Table of Contents

1. **INTRODUCTION** ........................................................................................................................................... 4
   1.1 Welcome to the Department of Biomedical Engineering (BME) ................................................................. 4
   1.2 Overview of Handbook and Department Personnel .................................................................................. 5
   1.3 Overview of Degree Expectations ............................................................................................................ 5

2. **EDUCATIONAL PROGRAMS AND REQUIREMENTS** .................................................................................. 7
   2.1 Program Administration ........................................................................................................................... 7
      2.1.1 Graduate Admissions Committee ........................................................................................................ 7
      2.1.2 Graduate Program Committee & Graduate Program Director ...................................................... 7
   2.2 Mentoring Policy ....................................................................................................................................... 8
      2.2.1 Faculty Advising for MS and PhD Students ...................................................................................... 8
      2.2.2 PhD Dissertation Committee and MS Thesis committee .............................................................. 8
      2.2.3 Faculty Advisor for ME students .................................................................................................... 8
      2.2.4 Ombudsman ...................................................................................................................................... 8
   2.3 English Language Proficiency ................................................................................................................ 8
   2.4 General Academic Regulations .............................................................................................................. 9
      2.4.1 Student Status and Residency Requirements .................................................................................. 9
      2.4.2 Time Limit for Degrees .................................................................................................................... 9
      2.4.3 Transfer of Credit ............................................................................................................................ 9
      2.4.4 Graduate Course Drop Deadline .................................................................................................... 9
      2.4.5 Incomplete Grades, Repeated Courses, and Academic Probation .................................................. 9
   2.5 BME Academic Requirements ................................................................................................................ 10
   2.6 ME PROGRAM .............................................................. 11
      2.6.1 Course Sequence ............................................................................................................................... 11
      2.6.2 ME Project ....................................................................................................................................... 12
      2.6.3 ME Degree Administrative Requirements ..................................................................................... 12
   2.7 MS Program .............................................................................................................................................. 12
      2.7.1 MS Thesis Committee ...................................................................................................................... 12
      2.7.2 MS Thesis Document and Defense ................................................................................................ 13
   2.8 PhD PROGRAM ................................................................................................................................. 13
      2.8.1 PhD Administrative Requirements .................................................................................................. 13
      2.8.2 Formation of the PhD Dissertation Committee .............................................................................. 14
      2.8.3 PhD Plan of Study and Coursework ............................................................................................... 16
      2.8.4 Elective Educational Experiences ................................................................................................. 16
      2.8.5 MSTP (MD/PhD) Students ............................................................................................................. 17
      2.8.6 PhD Qualifying Examination ......................................................................................................... 17
      2.8.7 Teaching Assistantship (TAship) .................................................................................................... 19
      2.8.8 Going Pro ....................................................................................................................................... 19
      2.8.9 PhD Proposal Defense ................................................................................................................... 20
      2.8.10 PhD Dissertation Defense ........................................................................................................... 20
      2.8.11 Publication of PhD Dissertation .................................................................................................. 21
      2.8.12 PhD Graduate Exit Interview ...................................................................................................... 21

3. **STUDENT ACTIVITIES, FINANCIAL AID, and SUPPORT** ..................................................................... 21
   3.1 Graduate Biomedical Engineering Society (GBMES) Chapter at UVA ............................................... 21
   3.2 Financial Support and Fellowships ....................................................................................................... 22
   3.3 Rotation Program and Fellowships ....................................................................................................... 24
APPENDIX I: DEPARTMENTAL COMMITTEES AND DIRECTORS
APPENDIX II: STUDENT ORGANIZATION OFFICERS
APPENDIX III: IMPORTANT AND USEFUL CONTACTS AND WEBSITES
APPENDIX IV: RESOURCES FOR INTERACTING WITH BME OFFICE STAFF
1. INTRODUCTION

1.1 WELCOME TO THE DEPARTMENT OF BIOMEDICAL ENGINEERING (BME)

We welcome you to the Department of Biomedical Engineering. Our mission is to develop intellectual leaders in the field of biomedical engineering. We hope that this student handbook will help you accomplish this goal, and make your time here both stimulating and rewarding.

Our program has a long-standing commitment to teaching and research education. Faculty research focuses in cardiovascular bioengineering, biomedical & molecular imaging, cellular & molecular bioengineering, cancer engineering, tissue engineering & biomaterials, musculoskeletal bioengineering, and systems biology & computational bioengineering. This diversity highlights the field of biomedical engineering as an exciting multidisciplinary engineering profession.

The BME Department leads several partnerships between the Schools of Engineering and Medicine and the College of Arts and Sciences. As an example, a number of faculty in the department collaborate closely with researchers in the Cardiovascular Research Center, Cancer Center, and Departments of Radiology, Surgery, Cardiology, Center for Public Health Genomics, and many other centers and departments across Grounds. The integration of a wide spectrum of engineering and medical research in the BME department provides the foundation for a leadership position in BME research and education at the University of Virginia and in the nation.

Graduate school is a place to explore the boundaries of the possible and develop your scholarship potential to the highest level. This is the time to develop your independent thinking, seize the opportunity to interact with a wide range of talented student and faculty colleagues, enjoy the riches of the university environment, and be creative in everything you do. We welcome you as a partner in learning and as a colleague in BME.

Frederick Epstein, Ph.D.     Shayn Peirce-Cottler, Ph.D.
Professor and Chair      Graduate Program Director
Department of Biomedical Engineering   Department of Biomedical Engineering
1.2 OVERVIEW OF HANDBOOK AND DEPARTMENT PERSONNEL

This handbook has been prepared to assist you to make the transition into our graduate program and to serve as a resource for you during your pursuit of a graduate degree. The Graduate Record of the University of Virginia provides a comprehensive guide of your rights and responsibilities as a graduate student and can be found at http://records.ureg.virginia.edu/index.php.

In addition to the handbook, there are a number of “people behind the scenes” who help the day-to-day work of the department go forward smoothly, and who are also able to serve as resources for you.

