilitating the formation of the Hearing Board.

Within fifteen (15) days of submission of the formal grievance, the Executive Secretary and Director shall send the list of elected Faculty Senators to the parties for review. The parties will have five (5) days to notify the Executive Secretary and Director of any elected Faculty Senators who may have a conflict of interest and should be ineligible to serve on the Hearing Board. The Executive Secretary and Director will promptly communicate any conflicts to the Chair-Elect.

The Chair-Elect shall then appoint three voting members of the Hearing Board and two alternate members from the unchallenged potential members.

The five members of the Faculty Grievance Hearing Board (three voting and two alternates) shall elect, by majority vote, one voting member to chair the Hearing Board. If a voting member cannot serve to completion of the grievance hearing, an alternate shall then be appointed as a voting member by the Chair of the Hearing Board. If an alternate member cannot serve to completion of the grievance hearing, the Hearing Board may proceed with one alternate.

c. Faculty Grievance Hearing Board Procedures

The Faculty Grievance Hearing Board shall hear all arguments on substantive and procedural matters and shall make necessary written findings.

The grievant shall be responsible for demonstrating the merits of the grievance. They must demonstrate that the action or inaction occurred and that the action or inaction adversely affects them. The grievant shall have the right to review and use any legally available part of their personnel files.

The Executive Secretary and Director shall establish a schedule of hearings for the Hearing Board that will allow the body to complete its work as expeditiously as possible. The Hearing Board should first convene its members to review the formal grievance as well as the summary statement of mediation efforts and assessment of grievance grounds. The Hearing Board may decide to dismiss the case if all three voting members agree that the dispute is frivolous, without merit, submitted in bad faith, or insufficiently related to the concerns of the academic community. If the case is dismissed, the Executive Secretary and Director will notify the parties, the Faculty Ombuds Officer, and the Associate Provost for Faculty Affairs. If the case is not dismissed, the grievance will proceed.

Both parties may choose to be assisted during the adjudication process by an advocate of their choice, who may be peer counsel or an attorney, at their own initiation and expense. The advocate may provide advice and consultation to the party. If necessary, a party may request a recess during hearings in order to speak privately with an advocate. The advocate may not be an active participant; the advocate may not speak for the parties in person or in writing, serve as a witness, provide information or documentation in the case, cause delay, communicate with the Chair or Executive Secretary and Director on behalf of the party, or otherwise interfere with the process.

At any step of the grievance procedure, the Hearing Board may request advice of the Office of General Counsel on procedural concerns or significant legal issues raised in the grievance. A legal officer who has provided legal advice or service to the respondent may not provide legal advice or service to the Hearing Board.

At any point, the respondent may request that the Hearing Board dismiss the case based on issues related to the grievability of the action or inaction involved. The Hearing Board will review the request and can dismiss the case if all three voting members agree. If the case is dismissed, the Executive Secretary and Director will notify the parties, the Faculty Ombuds Officer, and the Associate Provost for Faculty Affairs. If the case is not dismissed, the grievance will proceed.

The Chair of the Faculty Grievance Hearing Board shall be responsible for overseeing and facilitating the hearings and may order the proceedings in such manner as they deem appropriate. Hearings shall be closed. The Chair shall make determinations on all questions concerning the course of the proceedings. The Chair has the discretion to set time limits for statements,

testimony, or other aspects of the hearings and exclude redundant or irrelevant evidence including witness testimony.

During the hearings, each party will have an opportunity to make an opening and closing statement. The grievant shall first make a brief opening statement outlining the grounds for the grievance as indicated in the formal grievance; the respondent will then make a brief opening statement in response. Each party will be given an opportunity to share information or documentation to support their case, and all documentation shall be shared with the other party.

Both parties have the right to call witnesses in pursuance of their cases. If the parties intend to call witnesses, they are expected to submit their names and relevance to the case in advance of the hearing. The Faculty Ombuds Officer cannot be called as a witness. The Hearing Board can neither compel witnesses to participate nor assure the presence of witnesses requested by either party.

Members of the Hearing Board may ask questions of the grievant, respondent, and their witnesses. The Board may call witnesses when relevant to the issues in the case.

d. Findings of the Grievance Hearing Board

Only information discussed during the hearings that is determined by the Board to be relevant to the case shall be considered in the determination of the case. After review of the relevant information, the Hearing Board shall make a determination on its findings by a majority vote. The Hearing Board's findings should include an assessment of whether the grievance has merit and whether the action or inaction that formed the basis of the grievance was justifiable.

The Board shall prepare a written report of its findings, including the reasons for the findings and any dissent. The report shall be forwarded to the President within ten (10) days after the conclusion of the hearing. Confidential copies of the report shall be sent to the grievant and to the respondent, as well as to the Associate Provost for Faculty Affairs and the Faculty Ombuds Officer. Adjudication of a faculty grievance is a confidential process. All parties are expected to maintain the confidentiality of the process, proceedings, and documentation except as otherwise compelled by law.

e. Resolution

Within thirty (30) days, the President shall make a final determination in writing on the decision in the matter, and what remedy, if any, will be implemented. The President will normally consult with academic

administrators in determining appropriate remedies. It is expected that the President will give great weight to the findings of the Hearing Board. However, if the findings of the Hearing Board are not accepted, in whole or in part, an explanation of this decision should be provided. Notification will be sent to both parties to the grievance, to the Chair of the Hearing Board, and to the Hearing Board, as well as to the Executive Secretary and Director, the Associate Provost for Faculty Affairs and the Faculty Ombuds Officer.

The decision of the President shall be final.

Should the President decide that the grievance is justified and a remedy should be implemented, the grievant shall, before receiving any such remedy, enter into a written agreement recognizing the remedy to be satisfactory and waiving any claims to causes of action arising out of the grievance.

Appendix 1

UNIVERSITY SENATE | CHARGE

Charged: November 22, 2019 | Deadline: January 17, 2020

Amendment to the University of Maryland Policies and Procedures Governing Faculty Grievances (Senate Document #19-20-28)

Faculty Affairs Committee | Chair: Daniel P. Lathrop

The Senate Executive Committee (SEC) and Senate Chair Lanford request that the Faculty Affairs Committee review the proposal entitled, *Amendment to the University of Maryland Policies and Procedures Governing Faculty Grievances*.

Specifically, it asks that you:

1. Review the University of Maryland Policies and Procedures Governing Faculty Grievances (II-4.00[A]).

2. Consult with the proposers, the Associate Provost for Faculty Affairs and the Faculty Ombudsperson.

3. Consult with the Executive Secretary & Director of the University Senate.

4. Consider whether section I.D Limitations in the Policy should preclude a grievance from being filed if it pertains to a finding reached in a separate process, disciplinary action resulting from a separate process (up to and including suspension and termination), or if the resolution sought by the faculty member would interfere with an institutional legal obligation.

5. Consult with a representative of the Office of General Counsel on any proposed changes to University policy.

6. If appropriate based on the committee's consideration of the above items, recommend whether the existing policy should be revised

We ask that you submit a report to the Senate Office no later than **January 17, 2020**. If you have questions or need assistance, please contact Reka Montfort in the Senate Office, extension 5-5804.

UNIVERSITY SENATE | PROPOSAL

Submitted on: November 13, 2019

Amendment to the University of Maryland Policies and Procedures Governing Faculty Grievances (II-4.00[A])

NAME/TITLE	John Bertot, Associate Provost for Faculty Affairs & Ellin Scholnick, Faculty Ombuds Officer		
EMAIL	jbertot@umd.edu & escholni@umd.edu	PHONE	5-4252 & 5-1901
UNIT	SVPAAP - Office of Faculty Affairs & President's Office	CONSTITUENCY	Administrator

DESCRIPTION OF ISSUE

The University of Maryland Policies and Procedures Governing Faculty Grievances (II-4.00[A]) is intended to provide an avenue for considering and resolving issues that arise between faculty and administrators in the course of their work. These typically involve inter-personal problems or employment-related disagreements. The Policy provides informal mechanisms for resolving grievances through mediation, and a formal mechanism through a peer review process involving the Senate.

Faculty members frequently turn to the grievance process to appeal any decision with which they disagree, but the process was not intended to allow for a second review of issues that have been investigated and resolved through a process established in another University policy. The University has defined processes for issues related to scholarly misconduct, sexual misconduct, non-discrimination, promotion and tenure, and fiscal irregularities, to name a few. Many of these policies and procedures incorporate an appeals process. When a finding has been reached through these processes and disciplinary action has been determined, it is inappropriate for the faculty member to seek a second review of either the finding or the disciplinary action through the grievance process. Decisions and actions reached as a result of an existing process at the University must be understood to be final. Bringing those issues to a grievance process undermines the authority, confidentiality, and procedures of the original process.