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracy Burcin</td>
<td>Lab Specialist /IT Assistant</td>
<td>Assist with laboratory equipment purchasing/troubleshooting/repair.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assist with IT equipment purchasing/troubleshooting/repair.</td>
</tr>
<tr>
<td>Henry Pritchard</td>
<td>Information Technology</td>
<td>The department's computer support technician</td>
</tr>
<tr>
<td>Kitter Bishop</td>
<td>Undergrad Program Coordinator and Public Relations/Special Projects</td>
<td>Manages undergraduate program, manages special events and handles department public relations/communications.</td>
</tr>
<tr>
<td>Connie Pace</td>
<td>Pre-Award Grants Administrator</td>
<td>Assist faculty and students with grant proposals and submissions.</td>
</tr>
<tr>
<td>Ian Gercheck</td>
<td>Post-Awards Grants Administrator</td>
<td>Assist faculty and students with grants management and budgeting.</td>
</tr>
<tr>
<td>Keisha Jones</td>
<td>Executive Assistant to Chair</td>
<td>Chair's Assistant; Room Reservations; office supplies; Seminar Speaker Schedules.</td>
</tr>
<tr>
<td>Crystal Lamm</td>
<td>Unit Administrator /Human Resources</td>
<td>Manages BME Office Staff Human Resources contact for Faculty, PRS and Staff; Department Budget</td>
</tr>
<tr>
<td>Anita Dodds</td>
<td>Senior Purchaser</td>
<td>Assists with purchases over $10,000 and travel reimbursements for SoM accounts.</td>
</tr>
<tr>
<td>Cassandra Scruggs</td>
<td>Senior Fiscal Tech</td>
<td>Assists with purchases less than $10,000 and travel reimbursements for SEAS accounts.</td>
</tr>
<tr>
<td>Hannah Moore</td>
<td>Coulter Translational Partnership Coordinator</td>
<td>Manages Coulter Program.</td>
</tr>
<tr>
<td>Kim Fitzhugh</td>
<td>Graduate Program Manager</td>
<td>Manages BME Graduate Program/ BIMS Administrator</td>
</tr>
</tbody>
</table>

1.3 OVERVIEW OF DEGREE EXPECTATIONS

Biomedical Engineering represents an interface between engineering, medicine, and science. Consequently, it must draw on the full range of knowledge accumulated in the life sciences, medicine, the physical sciences and mathematics, and engineering. Technological development as well as the implementation of concepts, methods, and products in biomedical engineering requires competency in both the fields of engineering and medicine.

The ME, MS, and PhD degrees form the core of the BME graduate educational program. These degrees have the broad goal of educating students with the knowledge and skills needed to succeed in careers in research and development. Students intending to pursue a PhD in Biomedical Engineering are encouraged to apply to do so at the beginning of their studies at Virginia. They may proceed directly to a PhD or earn a Master of Science degree along the way. Successful completion of these degrees will require that a student meet the following expectations, in addition to the formal degree requirements:

1. Completion of original research and/or design project. Students will complete a research project under direction of their faculty advisor. The end goal of this work should be experimental or simulation results, methods, and analysis which are of a level of quality sufficient for presentation in a refereed publication. To achieve this end, students will need to make a novel contribution to their respective fields. Students should always be aware that research is not a job performed for the benefit of his or her faculty advisor, but rather is an integral part of graduate education. As such, students must take initiative and responsibility for the success of their research.
2. **An ability to think critically.** Successful students will be able to evaluate the validity of new results and ideas. They will be able to make precise statements about limitations of experimental methods and identify the weaknesses of new and existing hypotheses. They will be able to identify the next step in their research and design experiments to test their hypotheses and/or designs.

3. **Critical knowledge of the core literature in their field.** Students should know the central literature in their field. They should be aware of the important implications and possible limitations of existing knowledge.

4. **Excellent oral and written presentation skills.** Success in both academics and industry requires clear communication of ideas to technical and lay audiences. Students should use graduate school as an opportunity to hone presentation skills.

5. **Completion of formal course requirements.** Course work provides students with basic knowledge and problem solving skills central to the field of Biomedical Engineering. In addition, advanced courses in the School of Engineering and Applied Science and in the School of Medicine offer knowledge and skills that can be applied to specialized areas of research. An average GPA of at least 3.0 is required for graduation. No grade lower than a C in any class will count toward the requirements for this graduate degree. Hence, if a student earns a grade lower than a C, he/she must repeat the course and earn a C or better for that course to count toward their degree program.

Undergraduate courses and courses taken on a Credit/No Credit basis may not be used to meet requirements for a graduate degree and are not used in computing the grade point average. Note that if your cumulative GPA drops below 3.0 in one semester you will immediately be put on Academic Probation by the School of Engineering. You will have only one additional semester to bring your cumulative GPA above 3.0, or you will be dismissed from your graduate program. It is possible to request that your instructor give you an “incomplete (IN).” Being granted the opportunity to take an incomplete in the Biomedical Engineering Department requires: 1) instructor permission, 2) your advisor’s permission, and 3) permission of the Graduate Program Committee. Prior to the last week of class, students must initiate the request for an IN and secure the instructor’s approval, their advisor’s approval, and the approval of the Graduate Program Committee. If you are given an incomplete, you are expected to develop and agree on a written timeline for finishing the course in consultation with your instructor and your advisor. This timeline will serve as a working guide, and must be forwarded to the Graduate Studies Director for final approval, and the Graduate Coordinator for documentation within the student’s file. Failure to follow this agreed upon timeline, and failure to communicate any difficulties faced in following the agreed upon guide, will be considered a failure in completion of the course, and the grade earned to date will be entered. In addition, if you have not completed the course 200 days from the last day of when the course officially ended, by UVA policy, your grade will automatically convert to an “F” in that course.

6. **Failure to progress through the degree program.** When a student fails to progress in their degree program, as determined by the Graduate Program Director or Department Ombudsman, the student will be dismissed from the graduate program. Failure to progress is defined by the student’s failure to progress in research, coursework, teaching (TAship), and/or a combination thereof. If a student fails to progress, this will typically be brought to the attention of the Graduate Program Director (or Department Ombudsman) by the student’s advisor and/or PhD or MS Committee member(s). The Graduate Program Director (or Department Ombudsman) will meet with the student and their advisor to discuss the evidence of the student’s failure to progress, as well as the reasons why student has failed to progress. The Graduate Program Director (or Department Ombudsman) will decide if there is ample evidence to support that the student has failed to progress. In this event, the student must leave the program without a degree. Failing to progress may be evidenced by receiving a grade of “unsatisfactory” (U) in research and/or TAship. A single semester with a “U” grade indicates that the student is lacking, whether in knowledge, effort or initiative, and should seek greater guidance from his/her advisor. Sequential semesters with a “U” grade are an indicator that the student is failing to progress in the graduate program. Consequently, students should understand that two consecutive semesters with a “U” grade may release the advisor and the department from obligation to continue to fund the student. The graduate program director will be notified by faculty advisors of “U” grades. Decisions to discontinue funding or to release students from the department are made in consultation with the advising faculty member, program director, and department chair, but may also include core course instructors as well as others who might inform the decision. At the discretion of the advisor and the Graduate Program Director (or Department Ombudsman), if the student was in the PhD program, he/she may be given the option to write and defend a Masters Thesis and earn their MS degree, but having this option is not a
guarantee. Additionally, if the student feels he/she can improve their progress by switching to another lab, the student may petition the Graduate Program Committee to stay in the program, but only if the student identifies a new advisor who is willing to support that student (e.g., financially, if the student is in the PhD program). Note that a student can be asked to leave a lab even if they are progressing at a normal rate through the degree program (see §2.2.1 below).