DESCRIPTION OF CHANGE YOU WOULD LIKE TO SEE

The University of Maryland Policies and Procedures Governing Faculty Grievances (II-4.00[A]) should be revised to more clearly articulate the limitations of the Policy and how it relates to other processes that already exist for examining issues related to misconduct or employment actions.

SUGGESTION FOR HOW YOUR PROPOSAL WOULD BE PUT INTO PRACTICE

Section I.D of the University of Maryland Policies and Procedures Governing Faculty Grievances (II-4.00[A]) should be revised to more clearly articulate the limitations of the Policy in I.D. The limitations should preclude a grievance from being filed if it pertains to a finding reached in a separate process, disciplinary action resulting from a separate process (up to and including suspension and termination), or if the resolution sought by the faculty member would interfere with an institutional legal obligation.

ADDITIONAL INFORMATION

The University of Maryland Policies and Procedures Governing Faculty Grievances (II-4.00[A]) was recently revised in April 2018 (Senate Document #17-18-13). The focus of that review was on the structure of the grievance process, and did not anticipate these concerns related to the limitations of the Policy. Since a more comprehensive review was conducted in 2018, a broad review of the policy is not necessary.

Depending on the outcome of the review of this proposal, future Senate action may be needed to revise existing University policies related to investigation processes if they direct faculty members to the grievance process as a means of appealing findings or disciplinary action.

II-4.00(A) UNIVERSITY OF MARYLAND POLICIES AND PROCEDURES GOVERNING FACULTY GRIEVANCES

(Passed by the Campus Senate, April 23, 1990 and approved by the President, December 13, 1990; Amended March 4, 2002, April 5, 2018. This procedure replaces all faculty grievance procedures previously in effect at all administrative levels of the University of Maryland College Park.)

I. INTRODUCTION

A. Purpose

Legitimate problems, differences of opinion, conflicts, or complaints sometimes arise in the relationship between the University, as an employer, and its faculty. Both the faculty member with a grievance and the University benefit when the University responds to grievances promptly and fairly. This grievance procedure attempts to handle grievances as informally as possible and at a level in the University structure that is accessible to faculty members. The procedure also attempts to handle grievances in a timely, consistent, and simple manner.

B. Who May File a Grievance?

All persons with faculty status irrespective of their administrative duties or assignments at the time of the action or inaction prompting the grievance may use this grievance procedure. The faculty members covered by the Grievance Procedures are all those whose titles are in the University of Maryland Policy on Appointment, Promotion and Tenure Policy II-1.00(A) or in the University System Policy II-1.00, whether that person is full-time or part-time, as long as the faculty appointment is the person's primary position at the University of Maryland.

Grievances by more than one faculty member may be put together in a single grievance if each faculty member signs the grievance and the material actions or inactions and issues are substantially the same for each.

C. What is a Grievance?

Faculty members may file a grievance under this procedure for issues including but not limited to academic freedom, salary, assignments, and the nature and conditions of a faculty member's work. **Specific limitations on grievance complaints can be found in Section D.1. of this Policy.** Grounds for a grievance are limited to actions or inactions by an administrator or a faculty member that are believed to be:

1. Unfair, which shall mean arbitrary and capricious, lacking in justifiable cause or basis in official policy, inequitable with respect to treatment, or excessive in relation to what would be a reasonable and available alternative course of action;

2. Discriminatory, which shall mean that the action or inaction was made on the basis of a protected status (e.g., race, ethnicity, gender, age, religion, sexual orientation, etc.); or

3. Improperly reached, which shall mean the decision was reached either in violation of University policy or without the consultations or approvals required by departmental or college regulations prior to making such decisions.

D. Limitations

No complaint shall be reviewed under these faculty grievance procedures if:

1. The complaint pertains to a subject that is reviewable under or is specifically excluded from review by any other System or institutional policy, **or pertains to a finding or decision reached through a process established in another policy,** such as policies on sexual misconduct, non-discrimination, **promotion and tenure,** and ~~research~~ **scholarly** misconduct;

2. **The complaint pertains to a disciplinary action, including termination or suspension, imposed following the outcome of an institutional investigatory process;**

3. The complaint pertains to an official policy, regulation, or procedure of the System or the institution; a decision or action by the Board of Regents, the Chancellor, or the President; or any matter the remedy for which would contravene or interfere with ~~any such~~ **an** official policy, regulation, procedure, decision, ~~or~~ action, **or institutional legal obligation**;

4. The complaint pertains to **a fiscal irregularity finding,** broad fiscal management, organization, or structure of the University System of Maryland or constituent institutions; or

5. The complaint pertains to an issue or proposes a remedy that is not under the control of the institution and/or of the University System **of Maryland**.

A faculty member may not use any other University grievance procedure simultaneously or successively with respect to the same or substantially similar issue or complaint, or with issues or complaints arising out of or pertaining to the same set of facts. In addition, no other University grievance procedure may be used to challenge the actions, determinations, or recommendations of any person(s) or board(s) acting pursuant to these procedures. A faculty member who elects to use this procedure for the resolution of a grievance agrees to abide by the final decision arrived thereunder, and shall not subject

this decision to review under any other procedure within the University System of Maryland.

A grievant may choose to pursue resolution under this process and pursue resolution through civil or criminal means, at their own initiation and expense. Administrative processes are separate from and have different standards than legal processes. Legal processes and the University's internal administrative process will proceed separately and independently.

E. The Faculty Ombuds Officer

The University of Maryland shall have a Faculty Ombuds Officer, who serves as a neutral and impartial officer to provide confidential and informal assistance to faculty and administrators in resolving concerns related to their work. Operating outside ordinary administrative structure, the Faculty Ombuds Officer shall serve as a counselor, fact-finder, mediator, and negotiator, but not as an advocate for any party to a dispute.

The Faculty Ombuds Officer shall serve all faculty and academic administrators. They shall attempt to resolve disputes informally before they enter formal grievance channels, and shall advise those who seek information about what constitutes a grievance and what the grievance procedures are. The Officer shall have access to suitable legal counsel, and should prepare an annual report and offer recommendations for policy change to the University Senate and the President.

The Faculty Ombuds Officer shall to the extent possible respect the confidentiality and privacy of faculty pursuing resolution under this grievance procedure. However, the Faculty Ombuds Officer may communicate with others on a need to know basis, as is appropriate to facilitate the grievance process or to attempt to address a complaint.

The Faculty Ombuds Officer shall be appointed by the President following a search conducted by a committee jointly appointed by the Senate Executive Committee of the University Senate and the President. Removal shall be by mutual consent of the President and a majority of the elected faculty members of the Senate Executive Committee.

II. PROCEDURES

A. Definitions

A *grievance allegation* is a preliminary informal statement of a grievable issue presented to the Faculty Ombuds Officer. It is based on the same standards as a grievance complaint, but seeks a remedy through the process of private discussion and consultation rather than formal grievance.

A *grievance complaint* is a formal written statement of a grievable issue using a prescribed form available from the Faculty Ombuds Officer. The grievance complaint

should clearly articulate the grounds and scope of the grievance as well as the desired remedy.

A *formal grievance* is the formal written statement that is submitted to begin the adjudication process, after the mediation phase has concluded.

A *grievant* is the faculty member or members initiating a grievance allegation or grievance complaint.

The *respondent* is the person or persons whose actions or inactions are the focus of the grievance allegation or grievance complaint.

A *mediation agreement* is a formal written statement agreed upon by both the grievant and respondent that serves to resolve a grievance complaint.

Bad faith means an allegation that is knowingly false and/or is made or done with a knowing or reckless disregard for information that would negate the allegation.

Retaliation means an adverse action taken against an individual who has submitted a grievance and/or participated in the grievance process in good faith, where there is a clear causal link between the grievance and an adverse action. In determining whether retaliation has occurred, the individual needs to provide documentation supporting a claim of retaliation; the other party needs to articulate a legitimate reason for the adverse action.

Days in the calendar of complaint procedures shall mean business days. The grievance procedure calendar excludes Saturdays, Sundays, days on which the University is officially closed, and the time period from the end of the spring semester to the start of the following fall semester.

B. Information about Procedures

The Faculty Ombuds Officer is responsible for providing information regarding the preliminary consultation, mediation, and adjudication procedures and their relation to other policies and procedures of the University. This officer shall explain, in response to inquiries by faculty members, the conditions for using the various steps of the grievance procedure.