In addition to the above outlined curriculum and guidelines, students at the University of Virginia are subject to the University's academic, financial, and non-academic rules and regulations. Students are also subject to the academic policies of the School for Engineering and Applied Sciences. The information contained herein and any other information conveyed to students is subject to change at any time by the authorities responsible for making these rules and regulations. The University reserves the right to suspend, enforce the withdrawal of, or expel a student who violates the University's Standards of Conduct or whose academic standing is, in its judgment, unsatisfactory. In addition, the University will automatically enforce the dismissal of a student certified by the Honor Committee to be guilty of a breach of the Honor System, and, where applicable, will consider revocation of a degree already conferred.

7. **Medical leave of absence.** It is possible at any point in their graduate training for a student to take a Medical Leave of Absence (typically 3-6 months) unpaid. The student must discuss this decision (but not the medical causes underpinning it) with his/her advisor and the Graduate Program Director before making this decision.

2. **EDUCATIONAL PROGRAMS AND REQUIREMENTS**

2.1 **Program Administration**

Following is a list of committees designated to advise you on all aspects of BME graduate education. The committee members, your advisor, and the Department Chair are all available for consultation. A complete listing of committees and their members is included in Appendix III.

2.1.1 **Graduate Admissions Committee**

a. Recruits students to apply and evaluates admission applications.
b. Recommends new graduate students for admission and financial support.

2.1.2 **Graduate Program Committee & Graduate Program Director**

a. Sets the ME, MS, and PhD requirements and approves programs of study.
b. Formulates and assesses the course requirements for the degrees of ME, MS, and PhD.
c. Oversees the graduate curriculum (e.g., approves new courses)
d. Nominates students for awards.
e. Advises students (along with their doctoral advisory committee) concerning the PhD program, including the announcement of the defense of the proposal and dissertation.
f. Validates and approves results of all relevant examinations (qualifying exams, dissertation proposals, master’s thesis and dissertation defenses).
g. Processes administrative forms such as **Plan of Study** and **Doctoral Advisory Committee**.
h. Decides when students are not progressing through the program and excuses students from the degree program when necessary.
2.2 MENTORING POLICY

2.2.1 FACULTY ADVISING FOR MS AND PHD STUDENTS

Faculty advisors (usually the research project advisor) provide guidance to students on structuring their programs of study, career goals, identifying learning opportunities, and carrying out research of mutual interest. It is expected that advisors and students meet regularly to discuss progress. Additionally, PhD are required to meet annually with their advisors to fill out and discuss the Individual Development Plan (see form in Appendix), and the deadline for doing this is Jan 31st of each year. An annual IDP is recommended, but not required, for MS students. In the event that either the advisor or student (or both of them) feels that the student should no longer remain in the lab of the advisor, they each have the autonomy to make that decision in consultation with the Graduate Program Director or Departmental Ombudsman. This decision can be made by the advisor or student at any point in the student’s graduate training. The Graduate Program Director or Departmental Ombudsman must approve the decision in order for it to be official. In the event that a student is asked by his/her advisor to leave the lab, in order for the student to remain in the degree program, the student must identify a new lab and mentor who is willing and able to financially support the student for the remainder of their time in the degree program. In the event that a student decides to leave the lab, in order for him/her to remain in the degree program, he/she must identify a new lab and mentor who is willing and able to support the student for the remainder of their time in the degree program (and provide financial support if the student is in the PhD Program). The student will be granted two weeks to identify a new lab and advisor after they are dismissed from or depart from the lab. At the end of that two week period, if the student has not found new advisor, he/she will be dismissed from the graduate program. If the student wants more time to identify a new advisor, he/she can petition the Graduate Program Committee accordingly. Note that it is possible for a student to be asked to leave a lab even if they are progressing at an adequate pace through their degree program.

2.2.2 PHD DISSERTATION COMMITTEE AND MS THESIS COMMITTEE

The PhD Dissertation Committee and MS Thesis Committee provides broader scientific and academic advising for the student. The committee should meet with the student at least once a year to advise and evaluate progress towards graduation. The committee chair leads this committee and supports the student and the advisor through the process of meeting graduation requirements. The requirements for the PhD Dissertation Committee composition are found in §2.8.2 and the requirements for MS Thesis Committee are found in §2.7.1.

2.2.3 FACULTY ADVISOR FOR ME STUDENTS

The Director of the ME Program serves as the official faculty advisor to ME students. The ME program is supported by a community of clinical, academic and industry mentors.

2.2.4 OMBUDSMAN

Students are encouraged to express their comments and concerns regarding their experiences in the graduate program in Biomedical Engineering. In order to ensure that students have a point of contact for such concerns in addition to the Graduate Program Committee, students are also welcome to discuss concerns confidentially with the BME Graduate Program Ombudsman, Dr. Jason Papin. In addition, there is a university ombuds (Brad Holland) that can be reached at ombuds@virginia.edu, with additional contact information here: https://eocr.virginia.edu/ombuds/contactlocation. The ombudsman should be considered by the students as individuals who are available for confidential discussion of concerns regarding their education. Any student can request a meeting with either the BME Graduate Program Ombudsman or the University Ombuds at any time. This site explains the purpose and limitations of ombudsman: https://eocr.virginia.edu/ombuds-faqs. Additional resources are provided here: https://eocr.virginia.edu/ombuds/university-resources-students.

2.3 ENGLISH LANGUAGE PROFICIENCY

All new graduate students whose first language is not English are tested for English proficiency prior to their first semester at UVA. All non-native speakers of English take the Virginia English Language Proficiency Exam (UVELPE)
and the SPEAK Test, which are administered by the Center for American English Language and Culture (CAELC). Students must take the SPEAK Test before commencing their BME Teaching Experience. CAELC provides a program of mandatory courses in preparation for success in our English language graduate programs at UVA.

2.4 General Academic Regulations

2.4.1 Student Status and Residency Requirements
Graduate degree Programs require a period of residency to fully engage in the UVA academic community and to actively contribute to intellectual discourse within the School. For students coming into a PhD program with a master’s degree, at least two regular semesters beyond the master’s degree one semester in full residence at UVA in Charlottesville. For students coming into a PhD program with a bachelor’s degree, at least three regular semesters are required. For a master’s degree program, at least one semester is required.

A student receiving financial support from the Biomedical Engineering Department, the School of Engineering and Applied Science, or the School of Medicine, must be registered full-time, defined as at least 12 credit hours of lecture/laboratory courses and/or research per semester during the academic year, and 6 credit hours of research only during the summer session. Students receiving School of Engineering and Applied Sciences funding, research grant based funding and/or graduate program funding are not permitted to have other employment without approval of their advisor, the BME Graduate Program Director, and the SEAS Office of Graduate Programs. For further information, refer to the Graduate Record.