The grievance process consists of three phases. The Preliminary Consultation phase will normally proceed over a period of fifty (50) days. Once it has been determined that the consultation cannot achieve a satisfactory result through informal discussion, the grievant will have fifteen (15) days to file a grievance complaint to enter mediation. The Mediation phase will normally last up to twenty-five (25) days, though it can be extended with the consent of both parties. The Adjudication phase may proceed after mediation concludes, and will move forward as expeditiously as possible.

Faculty are expected to begin the grievance process within seventy-five (75) days of a grievable action or inaction, or within seventy-five (75) days of first learning of the action or inaction, whichever is later. Such action or inaction may be the latest in a long standing pattern or practice, in which case the pattern may be considered as part the grievance, if the grievance is submitted within seventy-five (75) days from the most recent example of a pattern of action or inaction.
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The process for addressing a grievance set forth in these procedures is confidential. The parties, witnesses, members of committees involved in the process, advocates, and administrators who are informed of the grievance on a need to know basis, are expected to preserve confidentiality at all stages of the process, including preliminary consultation, mediation, and adjudication.

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The Office of the Executive Secretary and Director of the Senate shall be assigned responsibility for keeping a record of the grievance, initial notification of persons involved, and monitoring compliance with procedures. The Executive Secretary and Director of the Senate shall serve as the coordinator of and advisor to the Faculty Hearing Board. A confidential complete record shall be kept by the Executive Secretary and Director of all hearings and documents referenced during the adjudication process for three (3) years following the end of the grievance process.

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The Chair-Elect shall then appoint three voting members of the Hearing Board and two alternate members from the unchallenged potential members.

The five members of the Faculty Grievance Hearing Board (three voting and two alternates) shall elect, by majority vote, one voting member to chair the Hearing Board. If a voting member cannot serve to completion of the grievance hearing, an alternate shall then be appointed as a voting member by the Chair of the Hearing Board. If an alternate member cannot serve to completion of the grievance hearing, the Hearing Board may proceed with one alternate.

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At any point, the respondent may request that the Hearing Board dismiss the case based on issues related to the grievability of the action or inaction involved. The Hearing Board will review the request and can dismiss the case if all three voting members agree. If the case is dismissed, the Executive Secretary and Director will notify the parties, the Faculty Ombuds Officer, and the Associate Provost for Faculty Affairs. If the case is not dismissed, the grievance will proceed.

The Chair of the Faculty Grievance Hearing Board shall be responsible for overseeing and facilitating the hearings and may order the proceedings in such manner as they deem appropriate. Hearings shall be closed. The Chair shall make determinations on all questions concerning the course of the proceedings. The Chair has the discretion to set time limits for statements, testimony, or other aspects of the hearings and exclude redundant or irrelevant evidence including witness testimony.

During the hearings, each party will have an opportunity to make an opening and closing statement. The grievant shall first make a brief opening statement outlining the grounds for the grievance as indicated in the formal grievance; the respondent will then make a brief opening statement in response. Each party will be given an opportunity to share information or documentation to support their case, and all documentation shall be shared with the other party.

Both parties have the right to call witnesses in pursuance of their cases. If the parties intend to call witnesses, they are expected to submit their names and relevance to the case in advance of the hearing. The Faculty Ombuds Officer cannot be called as a witness. The Hearing Board can neither compel witnesses to participate nor assure the presence of witnesses requested by either party.

Members of the Hearing Board may ask questions of the grievant, respondent, and their witnesses. The Board may call witnesses when relevant to the issues in the case.

d. Findings of the Grievance Hearing Board

Only information discussed during the hearings that is determined by the Board to be relevant to the case shall be considered in the determination of the case. After review of the relevant information, the Hearing Board shall make a determination on its findings by a majority vote. The Hearing Board's findings should include an assessment of whether the grievance has merit and whether the action or inaction that formed the basis of the grievance was justifiable.

The Board shall prepare a written report of its findings, including the reasons for the findings and any dissent. The report shall be forwarded to the President within ten (10) days after the conclusion of the hearing. Confidential copies of the report shall be sent to the grievant and to the respondent, as well as to the Associate Provost for Faculty Affairs and the Faculty Ombuds Officer. Adjudication of a faculty grievance is a confidential process. All parties are expected to maintain the confidentiality of the process, proceedings, and documentation except as otherwise compelled by law.

e. Resolution

Within thirty (30) days, the President shall make a final determination in writing on the decision in the matter, and what remedy, if any, will be implemented. The President will normally consult with academic administrators in determining appropriate remedies. It is expected that the President will give great weight to the findings of the Hearing Board. However, if the findings of the Hearing Board are not accepted, in whole or in

part, an explanation of this decision should be provided. Notification will be sent to both parties to the grievance, to the Chair of the Hearing Board, and to the Hearing Board, as well as to the Executive Secretary and Director, the Associate Provost for Faculty Affairs and the Faculty Ombuds Officer.

The decision of the President shall be final.

Should the President decide that the grievance is justified and a remedy should be implemented, the grievant shall, before receiving any such remedy, enter into a written agreement recognizing the remedy to be satisfactory and waiving any claims to causes of action arising out of the grievance.

Revision to the Policy on Payment of Tuition and Fees

PRESENTED BY	**William Reed, Chair**
REVIEW DATES	**SEC – January 27, 2020 | SENATE – February 5, 2020**
VOTING METHOD	**In a single vote**
RELEVANT POLICY/DOCUMENT	**VIII-2.20(A) – UMCP Policy Concerning Payment of Tuition and Fees (VIII-2.20[A])**
NECESSARY APPROVALS	**Senate, President**

ISSUE

In June 2019, a proposal was submitted to the Senate Executive Committee related to the University's Policy Concerning Payment of Tuition and Fees (VIII-2.20[A]). The proposal noted that the policy has not been reviewed or revised since 1991, and a recent legislative audit found that the policy was out of alignment with the University System of Maryland Policy on Tuition and Fees (VIII-2.20) and with current practices. In August 2019, the SEC voted to charge the Academic Procedures and Standards (APAS) Committee with review of the proposal.

RECOMMENDATION(S)

The APAS Committee recommends that the proposed revisions to the Policy Concerning Payment of Tuition and Fees (VIII-2.20[A]) as shown immediately following this report be approved.

The APAS Committee recommends that the Office of Student Financial Services & Cashiering include information on past due balance penalty thresholds on its website and in resources provided to parents and students on the payment process.

COMMITTEE WORK

The APAS Committee began its review of the charge at its meeting on September 19, 2019. It reviewed the USM Policy and the current UMD Policy. The committee consulted with the proposer, and with representatives from the Office of Student Financial Services & Cashiering (SFSC), Office of Student Financial Aid, and the Office of the Registrar throughout its review. The committee also reviewed peer institution practices and consulted with the Office of General Counsel (OGC).

The current policy, which was approved in 1991, states that the University does not accept installment plans for the payment of tuition and fees. However, the University currently has two methods of installment plans through the use of a third-party vendor and private non-standard payment arrangements made between the SFSC and students.

Throughout its review of the policy language, APAS worked to align the policy language with current best practices and update outdated information. The committee worked with SFSC and OGC, and

made extensive changes to the policy language to reflect current practices. The committee removed the specific dollar amounts from the policy and developed an administrative recommendation on communicating the thresholds directly to students and parents.

After due consideration, the APAS Committee voted to approve the proposed revisions to the policy and an administrative recommendation in an email vote concluding on January 23, 2020.

ALTERNATIVES

The Senate could decline to approve the revised policy. The current policy would remain in effect and would remain inconsistent with current practice, and the University would be out of compliance with the recommendation of the legislative audit.

RISKS

There are no risks to the University in adopting these recommendations.

FINANCIAL IMPLICATIONS

There are no known financial implications in adopting these recommendations.

UNIVERSITY SENATE | REPORT | #19-20-09
Academic Procedures & Standards (APAS) Committee

REVISION TO THE POLICY ON PAYMENT OF TUITION AND FEES

2019-2020 Committee Members

William Reed (Chair)
William Cohen (Ex-Officio Provost's Rep)
Adrian Cornelius (Ex-Officio Registrar Rep)
Shannon Gundy (Ex-Officio Director of Admissions Rep)
Lisa Kiely (Ex-Officio Undergraduate Studies Rep)
Ryan Long (Ex-Officio Graduate School Rep)
Progyan Basu (Faculty)
Nicole Coomber (Faculty)
Lee Friedman (Faculty)
Patricio Korzeniewicz (Faculty)
Marilee Lindemann (Faculty)
Tianzhou Ma (Faculty)
Kellie Rolstad (Faculty)
Dylan Selterman (Faculty)
David Straney (Faculty)
Monica VanKlompenberg (Faculty)
Alice Donlan (Staff)
Paula Nasta (Graduate Student)
Jason Tan (Undergraduate Student)
Kaylee Towey (Undergraduate Student)
Eleanor VanVraken (Undergraduate Student)

Date of Submission
January 2020

BACKGROUND

In June 2019, a proposal was submitted to the Senate Executive Committee related to the University's Policy Concerning Payment of Tuition and Fees (VIII-2.20[A]). The proposal noted that the policy has not been reviewed or revised since 1991, and a recent legislative audit found that the policy was out of alignment with the University System of Maryland Policy on Tuition and Fees (VIII-2.20) and with current practices. In August 2019, the SEC voted to charge the Academic Procedures and Standards (APAS) Committee with review of the proposal (Appendix 1).

COMMITTEE WORK

The APAS Committee began its review of the charge at its meeting on September 19, 2019. It reviewed the USM Policy and the current UMD Policy. The committee consulted with the proposer, and with representatives from the Office of Student Financial Services & Cashiering, Office of Student Financial Aid, and the Office of the Registrar throughout its review. The committee also reviewed peer institution practices and consulted with the Office of General Counsel (OGC).

In meeting with the University Controller, who submitted the proposal, and with representatives from the Office of Student Financial Services & Cashiering (SFSC), APAS learned that the current policy, which was approved in 1991, states that the University does not accept installment plans for the payment of tuition and fees. However, the University currently has two methods of installment plans through the use of a third-party vendor and private non-standard payment arrangements made between the SFSC and students. The misalignment of policy and practice was discovered through a State Legislative Audit, which recommended that the University should institute procedures and any necessary policy revisions to ensure that policy and practice are in alignment with the University System of Maryland policy.

The University has offered a deferred payment plan since 1992. The existing Terp Payment Plan is operated by a third-party vendor, since the regulatory requirements and management of automatic

payment withdrawals is complex and better addressed through third-party solutions. The University offers 10-month, 9-month, and 8-month plans, as well as per-semester plans, and there are roughly the same number of participants in each type of plan. Students pay an installment fee to participate in the plan, but no interest is charged.

The APAS Committee reviewed information on tuition and fees payment plans at Big 10 and other peer institutions. The committee reviewed information available online and reached out directly to relevant offices at peer institutions. The committee found that the University's practices, plans, and fees are in alignment with those at peers, though many peer institutions do not have a policy governing the process. Most peer institutions offer some form of payment plan, and include similar types of charges and fees on a student account balance. Peer institutions have similar procedures for enacting penalties when past due balances go above a specific threshold. Among peers for which information was available, the thresholds at which point penalties are enacted are much higher at the University of Maryland than they are at peers; most peer institutions range from any account balance to $100 to enact penalties from fines to canceling registration and preventing future registration.

As it reviewed the current policy, the APAS Committee discussed the practice of including specific dollar amounts for the thresholds at which penalties are enacted. The current policy includes specific dollar amounts of $100 and $250, and the committee considered whether that level of detail is appropriate for policy or whether it should be included in separate procedures or guidelines instead. The committee noted that including specific dollar amounts in the policy would prevent flexibility if SFSC needs to adjust the thresholds, though it also considered whether including the thresholds in the policy would be more accessible to users. After discussion, the committee found that students and parents are more likely to consult a website and other reference materials rather than the policy, and it would be appropriate for SFSC to have the flexibility to change the threshold over time if needed. The committee removed the specific dollar amounts from the policy and developed an administrative recommendation on communicating the thresholds directly to students and parents.

Throughout its review of the policy language, APAS worked to align the policy language with current best practices and update outdated information. The committee worked with SFSC and OGC, and made extensive changes to the policy language to reflect current practices.

After due consideration, the APAS Committee voted to approve the proposed revisions to the policy and an administrative recommendation in an email vote concluding on January 23, 2020.

RECOMMENDATIONS

The APAS Committee recommends that the proposed revisions to the Policy Concerning Payment of Tuition and Fees (VIII-2.20[A]) as shown immediately following this report be approved.

The APAS Committee recommends that the Office of Student Financial Services & Cashiering include information on past due balance penalty thresholds on its website and in resources provided to parents and students on the payment process.

APPENDICES

Appendix 1 — Charge from the Senate Executive Committee
Appendix 2 — Current Policy Concerning Payment of Tuition and Fees (VIII-2.20[A])

Proposed Revised Policy from the APAS Committee

VIII-2.20(A) UNIVERSITY OF MARYLAND POLICY CONCERNING PAYMENT OF TUITION AND FEES

I. Policy

A. Tuition and fees are due in full on or before the due date established by the Office of Student Financial Services & Cashiering. If the total amount of financial aid, loans, and other assistance is not sufficient to pay the amount due in full, the student must pay the difference by the due date. Balances may also be covered by the due date with the following:

1. Financial aid awarded by the institution that has been fully approved but has not yet been disbursed;

2. A private student loan approved and certified by the Office of Student Financial Aid;

3. Third-party student support contracts approved by the Office of Student Financial Services & Cashiering;

4. Enrollment in the Terp Payment Plan by the student or an authorized party (typically a parent or guardian); and

5. Chapter 33 Post 9/11 GIBill® or Chapter 31 Vocational Rehabilitation and Employment (VR&E) program benefits for students whose enrollment has been certified to the Veterans Administration by the Office of the Registrar, but whose benefits have not yet been disbursed.

B. Financial obligations on a student account include but are not limited to tuition, fees, room, board, health insurance, library fines, parking permits, parking citations, penalty fees, and service charges.

C. Past due balances on a student account may result in late fees, restricting the release of a diploma, degree, certificate, or official transcript, and the potential requirement for transfer of the account to the Central Collection Unit of Maryland. Significant past due balances may result in all of the aforementioned, but may also include term course registration cancellation, account holds preventing future course registration, and the loss of other University services. Thresholds at which penalties, holds, or cancellations come into effect will be determined by the University Controller.

D. Students who have an outstanding past due balance may request a payment agreement with the Office of Student Financial Services & Cashiering. The Office has the discretion to determine whether a payment agreement should be allowed in each case. The terms of the agreement along with any allowances or punitive actions that may be taken for failure to adhere to an agreement will be documented and communicated to the account holder.

E. Students whose course registrations are cancelled may lose access to University services and privileges, such as student housing. Students removed from housing because of delinquent indebtedness may be required to reapply for housing after they have satisfied their financial obligation.

F. The State has established, under legislative mandate, a Central Collections Unit (CCU) within the Department of Budget and Fiscal Planning. The University is required by State law to refer all delinquent accounts to the State CCU. CCU adds a collection fee not to exceed 20% of the outstanding balance of the account at time of transfer, and the debt may be reported to the major United States credit reporting agencies that collect information about creditworthiness, including how you handle your credit and pay your debt.

Revision to the Policy on Payment of Tuition and Fees

PRESENTED BY	**William Reed, Chair**
REVIEW DATES	**SEC – January 27, 2020 | SENATE – February 5, 2020**
VOTING METHOD	**In a single vote**
RELEVANT POLICY/DOCUMENT	**VIII-2.20(A) – UMCP Policy Concerning Payment of Tuition and Fees (VIII-2.20[A])**
NECESSARY APPROVALS	**Senate, President**

ISSUE

In June 2019, a proposal was submitted to the Senate Executive Committee related to the University's Policy Concerning Payment of Tuition and Fees (VIII-2.20[A]). The proposal noted that the policy has not been reviewed or revised since 1991, and a recent legislative audit found that the policy was out of alignment with the University System of Maryland Policy on Tuition and Fees (VIII-2.20) and with current practices. In August 2019, the SEC voted to charge the Academic Procedures and Standards (APAS) Committee with review of the proposal.

RECOMMENDATION(S)

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COMMITTEE WORK

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ALTERNATIVES

The Senate could decline to approve the revised policy. The current policy would remain in effect and would remain inconsistent with current practice, and the University would be out of compliance with the recommendation of the legislative audit.

RISKS

There are no risks to the University in adopting these recommendations.

FINANCIAL IMPLICATIONS

There are no known financial implications in adopting these recommendations.