2.4.2 Time Limit for Degrees
The time limit for completion of the MS is five years after admission. The time limit for the ME and PhD degrees is seven years after admission.

2.4.3 Transfer of Credit
Master of Science candidates may transfer a maximum of 6 credits of approved graduate courses into the program. Master of Engineering candidates may transfer 12 hours of graduate credit. Doctor of Philosophy candidates’ requests for transfer of courses from other schools of recognized standing must be submitted for approval at the same time as the program of study.

These graduate courses must have been completed at another school of recognized standing. They cannot have been used to satisfy requirements for another degree, and only courses with a grade of B or better may be transferred. All requests for the inclusion of transfer credit in the University of Virginia program of study are subject to the approval of the candidate’s academic department and the Director of Graduate Education. Transfer credits should be submitted on the Request Approval of Transfer Credits form.

2.4.4 Graduate Course Drop Deadline
The last date for dropping a graduate course is posted in the UVA academic calendar. Note that this date differs by school.

2.4.5 Incomplete Grades, Repeated Courses, and Academic Probation
An average GPA of at least 3.0 is required for graduation. No grade lower than a C in any class will count toward the requirements for this graduate degree. Hence, if a student earns a grade lower than a C, he/she must repeat the course and earn a C or better for that course to count toward their degree program. Undergraduate courses and courses taken on a Credit/No Credit basis may not be used to meet requirements for a graduate degree and are not used in computing the grade point average. Note that if your cumulative GPA drops below 3.0 in one semester you will immediately be put on Academic Probation. You will have only one additional semester to bring your cumulative GPA above 3.0, or you will be dismissed from your graduate program. It is possible to request that your instructor give you an “incomplete (IN).” Being granted the opportunity to take an incomplete in the Biomedical Engineering Department requires: 1) instructor permission, 2) your advisor’s permission, and 3) permission of the
Graduate Program Committee. **Prior** to the last week of class, students must initiate the request for an IN and secure the instructor’s approval, their advisor’s approval, and the approval of the Graduate Program Committee. If you are given an incomplete, you are expected to develop and agree on a written timeline for finishing the course in consultation with your instructor and your advisor. This timeline will serve as a working guide, and must be forwarded to the Graduate Studies Director for final approval, and the Graduate Coordinator for documentation within the student’s file. Failure to follow this agreed upon timeline, and **failure to communicate any difficulties faced** in following the agreed upon guide, will be considered a failure in completion of the course, and the grade earned to date will be entered. In addition, if you have not completed the course 200 days from the last day of when the course officially ended, by UVA policy, your grade will automatically convert to an “F” in that course.

### 2.4.6 Outcome Assessment

The School of Engineering and Applied Science has instituted an outcome assessment program. A set of student learning outcomes and associated assessment forms has been defined for each graduate program. The level of achievement of each outcome will be evaluated for every student as the student proceeds through the program. More information about outcome assessment (and the associated forms) can be found at the Form link [https://engineering.virginia.edu/current-students/current-graduate-students#accordion153167](https://engineering.virginia.edu/current-students/current-graduate-students#accordion153167)

### 2.5 BME Academic Requirements

<table>
<thead>
<tr>
<th>Coursework Requirements¹</th>
<th>MS</th>
<th>PhD</th>
<th>PhD (with prior MS)</th>
<th>PhD/MSTP²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Courses: BME 6101, 6310, 6311</td>
<td>BME 6310 and 6311</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graded credit hours of coursework</td>
<td>24</td>
<td>24</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Elective Educational Experiences</td>
<td>No</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Research course hours²</td>
<td>BME 8999 (before comps), BME 9999 (after comps), 24 credits</td>
<td>BME 8999 (before comps), BME 9999 (after comps), 24 credits</td>
<td>BME 9999 24 credits</td>
<td></td>
</tr>
<tr>
<td>Total overall credits</td>
<td>30</td>
<td>48</td>
<td>36</td>
<td>42</td>
</tr>
</tbody>
</table>

### Other Requirements

| Qualifying Exam (by beginning of 3rd year) | No | Yes | Yes | Yes |
| Proposal of Research | Written³ | Oral & Written | Oral & Written | Oral & Written |
| Oral Defense of Thesis/Dissertation | Yes | Yes | Yes | Yes |
| Written Final Report of Research/Thesis/Dissertation | Yes | Yes | Yes | Yes |
| Outcome Assessments | Yes | Yes | Yes | Yes |
| Teaching Assistantship (TA)⁴ | No | 2 semesters | 2 semesters | 1 semester |
| Attend BME Seminars | Yes | Yes | Yes | Yes |

¹An average GPA of at least 3.0 is required for graduation. No grade lower than a C in any class will count toward the requirements for this graduate degree. Hence, if a student earns a grade lower than a C, he/she must repeat the course and earn a C or better for that course to count toward their degree program. Undergraduate courses and courses taken on a Credit/No Credit basis may not be used to meet requirements for a graduate degree and are not used in computing the grade point average. Note that if your cumulative GPA drops below 3.0 in one semester you will immediately be put on Academic Probation. You will have only one additional semester to bring your cumulative GPA above 3.0, or you will be dismissed from your graduate program. It is possible to request that your instructor give you an “incomplete (IN).” Being granted the opportunity to take an incomplete in the Biomedical
Engineering Department requires: 1) instructor permission, 2) your advisor’s permission, and 3) permission of the Graduate Program Committee. **Prior** to the last week of class, students must initiate the request for an IN and secure the instructor’s approval, their advisor’s approval, and the approval of the Graduate Program Committee. If you are given an incomplete, you are expected to develop and agree on a written timeline for finishing the course in consultation with your instructor and your advisor. This timeline will serve as a working guide, and must be forwarded to the Graduate Studies Director for final approval, and the Graduate Coordinator for documentation within the student’s file. Failure to follow this agreed upon timeline, and failure to communicate any difficulties faced in following the agreed upon guide, will be considered a failure in completion of the course, and the grade earned to date will be entered. In addition, if you have not completed the course 200 days from the last day of when the course officially ended, by UVA policy, your grade will automatically convert to an “F” in that course.

2.6 ME PROGRAM

The Master of Engineering degree requires completion of the BME core course requirements, and has its own required sequence to support specialization in biotechnical empathy and design. The same course cannot be used to satisfy more than one of the requirements. An average GPA of at least 3.0 is required for graduation. No grade lower than a C in any class will count toward the requirements for this graduate degree. Hence, if a student earns a grade lower than a C, he/she must repeat the course and earn a C or better for that course to count toward their degree program. Undergraduate courses and courses taken on a Credit/No Credit basis may not be used to meet requirements for a graduate degree and are not used in computing the grade point average. Note that if your cumulative GPA drops below 3.0 in one semester you will immediately be put on Academic Probation. You will have only one additional semester to bring your cumulative GPA above 3.0, or you will be dismissed from your graduate program. It is possible to request that your instructor give you an “incomplete (IN).” Being granted the opportunity to take an incomplete in the Biomedical Engineering Department requires: 1) instructor permission, 2) your advisor’s permission, and 3) permission of the Graduate Program Committee. **Prior** to the last week of class, students must initiate the request for an IN and secure the instructor’s approval, their advisor’s approval, and the approval of the Graduate Program Committee. If you are given an incomplete, you are expected to develop and agree on a written timeline for finishing the course in consultation with your instructor and your advisor. This timeline will serve as a working guide, and must be forwarded to the Graduate Studies Director for final approval, and the Graduate Coordinator for documentation within the student’s file. Failure to follow this agreed upon timeline, and failure to communicate any difficulties faced in following the agreed upon guide, will be considered a failure in completion of the course, and the grade earned to date will be entered. In addition, if you have not completed the course 200 days from the last day of when the course officially ended, by UVA policy, your grade will automatically convert to an “F” in that course.

2.6.1 Course Sequence

Fall of first semester:
BME 6101 Physiology I for Engineers
BME 6310 Computation and Modeling in Biomedical Engineering
BME 6550 Special Topics: Clinical Technology Continuum of Care
3 credit elective from SEAS, SoM or A&S upon approval of Program Director

Spring of second semester:
BME 6311 BME Measurement Principles
BME 6060 Biomedical Innovation

---

2Research credit does not count towards graded course credit hour requirement.

3MS Students are expected to provide their committee with a written proposal prior to scheduling defense.

4Teaching is an integral part of graduate training in Biomedical Engineering. All PhD students must participate in BME teaching assistantships (TAship) in BME undergraduate or graduate courses as part of the requirement for the degree, regardless of their source of funding for the stipend or fellowship. More information about the TAship is provided in §2.8.7.

5See special note on MSTP students in §2.8.5 below.
3 credit s/u elective on Leadership and Entrepreneurism
3 credit elective from SEAS, SoM or A&S upon approval of Program Director

**Summer:**
1 credit s/u Data Science Intensive applications to biomedical engineering
BME Architecture and Design course

**Fall of third and final semester:**
BME 8995 Biomedical Engineering Design Project
3 credit technical elective from SEAS, SoM or A&S upon approval of Program Director
BME 6056- Going Pro; Professional Development in Biomedical Engineering

### 2.6.2 ME Project

Students should register for the project (BME 8995) in the final semester. A two page (max) proposal will be approved by the ME Program Director to help the student focus on the intent and scope of the project. The project should exhibit individual thought and represent the culmination of effort from the prior year. It will incorporate best practices within the biomedical design industry, including verification and validation testing results, risk management and mitigation, regulatory pathway and intellectual property strategies, and a viable sustainable business model description. Each project must also contain a data science component. A written report describing the project is required. Presentations of projects to a Masters Committee including clinical, academic and industry mentors is required and will help form the basis of the final grade.

### 2.6.3 ME Degree Administrative Requirements

In order to conduct clinical observations within UVA Medical Centers, all ME students must comply with all requirements issued by the Medical Center to include required inoculations and titers, on-line learning modules, and completion of an Attestation of Criminal Background. ME students must file an ME Degree Plan of Study form by the end of the first term. ME students are expected to attend BME Departmental Seminars and Meet the Speaker events. ME students must complete Outcome Assessment Forms that are required by SEAS.

### 2.7 MS Program

The Master of Science degree requires a minimum of 24 graded credit hours of course work, 6 credits of MS thesis research and satisfactory defense of a thesis. In addition to these academic requirements, certain administrative requirements must also be met. The same course cannot be used to satisfy more than one of the above requirements. An average GPA of at least 3.0 is required for graduation. No grade lower than a C in any class will count toward the requirements for this graduate degree. Hence, if a student earns a grade lower than a C, he/she must repeat the course and earn a C or better for that course to count toward their degree program. Undergraduate courses and courses taken on a Credit/No Credit basis may not be used to meet requirements for a graduate degree and are not used in computing the grade point average. Note that if your cumulative GPA drops below 3.0 in one semester you will immediately be put on Academic Probation. You will have only one additional semester to bring your cumulative GPA above 3.0, or you will be dismissed from your graduate program. It is possible to request that your instructor give you an “incomplete (IN).” Being granted the opportunity to take an incomplete in the Biomedical Engineering Department requires: 1) instructor permission, 2) your advisor’s permission, and 3) permission of the Graduate Program Committee. Prior to the last week of class, students must initiate the request for an IN and secure the instructor’s approval, their advisor’s approval, and the approval of the Graduate Program Committee. If you are given an incomplete, you are expected to develop and agree on a written timeline for finishing the course in consultation with your instructor and your advisor. This timeline will serve as a working guide, and must be forwarded to the Graduate Studies Director for final approval, and the Graduate Coordinator for documentation within the student's file. Failure to follow this agreed upon timeline, and failure to communicate any difficulties faced in following the agreed upon guide, will be considered a failure in completion of the course, and the grade earned to date will be entered. In addition, if you have not completed the course 200 days from the last day of when the course officially ended, by UVA policy, your grade will automatically convert to an “F” in that course.
2.7.1 MS Thesis Committee

The MS Thesis Committee must consist of at least three faculty members, including at least one primary BME faculty member and at least one member from outside the department. Adjunct faculty are acceptable outside members if they provide an objective and diverse viewpoint. The student should form this committee within six months from starting in the program. After forming a MS Thesis Committee, the student should file a Master’s Degree Plan of Study form (within first year of matriculation). This form is available on the BME Grad Program Collab site and must be approved by the student’s MS Thesis Committee and the Graduate Program Director.

2.7.2 MS THESIS DOCUMENT AND DEFENSE

With the approval of their MS Advisor, the student should write an MS Thesis and submit it to his/her MS Thesis Committee at least one week before the MS Thesis Defense. The student should also notify the Graduate Program Coordinator of the date selected for the MS Thesis Defense and provide the title and a short abstract of the work, so that an announcement of the defense may be sent out. The first part of the MS Thesis Defense, which should last approximately 40 minutes, is an oral presentation of the thesis by the student, which is open to the public. This will be followed by a 1-2 hour oral defense before the MS Thesis Committee and any other interested faculty. Upon successful passage of this oral thesis defense, the student should file the Report on Final Exam and the Thesis Outcome Assessment. If the student fails the thesis defense, the possibility for re-examination will be determined by the MS Thesis Committee.