UNIVERSITY SENATE | REPORT | #19-20-09
Academic Procedures & Standards (APAS) Committee

REVISION TO THE POLICY ON PAYMENT OF TUITION AND FEES

2019-2020 Committee Members

William Reed (Chair)
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Adrian Cornelius (Ex-Officio Registrar Rep)
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Date of Submission
January 2020

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RECOMMENDATIONS

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4. Enrollment in the Terp Payment Plan by the student or an authorized party (typically a parent or guardian); and

5. Chapter 33 Post 9/11 GIBill® or Chapter 31 Vocational Rehabilitation and Employment (VR&E) program benefits for students whose enrollment has been certified to the Veterans Administration by the Office of the Registrar, but whose benefits have not yet been disbursed.

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C. Past due balances on a student account may result in late fees, restricting the release of a diploma, degree, certificate, or official transcript, and the potential requirement for transfer of the account to the Central Collection Unit of Maryland. Significant past due balances may result in all of the aforementioned, but may also include term course registration cancellation, account holds preventing future course registration, and the loss of other University services. Thresholds at which penalties, holds, or cancellations come into effect will be determined by the University Controller.

D. Students who have an outstanding past due balance may request a payment agreement with the Office of Student Financial Services & Cashiering. The Office has the discretion to determine whether a payment agreement should be allowed in each case. The terms of the agreement along with any allowances or punitive actions that may be taken for failure to adhere to an agreement will be documented and communicated to the account holder.

E. Students whose course registrations are cancelled may lose access to University services and privileges, such as student housing. Students removed from housing because of delinquent indebtedness may be required to reapply for housing after they have satisfied their financial obligation.

F. The State has established, under legislative mandate, a Central Collections Unit (CCU) within the Department of Budget and Fiscal Planning. The University is required by State law to refer all delinquent accounts to the State CCU. CCU adds a collection fee not to exceed 20% of the outstanding balance of the account at time of transfer, and the debt may be reported to the major United States credit reporting agencies that collect information about creditworthiness, including how you handle your credit and pay your debt.

UNIVERSITY SENATE | TRANSMITTAL | #19-20-16

Senate Elections, Representation, & Governance Committee

Revision to the Senate Bylaws on Representation for the Vice President for Diversity and Inclusion

PRESENTED BY	**Alan Peel, Chair**
REVIEW DATES	**SEC – January 27, 2020 | SENATE – February 5, 2020**
VOTING METHOD	**In a single vote**
RELEVANT POLICY/DOCUMENT	**Bylaws of the University Senate**
NECESSARY APPROVALS	**Senate**

ISSUE

In July 2017, the President announced that the Chief Diversity Officer position would be elevated to that of a Vice President; in June 2019, the first Vice President for Diversity & Inclusion joined the University. In September 2019, the Senate Executive Committee (SEC) charged the Elections, Representation, & Governance (ERG) Committee with a review of the memberships of the Campus Affairs Committee and the Equity, Diversity, & Inclusion (EDI) Committee. The ERG Committee was asked to consider how the creation of the new Vice President for Diversity & Inclusion (VPDI) position should affect the membership of these two committees, both of which reference the Chief Diversity Officer title. The committee was asked to consider whether to replace references to the Chief Diversity Officer with the VPDI, and, if so, to also consider whether the VPDI should be allowed to appoint a representative to serve on their behalf.

RECOMMENDATIONS

The Elections, Representation, & Governance (ERG) Committee recommends that the Bylaws of the University Senate be amended to adjust the membership of the Campus Affairs Committee and the Equity, Diversity, & Inclusion Committee as indicated in the document immediately following this report.

COMMITTEE WORK

The ERG Committee considered the charge at its meeting on October 25, 2019. It reviewed the committee's previous work on the membership of the EDI Committee, and considered input provided by the VPDI. The VPDI expressed an interest in sending a representative to both the Campus Affairs and EDI Committees, which the ERG Committee agreed was appropriate. In response to a request from the VPDI and a revised charge from the Senate Chair, the committee also considered whether the VPDI should have representation on the Programs, Curricula, & Courses (PCC) Committee or the ERG Committee. After meeting with the committee, the VPDI agreed that representation on those committees was not necessary, and the ERG Committee determined not to recommend any changes to the membership of either. After due consideration, the ERG Committee voted to recommend revisions to the Senate Bylaws at its meeting on October

25, 2019. The committee shared its recommendations with the Senate's Parliamentarian, who had no objections.

ALTERNATIVES

The Senate could choose not to revise the membership of the EDI or the Campus Affairs Committees, leaving references to a position that has since been elevated and a title that is no longer in use.

RISKS

There are no known risks to the University.

FINANCIAL IMPLICATIONS

There are no known financial implications.

UNIVERSITY SENATE | REPORT | #19-20-16
Senate Elections, Representation, & Governance Committee

Revision to the Senate Bylaws on Representation for the Vice President of Diversity and Inclusion

2019-2020 Committee Members

Alan Peel (Chair)
MacKenzie Allen (Undergraduate Student)
Sarah Babineau (Ex-Officio Director of Human Resources Rep)
Holly Brewer (Faculty)
Nicole Catanzarite (Graduate Student)
Leigh Ann DePope (Faculty)
Alexander Houck (Non-Exempt Staff)
Christine Johnston (Faculty)
Robert Koulish (Faculty)
Elizabeth Lathrop (Faculty)
Sharon La Voy (Ex-Officio Associate VP IRPA Rep)
Ngam Kenneth Ngong (Graduate Student)
Calvin Oates (Exempt Staff)
Bria Parker (Faculty)
Nicholas Torre (Undergraduate Student)

Date of Submission

January 2020

BACKGROUND

In July 2017, the President announced that the Chief Diversity Officer position would be elevated to that of a Vice President; in June 2019, the first Vice President for Diversity & Inclusion joined the University. In September 2019, the Senate Executive Committee (SEC) charged the Elections, Representation, & Governance (ERG) Committee with a review of the memberships of the Campus Affairs Committee and the Equity, Diversity, & Inclusion (EDI) Committee. The ERG Committee was asked to consider how the creation of the new Vice President for Diversity & Inclusion (VPDI) position should affect the membership of these two committees, both of which reference the Chief Diversity Officer title. The committee was asked to consider whether to replace references to the Chief Diversity Officer with the VPDI, and, if so, to also consider whether the VPDI should be allowed to appoint a representative to serve on their behalf (Appendix 1).

CURRENT PRACTICE

The membership of the Senate's standing committees is established in the Bylaws of the University Senate. Each committee includes ex-officio representatives of University administrators whose work is relevant to the specific committee's charge. The memberships of the Campus Affairs Committee (CAC) and the Equity, Diversity, & Inclusion (EDI) Committee include the "Chief Diversity Officer," either as an officer who may serve or appoint a representative (CAC) or as a member (EDI). At the time the relevant sections of the Bylaws were last updated, the Chief Diversity Officer was responsible for overseeing the Office of Diversity & Inclusion (ODI).

To provide continuity and ensure that the CAC and EDI Committees were not deprived of the perspective of an important office, the VPDI has been treated as the Chief Diversity Officer for purposes of representation on this year's CAC and EDI Committees.

COMMITTEE WORK

The ERG Committee considered the charge at its meeting on October 25, 2019. It reviewed the committee's previous work on a Revision to the Membership of the Senate's Equity, Diversity,

and Inclusion Committee (Senate Document #16-17-12). In the course of that work, the committee considered unusual circumstances that had resulted in the ODI effectively having two seats on the EDI Committee. The ERG Committee had recommended that the Chief Diversity Officer serve as a member of the EDI Committee (and not be allowed to send a representative in their place), and that a new seat be created for the director of the Office of Civil Rights & Sexual Misconduct (OCRSM) or their designee. Those changes were adopted by the Senate.

In addressing its current charge, the ERG Committee considered feedback gathered by the committee's chair and coordinators in a meeting with the VPDI. The VPDI expressed an interest in continuing to have representation on both committees, and asked to be permitted to appoint a representative at her discretion. The committee then considered the membership of each committee.

Campus Affairs Committee
Given the Chief Diversity Officer position has been elevated to the VPDI, which has assumed the Chief Diversity Officer's responsibilities, the committee determined that the former title should be replaced with the latter. The committee determined that it was still appropriate for the seat to be filled by the officer or their designee.

Equity, Diversity, & Inclusion (EDI) Committee
The ERG Committee determined that the Chief Diversity Officer title should be replaced with the VPDI title. The committee also noted that a recent reorganization moved the OCRSM under the ODI, which would effectively mean that ODI would once again have two representatives on the EDI Committee. After deliberation, the ERG Committee decided that the work of the OCRSM was distinct enough that it merited the office having a seat on the EDI Committee, particularly given that two of the policies implemented by the OCRSM are overseen by the EDI Committee (the Sexual Misconduct Policy & Procedures and the Non-Discrimination Policy and Procedures). The ERG Committee also determined that the importance and extent of the ODI's work merited retention of the seat associated with the office's leader.

The ERG Committee carefully considered whether the EDI Committee's membership provisions should be adjusted so as to grant the VPDI the discretion to appoint a designee. Members discussed whether the overlap between the functions of the ODI and the charge of the EDI Committee necessitated the VPDI's direct engagement as a member. While the committee acknowledged that the VPDI's participation could be valuable to the work of the committee, it could also affect the nature of the committee's deliberations and its ability to effectively consider issues that affect the operations of the ODI. ERG also recognized that every other Vice President that has representation on Senate committees is permitted to send a designee. The committee determined to align with that precedent and recommend that the seat be filled by the VPDI or their designee.

After due consideration, the ERG Committee voted to recommend revisions to the Senate Bylaws at its meeting on October 25, 2019. The committee shared its recommendations with the Senate's Parliamentarian, who had no objections.

In response to a request by the VPDI, in December 2019, the Senate Chair revised the ERG Committee's charge and asked it to consider whether the VPDI should also have representation on the ERG and Programs, Curricula, & Courses (PCC) Committees (Appendix 2). At its meeting on December 6, 2019, the committee met with the VPDI. The VPDI explained her interest in exploring

ways that the principles and vision described in the University's Diversity Strategic Plan could be incorporated at the curricular level. After consultation with the Associate Provost for Academic Planning & Programs, the VPDI and ERG Committee determined that it would be more effective for ODI to work with faculty and administrators earlier in the curriculum development process, before completed proposals are submitted to the PCC Committee.

The VPDI also shared her interest in ensuring that principles of equity and inclusion are incorporated into governance structures at all levels of the University. The ERG Committee and the VPDI discussed the ERG Committee's engagement with unit-level governance through its role in conducting periodic reviews of College and School Plans of Organization. This activity is guided by a Best Practices in Shared Governance for Plans of Organization checklist, which identifies both mandatory and recommended elements. Colleges typically submit revised Plans of Organization to the ERG Committee after an involved process at the unit level. After discussion, the VPDI and committee agreed that engagement earlier in the revision process would likely be more effective than having a representative serve on the ERG Committee.

The committee determined that no changes to the membership of the PCC or ERG Committees were needed in an email vote concluding on December 20, 2019.

RECOMMENDATIONS

The Elections, Representation, & Governance Committee recommends that the Bylaws of the University Senate be amended to adjust the membership of the Campus Affairs Committee and the Equity, Diversity, & Inclusion Committee as indicated in the document immediately following this report.

APPENDICES

Appendix 1 — Charge from the Senate Executive Committee
Appendix 2 — Revised Charge from the Senate Executive Committee

Proposed Revisions to the Senate Bylaws from the Elections, Representation, & Governance Committee
New Text in Blue/Bold (**example**), Removed Text in Red/Strikeout (~~example~~)

6.2 Campus Affairs Committee:

6.2.a Membership:

(1) The committee shall consist of an appointed presiding officer; six (6) faculty members; two (2) undergraduate and two (2) graduate students; two (2) staff members, with one exempt and one non-exempt to the extent of availability; the President or a representative of the Student Government Association; the President or a representative of the Graduate Student Government; and the following persons or a representative of each: the Senior Vice President and Provost, the Vice President for Administration & Finance, the Vice President for Student Affairs, the Vice President for University Relations, the **Vice President for Diversity & Inclusion**~~Chief Diversity Officer~~, and the Chair of the Coaches Council.

(2) When discussions of safety are on the agenda, the Chief of Police, the Office of General Counsel, the Director of Transportation Services, and other campus constituencies, as appropriate, shall be invited to participate or send a representative.

(3) The Chair of this committee or a faculty member designated by the Chair and approved by the Senate Executive Committee will serve as an ex officio member of the Athletic Council. The Chair, or a committee member designated by the Chair, shall also serve as an ex-officio member of the Campus Transportation Advisory Committee.

6.2.b Quorum: A quorum of the Campus Affairs Committee shall be nine (9) voting members.

6.2.c Charge: The committee shall formulate and continually review policies and regulations affecting the entire campus, its functions, its facilities, its internal operation and its external relationships, including the awarding of campus prizes and honors, and make recommendations concerning the future of the campus.

6.2.d Charge: The committee shall formulate and continually review policies and procedures for the periodic review of campus level administrators.

6.2.e Charge: The committee shall periodically gather community input on safety and security issues and shall act as a liaison between the police and the campus community.

6.6 Equity, Diversity, & Inclusion Committee:

6.6.a Membership: The committee shall consist of an appointed presiding officer; five (5) faculty members; three (3) exempt staff members; two (2) non-exempt staff members; two (2) undergraduate and two (2) graduate students; ~~the Chief Diversity Officer;~~ and the following persons or a representative of each: the Senior Vice President and Provost, **the Vice President for Diversity & Inclusion,** the Vice President for Administration & Finance, the Vice President for Student Affairs, and the Director of the Office of Civil Rights and Sexual Misconduct.

6.6.b Quorum: A quorum of the Equity, Diversity, & Inclusion Committee shall be ten (10) voting members.

6.6.c Charge: The committee shall actively promote an equitable, diverse, and inclusive campus that is free from all forms of discrimination by formulating and continually reviewing policies and procedures pertaining to issues of equity, diversity, and inclusion. These include but are not limited to the University of Maryland Non-Discrimination Policy and Procedures and the University of Maryland Disability & Accessibility Policy and Procedures.

6.6.d Charge: The committee shall consider programs and activities for improving equity, diversity, and inclusiveness on campus, and shall make recommendations to appropriate campus bodies.

Appendix 1: Charge from the Senate Executive Committee

UNIVERSITY SENATE | CHARGE

Charged: September 23, 2019 | Deadline: November 12, 2019

Revision to the Senate Bylaws on Representation for the Vice President for Diversity and Inclusion (Senate Document #19-20-16)

ERG Committee | Chair: Alan Peel

The Senate Executive Committee (SEC) and Senate Chair Lanford request that the Elections, Representation, & Governance (ERG) Committee review the specifications for representation of the Vice President for Diversity and Inclusion in the Senate Bylaws.

Specifically, we ask that you:

1. Review the membership of the Equity, Diversity, and Inclusion (EDI) Committee in the Senate Bylaws.
2. Review the membership of the Campus Affairs Committee in the Senate Bylaws.
3. Review past Senate action on Revision to the Membership of the Senate's Equity, Diversity, and Inclusion Committee (Senate Document #16-17-12), which led to changes in the quorum, charge, and composition of the EDI Committee.
4. Consult with the Vice President for Diversity & Inclusion.
5. Consult with the Senate Parliamentarian.
6. Consider whether the titles identified in the ex-officio membership of EDI and Campus Affairs Committees should be updated.
7. Consider whether it is essential for the Vice President for Diversity & Inclusion to serve on these committees or if it is acceptable for Vice President to appoint a representative in their place for each committee.

We ask that you submit a report to the Senate Office no later than **November 12, 2019**. If you have questions or need assistance, please contact Reka Montfort in the Senate Office, extension 5-5804.

Excerpts from the Senate Bylaws Establishing the Membership of the Campus Affairs Committee and Equity, Diversity, & Inclusion (EDI) Committee

6.2 Campus Affairs Committee:

6.2.a Membership:

(1) The committee shall consist of an appointed presiding officer; six (6) faculty members; two (2) undergraduate and two (2) graduate students; two (2) staff members, with one exempt and one non-exempt to the extent of availability; the President or a representative of the Student Government Association; the President or a representative of the Graduate Student Government; and the following persons or a representative of each: the Senior Vice President and Provost, the Vice President for Administration & Finance, the Vice President for Student Affairs, the Vice President for University Relations, the Chief Diversity Officer, and the Chair of the Coaches Council.

(2) When discussions of safety are on the agenda, the Chief of Police, the Office of General Counsel, the Director of Transportation Services, and other campus constituencies, as appropriate, shall be invited to participate or send a representative.

(3) The Chair of this committee or a faculty member designated by the Chair and approved by the Senate Executive Committee will serve as an ex officio member of the Athletic Council. The Chair, or a committee member designated by the Chair, shall also serve as an ex-officio member of the Campus Transportation Advisory Committee.