The student should upload their final MS Thesis to LIBRA prior to graduation and upon approval of the Exam Committee (after final exam forms have been submitted). Paper bound copies are no longer required. Students should discuss any copyright/embargo issues with their mentors and chairs prior to the upload. For more information on LIBRA and instruction of how to upload, please visit: http://pages.shanti.virginia.edu/libra/

2.8 PhD PROGRAM

The Doctor of Philosophy degree requires 24 graded credits of course work past the bachelor's degree (including any completed during a Master's program), plus two Elective Educational Experiences (see below). Students who enter the program already holding a Master’s degree in an engineering discipline from a school other than the University of Virginia must take the core BME courses, completing at least 12 credit hours of graduate level coursework. The same course cannot be used to satisfy more than one of the requirements. An average GPA of at least 3.0 is required for graduation. No grade lower than a C in any class will count toward the requirements for this graduate degree. Hence, if a student earns a grade lower than a C, he/she must repeat the course and earn a C or better for that course to count toward their degree program. Undergraduate courses and courses taken on a Credit/No Credit basis may not be used to meet requirements for a graduate degree and are not used in computing the grade point average. Note that if your cumulative GPA drops below 3.0 in one semester you will immediately be put on Academic Probation. You will have only one additional semester to bring your cumulative GPA above 3.0, or you will be dismissed from your graduate program. It is possible to request that your instructor give you an “incomplete (IN).” Being granted the opportunity to take an incomplete in the Biomedical Engineering Department requires: 1) instructor permission, 2) your advisor’s permission, and 3) permission of the Graduate Program Committee. Prior to the last week of class, students must initiate the request for an IN and secure the instructor's approval, their advisor’s approval, and the approval of the Graduate Program Committee. If you are given an incomplete, you are expected to develop and agree on a written timeline for finishing the course in consultation...
with your instructor and your advisor. This timeline will serve as a working guide, and must be forwarded to the Graduate Studies Director for final approval, and the Graduate Coordinator for documentation within the student’s file. Failure to follow this agreed upon timeline, and *failure to communicate any difficulties faced* in following the agreed upon guide, will be considered a failure in completion of the course, and the grade earned to date will be entered. In addition, if you have not completed the course 200 days from the last day of when the course officially ended, by UVA policy, your grade will automatically convert to an “F” in that course.

### 2.8.1 PhD Administrative Requirements

1. Select a PhD Advisor, and working with the advisor the student should identify committee members and invite them to serve on his/her PhD Dissertation. The student should fill out and file the Doctoral Advisory Committee Form with the Graduate Program Coordinator *no later* than July 1st after second semester of doctoral study.

2. File a **PhD Plan of Study no later** than May 1st in the second year of doctoral study. The form is available on the Grad Program Collab site and must be approved by your Advisory Committee and the BME Graduate Program Committee.

3. Students are required to complete an **Individual Development Plan (IDP)** form annually with their advisors.

4. Students are encouraged to meet with their PhD Dissertation Committee annually.

### 2.8.2 Formation of the PhD Dissertation Committee

<table>
<thead>
<tr>
<th>Membership of the PhD Qualifying Exam Committee (see §2.8.6)</th>
<th>Minimum Number of total faculty on the committee (including the PhD Advisor and the Committee Chair)</th>
<th>Minimum number of BME faculty% (i.e. faculty with primary appointments in BME)</th>
<th>Minimum number of SEAS faculty*</th>
<th>Minimum number of outside faculty†</th>
<th>Primary appointment of the Committee Chair° must be in the:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership of the PhD Dissertation Committee for the PhD Proposal</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>BME Dept.</td>
</tr>
<tr>
<td>Membership of the PhD Dissertation Committee for the PhD Dissertation Defense</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>BME Dept.</td>
</tr>
<tr>
<td>Membership of the PhD Dissertation Committee for the PhD Dissertation Defense</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>BME Dept.</td>
</tr>
</tbody>
</table>

*A “BME faculty” member must have 50% or more of his/her primary appointment in the BME Department.

* Any faculty member who has a primary appointment in the BME Department, even if his/her official appointment in BME is through the School of Medicine, is considered “SEAS faculty” for the purposes of this requirement.

† The “outside faculty” member must 1) be on the UVA Faculty, and 2) have 0% of his/her primary appointment in the BME Department.

° The “Committee Chair” must not be the PhD Advisor.
Upon completion of year 1, PhD students should begin to arrange for the appointment of a PhD Dissertation Committee in consultation with their PhD advisor and with their PhD advisor’s approval. The PhD Dissertation Committee is a resource for you as you pursue graduate studies. It recommends and gives initial approval for a formal program of study, discusses research objectives and research plans with the student, and advises on the areas of study for the Qualifying Examination. The Committee will meet with the student as needed to review progress and, if necessary, to revise the program of study. Students should consult with their PhD Dissertation Committee at least once a year as their research progresses to ensure that their continuing research work is adequate as a doctoral dissertation. The membership of the PhD Dissertation Committee can grow and/or change over time, as the student’s dissertation research develops changes over time and as the student progresses through his/her graduate career. In other words, members of the PhD Dissertation Committee can be added and/or removed at any point in time, as long as the requirements stated below for each key milestone are met. The committee is officially formed by filling out the Appointment of Doctoral Advisory Committee Form, which is reviewed and approved by the Graduate Program Director, and this should be filled out and submitted to the Graduate Program Coordinator by July 1st after the second semester in the BME PhD program. In year 1, it is recommended that the student meet with the members of his/her PhD Dissertation Committee – in one-on-one meetings, or as a group -- at least once, so that the Committee can get to know the student and the student’s research interests and discuss and approve the PhD Plan of Study (see §2.8.3). The PhD Plan of Study should be submitted to the Graduate Program Coordinator no later than the end of the summer after second semester of doctoral study.

Upon completion of year 2, the PhD Dissertation Committee (or a sub-set thereof) will serve as the student’s PhD Qualifying Examining Committee. The formation of the PhD Qualifying Exam Committee should start with a conversation between the student and his/her advisor. The decision of who to invite to join the student’s PhD Qualifying Examination Committee should be a joint decision made by the advisor and student together, and requires the approval of the PhD advisor and the BME Graduate Program Director. At least three (3) members of the PhD Qualifying Exam Committee must be present for the PhD Qualifying Exam, but more than three members is allowable. More details about the composition of the PhD Qualifying Exam Committee are provided below in §2.8.6, including the selection of a committee Chair.

Upon completion of year 3, the PhD Dissertation Committee (or a sub-set thereof) will serve as the student’s examining committee for the PhD Dissertation Proposal. At least four (4) members of your PhD Dissertation Committee must be present during the proposal. Additionally, one of the four members must be an “outside” committee member, which means that he/she must have 0% of his/her primary appointment within the BME department. The chairperson of the committee (who may not be the student’s faculty advisor) must hold 50% or more of their primary appointment in the BME Department. When the student’s advisor does not have a primary appointment in the BME Department, the committee chairperson will function as a co-advisor and department representative. To avoid conflicts of interest, no committee member can be employed by or receive compensation from another committee member to avoid conflicts of interest. One additional research professional from “outside UVA” may be a fifth voting committee member, provided his/her qualifications are commensurate with that of a research faculty or equivalent rank. Emeritus faculty are considered “outside UVA” for the purpose of PhD Dissertation Committees. For all “outside UVA” committee members, a CV or biography will be required and should be submitted to the SEAS Graduate Registrar, and should include the highest degree attained, the year and institution,
and any relevant experience or research which would enable that member to provide expertise to the student and committee.

**Upon completion of year 5 (or earlier),** the student should hold a meeting with their PhD Dissertation Committee to discuss his/her research progress, career goals, and other planned professional development activities. The student should also be approaching a point where planning of the PhD Dissertation Defense is prudent. The PhD Dissertation Committee composition should adhere to what is described in the previous paragraph (for the year 4 benchmark).

### 2.8.3 PhD Plan of Study and Coursework

In deciding the doctoral course work and finalizing the PhD plan of study, students should seek assistance from their advisor and Doctoral Advisory Committee members and must obtain their approval. Because this is a plan of study, not a contract, students should make every effort to complete and submit it as soon as possible. This will allow the maximum flexibility for any necessary revisions to be made without delaying the student’s progress to the PhD. The Plan of Study may be revised as necessary throughout the student’s graduate study. Preparation of the **PhD Plan of Study** is an appropriate time to schedule the initial meeting with your Doctoral Advisory Committee. Students, their advisors, and Doctoral Advisory Committee members are responsible to design a plan of study suitable for the individual and that meets the academic requirements of the BME PhD program. The plan of study may consist of more than the minimum required credits.

The **Plan of Study** should be submitted to the Graduate Program Coordinator *no later than the end of the summer after second semester of doctoral study* but preferably sooner. These forms may also be revised as necessary during the course of the PhD program, in consultation with the student’s Doctoral Advisory Committee. Students who have not submitted a Plan of Study *will not* be permitted to take the qualifying exam.

### 2.8.4 Elective Educational Experiences

Elective Educational Experiences (EEEs) are intended to encourage students to begin the process of life-long learning essential to a career in Biomedical Engineering. EEEs are intended to cover new material and areas of study that the student has not already covered in previous coursework or research experience or to provide the student with additional depth in a particular area. The student should justify why he/she wants to take the EEE and how the EEE will broaden and/or deepen their knowledge base. We anticipate that students will often pursue EEEs later in the course of their PhD studies and select them based on their PhD research and future career plans. All EEEs must be approved by the student’s PhD Committee in advance. Specifically, students must submit to their PhD Committee a brief proposal stating the rationale for their EEE (how it fits with their individual plan of study and fills a knowledge gap not covered by their previous coursework and research experience), their goals for the EEE, and the metrics they will use to assess how well the EEE fulfilled those goals. There is a specific form for **EEE Proposals** that should be filled out, approved by the PhD Committee, and submitted to the BME Graduate Program Coordinator. Both EEEs must be approved prior to the thesis proposal; however, students may participate in one or both EEEs after their proposal defense. At the completion of the EEE, students must submit a brief “EEE Summary Report” to their PhD Committee Chair assessing the EEE using the proposed metrics. There is a specific form for the **EEE Summary Report** and the Summary Reports for both EEEs must be submitted to the PhD Committee Chair by the time the written dissertation is submitted to the PhD Committee (i.e., at least two weeks prior to the PhD Dissertation Defense). Students are also encouraged to include a slide on their EEEs in their PhD proposal and/or PhD defense presentations in order to share information on potentially valuable experiences with other students. An appropriate EEE is expected to involve roughly the time commitment of a typical graduate course. Possible examples include:

1. Taking an additional graduate course beyond the normal course requirements,
2. Taking an intensive 2-week “short course” to learn a series of specialized techniques,
3. Completing a summer internship at a biotechnology company.
2.8.5 MSTP (MD/PhD) STUDENTS

Medical school physiology courses will be accepted in lieu of BME 6101. These courses may not have to be replaced with additional credits. MSTP students need to complete at least 18 graded credits. An EEE with a focus on developing computer programming skills should be completed before the end of the first semester after transitioning to the PhD program if the student does not have sufficient programming experience to succeed in the core graduate BME curriculum. In addition, a 3-6 credit independent study may be required to completely satisfy SEAS credit requirements. See the graduate program coordinator for details. MSTP students are only required to complete one TAship.

2.8.6 PHD QUALIFYING EXAMINATION

The Qualifying (or Comprehensive) Examination is required by the School of Engineering and Applied Science and all doctoral engineering students must take the exam (see UVA Graduate Record for general guidelines). Students intending to take the Qualifying Examination must complete the PhD Plan of Study and turn it in to the Graduate Student Coordinator by May 1st of the year that the student plans to take the PhD Qualifying Exam.

Purpose: To determine whether the student is able to comprehend and integrate a body of advanced knowledge, and is capable of conducting original research. The student's ability to think, formulate, and present ideas is also evaluated.

Timing: All students should take the PhD Qualifying Examination before the end of the summer after the fourth semester of graduate study (i.e. after their 2nd year). Students may elect to take the PhD Qualifying Exam as early as after the second semester in the PhD program (i.e. after their 1st year). Delayed examination is subject to the approval of the student's PhD Dissertation Committee. Passage of the PhD Qualifying Exam is required to continue the PhD program.

Scheduling of and Preparation for the Exam: Students should first obtain approval from their PhD Advisor to take the Qualifying Exam. Exams are generally scheduled between the third week of May and the end of June after the student's second year in the PhD program. The recommended timeline for setting up the required “Pre-Qualifying Exam Meeting” and the Qualifying Exam is shown in the figure. After the student has obtained approval from his/her advisor to take the exam, and prior to May 1st, the student should schedule a “Pre-Qualifying Exam Meeting” of their PhD Qualifying Exam Committee, which should be comprised of their PhD Dissertation Committee, or a subset thereof. Requirements for the PhD Qualifying Exam Committee composition are provided below. This meeting should last approximately 45 minutes, during which the student should: 1) present and get approval for the Plan of Study so that it can be submitted to the Graduate Program Coordinator by May 1st, 2) present a 10 min. long informal oral presentation to acquaint the committee with the student's research to date and his/her anticipated future research directions so that the committee has sufficient information to be able to draft 3 exam questions for the student (see “Format of the Qualifying Exam” below). After that, the student should leave the meeting and the faculty on the committee should spend the remainder of the meeting drafting the exam questions for the student.

BME Qualifying Exam Timeline:
The student will need to work with their PhD Exam Committee to schedule a time and date for the 3-hour long exam and reserve a room (or schedule a Zoom meeting if required by circumstance) for the exam. Note that the timing between the “Pre-Qualifying Exam Meeting” and the PhD Qualifying Examination is approximately one month (see figure). Once the exam date, time, and location is set, the student needs to confirm with their PhD Qualifying Exam Committee and notify the Graduate Program Coordinator. The Graduate Program Coordinator will prepare the examination forms and have them ready for the Advisory Committee chair to pick up the day of the exam (or share electronically).