6.2.b Quorum: A quorum of the Campus Affairs Committee shall be nine (9) voting members.

6.2.c Charge: The committee shall formulate and continually review policies and regulations affecting the entire campus, its functions, its facilities, its internal operation and its external relationships, including the awarding of campus prizes and honors, and make recommendations concerning the future of the campus.

6.2.d Charge: The committee shall formulate and continually review policies and procedures for the periodic review of campus level administrators.

6.2.e Charge: The committee shall periodically gather community input on safety and security issues and shall act as a liaison between the police and the campus community.

6.6 Equity, Diversity, & Inclusion Committee:

6.6.a Membership: The committee shall consist of an appointed presiding officer; five (5) faculty members; three (3) exempt staff members; two (2) non-exempt staff members; two (2) undergraduate and two (2) graduate students; the Chief Diversity Officer; and the following persons or a representative of each: the Senior Vice President and Provost, the Vice President for Administration & Finance, the Vice President for Student Affairs, and the Director of the Office of Civil Rights and Sexual Misconduct.

6.6.b Quorum: A quorum of the Equity, Diversity, & Inclusion Committee shall be ten (10) voting members.

6.6.c Charge: The committee shall actively promote an equitable, diverse, and inclusive campus that is free from all forms of discrimination by formulating and continually reviewing policies and procedures pertaining to issues of equity, diversity, and inclusion. These include but are not limited to the University of Maryland Non-Discrimination Policy and Procedures and the University of Maryland Disability & Accessibility Policy and Procedures.

6.6.d Charge: The committee shall consider programs and activities for improving equity, diversity, and inclusiveness on campus, and shall make recommendations to appropriate campus bodies.

Appendix 2: Revised Charge from the Senate Executive Committee

UNIVERSITY SENATE | CHARGE

Charged: September 23, 2019 | Deadline: February 7, 2020

Revision to the Senate Bylaws on Representation for the Vice President for Diversity and Inclusion (Senate Document #19-20-16)

ERG Committee | Chair: Alan Peel

The Senate Executive Committee (SEC) and Senate Chair Lanford request that the Elections, Representation, & Governance (ERG) Committee review the specifications for representation of the Vice President for Diversity and Inclusion in the Senate Bylaws.

Specifically, we ask that you:

1. Review the membership of the Equity, Diversity, and Inclusion (EDI) Committee in the Senate Bylaws.

2. Review the membership of the Campus Affairs Committee in the Senate Bylaws.

3. Review past Senate action on Revision to the Membership of the Senate's Equity, Diversity, and Inclusion Committee (Senate Document #16-17-12), which led to changes in the quorum, charge, and composition of the EDI Committee.

4. Consult with the Vice President for Diversity & Inclusion.

5. Consult with the Senate Parliamentarian.

6. Consider whether the titles identified in the ex-officio membership of EDI and Campus Affairs Committees should be updated.

7. Consider whether it is essential for the Vice President for Diversity & Inclusion to serve on these committees or if it is acceptable for Vice President to appoint a representative in their place for each committee.

8. Consider whether the broad principles and strategic vision described in the University's Diversity Strategic Plan would be strengthened by providing representation for the Vice President for Diversity and Inclusion on the Senate's Elections, Representation & Governance (ERG) and Programs, Curricula, and Courses (PCC) committees.

9. If appropriate based on the committee's consideration of the above items, recommend whether the Senate Bylaws should be revised.

We ask that you submit a report to the Senate Office no later than **February 7, 2020**. If you have questions or need assistance, please contact Reka Montfort in the Senate Office, extension 5-5804.

Excerpts from the Senate Bylaws Establishing the Membership of the Campus Affairs Committee and Equity, Diversity, & Inclusion (EDI) Committee

6.2 Campus Affairs Committee:

6.2.a Membership:

(1) The committee shall consist of an appointed presiding officer; six (6) faculty members; two (2) undergraduate and two (2) graduate students; two (2) staff members, with one exempt and one non-exempt to the extent of availability; the President or a representative of the Student Government Association; the President or a representative of the Graduate Student Government; and the following persons or a representative of each: the Senior Vice President and Provost, the Vice President for Administration & Finance, the Vice President for Student Affairs, the Vice President for University Relations, the Chief Diversity Officer, and the Chair of the Coaches Council.

(2) When discussions of safety are on the agenda, the Chief of Police, the Office of General Counsel, the Director of Transportation Services, and other campus constituencies, as appropriate, shall be invited to participate or send a representative.

(3) The Chair of this committee or a faculty member designated by the Chair and approved by the Senate Executive Committee will serve as an ex officio member of the Athletic Council. The Chair, or a committee member designated by the Chair, shall also serve as an ex-officio member of the Campus Transportation Advisory Committee.

6.2.b Quorum: A quorum of the Campus Affairs Committee shall be nine (9) voting members.

6.2.c Charge: The committee shall formulate and continually review policies and regulations affecting the entire campus, its functions, its facilities, its internal operation and its external relationships, including the awarding of campus prizes and honors, and make recommendations concerning the future of the campus.

6.2.d Charge: The committee shall formulate and continually review policies and procedures for the periodic review of campus level administrators.

6.2.e Charge: The committee shall periodically gather community input on safety and security issues and shall act as a liaison between the police and the campus community.

6.6 Equity, Diversity, & Inclusion Committee:

6.6.a Membership: The committee shall consist of an appointed presiding officer; five (5) faculty members; three (3) exempt staff members; two (2) non-exempt staff members; two (2) undergraduate and two (2) graduate students; the Chief Diversity Officer; and the following persons or a representative of each: the Senior Vice President and Provost, the Vice President for Administration & Finance, the Vice President for Student Affairs, and the Director of the Office of Civil Rights and Sexual Misconduct.

6.6.b Quorum: A quorum of the Equity, Diversity, & Inclusion Committee shall be ten (10) voting members.

6.6.c Charge: The committee shall actively promote an equitable, diverse, and inclusive campus that is free from all forms of discrimination by formulating and continually reviewing policies and procedures pertaining to issues of equity, diversity, and inclusion. These include but are not limited to the University of Maryland Non-Discrimination Policy and Procedures and the University of Maryland Disability & Accessibility Policy and Procedures.

6.6.d Charge: The committee shall consider programs and activities for improving equity, diversity, and inclusiveness on campus, and shall make recommendations to appropriate campus bodies.

UNIVERSITY SENATE | TRANSMITTAL | #19-20-36

University Research Council

University of Maryland Policy on the Use of the University's Name and Trademarks by External Entities in Research-Related Endorsements and Promotional Materials

PRESENTED BY	**Robert Dooling, Chair, University Research Council - Endorsement Subcommittee**
REVIEW DATES	**SEC – January 27, 2020 | SENATE – February 5, 2020**
VOTING METHOD	**In a single vote**
RELEVANT POLICY/DOCUMENT	**N/A**
NECESSARY APPROVALS	**Senate, President**

ISSUE

There are currently a variety of endorsement guidelines in units across campus, including the Department of Intercollegiate Athletics, the Office of Strategic Communications, and the Office of Procurement & Strategic Sourcing. The existing guidelines are not uniform, as they were crafted to meet the specific needs of each unit rather than to address the general principles of endorsements broadly or uniformly. This has created a potential lack of clarity on the appropriate use of endorsements, as well as on the need to take care to avoid the appearance of an endorsement. The University has in recent years addressed isolated instances where employees may inadvertently appear as if they endorse a product or company on behalf of the University, even when they do not have the authority to do so. In March 2018, the Vice President for Research charged a subcommittee of the University Research Council with developing a broad, general Endorsement Policy for the University based on existing informal and formal practices.

RECOMMENDATION(S)

The Research Council recommends that the proposed University of Maryland Policy on the Use of the University's Name and Trademarks by External Entities in Research-Related Endorsements and Promotional Materials as shown immediately following this report be approved.

COMMITTEE WORK

The subcommittee reviewed existing guidelines and practices at the University and policies at other public universities, including those in the Big 10, as well as policies at relevant private universities. It crafted a draft outline for modification and additions by the entire subcommittee. The subcommittee conducted its business through email and by several meetings and produced a final draft for review in summer of 2018. In addition, the Chair consulted with several faculty and administrators in the dean's offices of the College of Engineering, the Business School, and the School of Public Health

for any additional modifications or clarifications that might improve the draft. The draft policy was also reviewed by the Administrative Council, the Research Council, and the University Senate before being finalized.

ALTERNATIVES

The Senate could decline to approve the policy. However, the University would lose the opportunity to clarify guidance on the use of the University's name and trademarks.

RISKS

There are no known risks to the University in adopting this recommendation.

FINANCIAL IMPLICATIONS

There are no known financial implications in adopting this recommendation.

UNIVERSITY SENATE | REPORT | #19-20-36
University Research Council

University of Maryland Policy on the Use of the University's Name and Trademarks by External Entities in Research-Related Endorsements and Promotional Materials

Endorsement Subcommittee Members
Robert Dooling (Chair)
Carrie Blankenship (Department of Intercollegiate Athletics)
Jen Gartner/Anne Bowden (Office of General Counsel)
Wendy Montgomery (Office of Research Administration)
Jim Newman (Procurement and Strategic Sourcing)
Joel Seligman (Office of Strategic Communications)
Joe Smith (Office of the Vice President for Research)

Date of Submission
January 2020

BACKGROUND

Including the University's name, marks, or the name and position of any University employees in marketing or promotional materials conveys support or approval of a third party or its activities, products, viewpoints, or services. While there are several administrative units that have individual guidelines regarding University endorsements, there is no single, general, and centralized statement of University policy on endorsements. The development of a policy that sets the broad principles related to endorsements and is easily accessible and understood will benefit members of the campus community and external constituents.

CURRENT PRACTICE

There are currently a variety of endorsement guidelines in units across campus, including the Department of Intercollegiate Athletics, the Office of Strategic Communications, and the Office of Procurement & Strategic Sourcing. The existing guidelines were crafted to meet the specific needs of each unit rather than to address the general principles of endorsements broadly or uniformly. This has created a potential lack of clarity on the appropriate use of endorsements, as well as on the need to take care to avoid the appearance of an endorsement. The University has in recent years addressed isolated instances where employees may inadvertently appear as if they endorse a product or company on behalf of the University, even when they do not have the authority to do so.

CHARGE

In March 2018, the Vice President for Research charged a subcommittee of the University Research Council with developing a broad, general Endorsement Policy for the University based on existing informal and formal practices. The goal was not to break new ground but to pull together and summarize existing principles in a single policy in order to improve understanding and consistency in the University's approach to endorsements. The subcommittee was asked to review existing guidelines developed by units that traditionally have external outreach activities, such as guidelines related to athletics, communications, and research, and to develop a stand-alone policy on endorsements that summarizes and centralizes the key principles. The subcommittee sought to

develop a policy that was short and succinct, easy to read, and easily accessible for both external entities and members of the campus community.

COMMITTEE WORK

The subcommittee was chaired by Dr. Robert Dooling, Psychology/Office of the Vice President for Research and included the following members:

- Jen Gartner/Anne Bowden, Office of General Counsel
- Carrie Blankenship, Senior Associate Athletic Director for External Operations, Department of Intercollegiate Athletics
- Jim Newman, Director, Procurement and Strategic Sourcing
- Joel Seligman, Associate Vice President, Office of Strategic Communications
- Joe Smith, Director, Office of the Vice President for Research
- Wendy Montgomery, Director, Office of Research Administration

The subcommittee reviewed existing University guidelines and policies at other public universities, including those in the Big 10, as well as policies at relevant private universities. It crafted a draft outline for modification and additions by the entire subcommittee. The subcommittee conducted its business through several meetings and by email and produced a final draft for review in summer of 2018. In addition, the Chair consulted with several faculty and administrators in the dean's offices of the College of Engineering, the Business School, and the School of Public Health for any additional modifications or clarifications that might improve the draft. No additional changes were requested.

The new Endorsement Policy:

- Defines terms such as University Marks, External Entities, Endorsement, Marketing & Promotional Materials;
- Clarifies that any form of Endorsement requires the prior written authorization of the President;
- Explains that the use of University Marks by External Entities in a possible Endorsement must be submitted to the Office of Trademarks and Licensing for evaluation prior to use; and
- Outlines policy limitations in order to clearly indicate where the policy does not impose restrictions.

A draft of the policy was approved by the University Administrative Council in mid-September, 2018 with minor changes that were immediately approved by the subcommittee.

A revised draft was presented to the University Research Council in the Spring of 2019. Suggestions from the Council were incorporated into a final draft in early September 2019. The Endorsement Subcommittee approved a revised draft in mid-September.

A draft of the policy was presented to the Senate on November 5, 2019 to get preliminary feedback. The subcommittee considered the feedback and consulted with the Office of General Counsel and made additional changes before finalizing the policy. The final policy was approved by the Research Council on January 23, 2020.

RECOMMENDATIONS

The Research Council recommends that the proposed University of Maryland Policy on the Use of the University's Name and Trademarks by External Entities in Research-Related Endorsements and Promotional Materials as shown immediately following this report be approved.

APPENDICES

Appendix 1 — Frequently Asked Questions (FAQs)

Proposed New Policy from the University Research Council – Endorsement Subcommittee

XX-X.XX(X) UNIVERSITY OF MARYLAND POLICY ON THE USE OF THE UNIVERSITY'S NAME AND TRADEMARKS BY EXTERNAL ENTITIES IN RESEARCH-RELATED ENDORSEMENTS AND PROMOTIONAL MATERIALS

I. Purpose

The purpose of this Policy is to clarify the use of the University name, seals, service marks, and trademarks (collectively referred to as University Marks) by External Entities with whom the University has a research relationship.

II. Definitions

A. ***"University Marks"*** means the University's name, seals, official University photographs and similar images, service marks, and trademarks.

B. ***"External Entities"*** means vendors, consultants, industrial affiliates, sponsors and funders of University research, research collaborators, licensees of University intellectual property, and the like.

C. ***"Endorsement"*** means any use of the University's name, University Marks, or the name and position of any University personnel in marketing or promotional materials that directly or indirectly conveys, or is intended to or likely to convey, that the University, a University department or unit, or a University employee supports or approves of a third party or its activities, products, viewpoints, or services.

D. **"*Marketing or Promotional Materials*"** means materials such as press releases, websites, videos, case studies, reports, brochures, presentations, demonstrations, social media postings.

III. Policy

A. The University's reputation for its research independence, objectivity, and integrity is among its most valuable assets. Therefore, the use of University Marks by External Entities must be closely regulated and monitored to avoid any potential impact on the University's reputation. University Marks must not be used in a manner that conveys an Endorsement of the External Entity or its business, products, services, or activities by the University, a University unit, or a University employee without prior approval.

B. Prior to the use of University Marks by External Entities in a possible Endorsement, or for other commercial purposes, the request must be submitted to the Office of Trademarks and Licensing for evaluation.

C. Any form of Endorsement requires prior written authorization of the President or his/her

designee. In determining whether to permit an Endorsement, the President or designee should consult with the Assistant President & Chief of Staff, Senior Vice President and Provost, the Vice President for Research, and/or the Vice President for Legal Affairs and General Counsel, as appropriate

D. Photographs taken in public or during professional events that include a member of the University community shall not be considered an Endorsement.

IV. Limitations

A. This Policy is not intended to:

1. Prohibit the use of the name of the University in the description of a relationship between an External Entity and the University.

2. Interfere with the ability of an External Entity to reference published results of University research, or to quote factual statements from published research results, provided such references are not used to endorse the External Entity or its products, services, or activities.

3. Prevent the name and affiliation of any University employee from being used in the normal course of business, including in a standard scholarly context, as long as the employee does not directly or indirectly imply that this use constitutes the University's endorsement.

V. Reporting

A. Individuals who identify violations of this Policy or have concerns of a potential policy violation should contact the Division of Research.

Appendix 1: Frequently Asked Questions (FAQs)

1. **I was photographed wearing a sweatshirt with a large UMD logo while judging a local science fair. Does this constitute an Endorsement?**

   Photographs taken in public or during professional events that include a member of the University community shall not be considered an Endorsement.

2. **What are some examples of statements regarding a relationship between the University and an outside entity that are not prohibited by the policy?**

   Examples of such relationships include, but are not limited to, an External Entity being a funder of specific University research or being an industrial affiliate or member of a research center or University consortium.

3. **What are some examples of statements regarding a relationship between the University and an outside entity that are not prohibited by the policy?**

   Examples of situations in which an employee's University affiliation can be used without University approval include:
   - *being listed as an officer or volunteer in a professional society;*
   - *being named as a conference speaker or participant;*
   - *being interviewed or providing a professional opinion related to the employee's scholarly area of expertise; and*
   - *naming manufacturers of instrumentation in a scholarly publication (where doing so is expected in the normal course of scholarly activities).*