**Formation of the BME Qualifying Exam Committee:** The PhD Qualifying Exam will be administered by the student’s Qualifying Exam Committee. At least three (3) members of the PhD Qualifying Exam Committee must be present for the PhD Qualifying Examination, but more than three members is allowable.

The formation of the PhD Qualifying Exam Committee should start with a conversation between the student and his/her advisor. The decision of who to invite to join the student’s PhD Qualifying Examination Committee should be a joint decision made by the advisor and student together, and requires the approval of the PhD advisor and the BME Graduate Program Director.

- At least two of the PhD Qualifying Exam Committee members must be primary BME faculty.
- The Chair of the PhD Qualifying Exam Committee must be a primary BME faculty member who is not the PhD advisor.
- If the student’s PhD advisor is BME primary faculty, he/she can serve as one of the BME faculty members on the PhD Qualifying Exam Committee.
- If the PhD advisor is not primary BME faculty, the PhD Qualifying Exam Committee still needs to have at least two primary BME faculty on it.
- All members of the PhD Qualifying Exam Committee can be primary BME faculty.
- All members of the PhD Qualifying Exam Committee must have a PhD and/or MD.
- After the student passes the PhD Qualifying Exam, the composition of their “PhD Dissertation Committee”, can differ from the composition of the PhD Qualifying Exam Committee.

**Format of the Qualifying Examination:** The PhD Qualifying Exam is an oral exam lasting approximately three hours, which is administered by the student’s PhD Qualifying Exam Committee. The Chair of the student’s Doctoral Advisory Committee will coordinate the preparation of three questions, with input from the entire Exam Committee. The oral examination will consist of a set of integrative questions (typically three) that have been prepared by the student’s Doctoral Advisory Committee and provided to the student one week in advance of the oral examination. The questions will be based upon the student’s program of study and topics relevant to his/her anticipated dissertation topic. The questions will:

- Assess the ability to integrate a body of advanced knowledge in biomedical engineering,
- Include experimental design and hypothesis testing, and
- Have a design or a quantitative analysis component.

The Chair of the student’s Doctoral Advisory Committee should submit a copy of the oral exam questions to the Graduate Program Director for approval at least 14 days before the scheduled exam date using the PhD Qualifying Exam Questions Form. (Note that if the Graduate Program Director is a member of the PhD Qualifying Exam Committee, the exam questions should instead be submitted to the Department Ombuds for approval.) The Chair of the PhD Qualifying Exam Committee will deliver the approved exam questions to the student and to the Graduate Program Coordinator (by hard copy or by e-mail) seven (7) days prior to the scheduled exam date.

During the week leading up to the oral exam, the student may research the questions to develop his or her answers using textbooks, published literature, class notes, software, etc. However, the student may not enlist the help of other individuals in preparing answers - to do so will be considered a violation of the honor code. During the oral exam, the student will provide his/her answers to the questions orally and by hand-drawing schematics, outlines,
bullets, notes, graphs, equations, etc. on the whiteboard to communicate his/her answers in an organized and visual fashion, as well. The student may not use PowerPoint slides or the overhead projector to present a formal slide deck. The objective is to convey your approach to solving the problems and your solutions to the problems concisely and convincingly – as if the student were teaching a mini-lecture. At the start of the exam, if the Chair of the PhD Qualifying Exam Committee has given the student permission, the student may give photocopied handouts to the PhD Qualifying Exam Committee, particularly if they are useful to convey plotted data, complicated schematics that would take too long to hand-draw on the board, pieces of computer code, derivations, etc. However, the student may not hand out extensive background literature or lengthy appendices – and it is not in their best interest to do so because it will be distracting for the committee. As the student presents his/her answers, they should be prepared to be interrupted by questions from the PhD Qualifying Exam Committee. If deemed appropriate by the PhD Qualifying Exam Committee, the student may also be questioned on any material germane to his/her completed coursework. Successful completion of the PhD Qualifying Examination will be determined by the PhD Qualifying Exam Committee, and students must pass the oral examination to continue in the PhD Program. At the discretion of the PhD Qualifying Exam Committee, a student may be allowed at most two attempts to pass the PhD Qualifying Examination.

2.8.7 TEACHING ASSISTANTSHIP (TAship)

All PhD students must participate in BME teaching assistantships (TAship) for BME undergraduate or graduate courses as part of the requirement for the PhD degree, regardless of their source of funding for the stipend or fellowship. The TAship experiences will normally be performed in the second and third years of doctoral study. When possible, students will be assigned to TA for one “lecture-focused” and one “lab/project-focused” course to give students diverse experiences in their teaching experiences as a TA. Prior to the start of each semester, graduate students who are eligible to TA will be contacted by the Graduate Program Director and asked to rank order the courses that they would like to TA for that semester. The Graduate Program Director will assign TAships based on students’ interests to the extent possible and also based on the Department’s TA needs in a given semester. When students are assigned a TAship they must register on SIS for their TAship, and at the end of the semester of TAing they will be assigned a grade of either “satisfactory” or “unsatisfactory” by the instructor of the course for which they are serving as TA. All PhD students are except are expected to TA for two courses and receive grades of “satisfactory” for both TAships. However, there are exceptions: 1) MSTP students only TA for one class, and 2) students who transferred from another PhD program where they TAed (once or twice) may be granted special exception from BME Graduate Program Committee to TA for less than 2 classes at UVA, but they need to submit a written petition to the Graduate Program Committee to ask for approval. Note that participating in the “SEAS Teaching Fellowship Program” does not fulfill a TA requirement.

2.8.8 GOING PRO

Biomedical Engineering PhD graduates are well-positioned to be leaders in industry. Going Pro is a unique opportunity for professional development, a significant deficiency in many graduate programs across the nation. Through the curriculum, mentoring programs, and department-sponsored internship, alums of this program will be well-positioned to lead in the biomedical engineering industry. There are three key elements of the Going Pro:

Industry Internship: Participants in Going Pro will be supported to participate in a two-month industry internship approved by the BME graduate program committee– as funds are available.

Mentoring: Students will be paired up with an alum of the department and required to meet throughout their training.

Course: Going Pro participants will take a 1-credit course in the fall semester focused on professional development and BME industry.

Application Process: Students that have completed their 2nd year of the PhD program and successfully passed their qualifying exam are invited to apply. Please contact Shayn Peirce-Cottler, Graduate Program Director, with any questions.
2.8.9 **PhD Proposal Defense**

1. **Purpose:** The student’s Doctoral Advisory Committee will assess the quality of the student’s research plan (including hypotheses to be tested, experimental design and methodology).

2. **Timing:** The PhD candidate is expected to complete the dissertation proposal **no later than** 12 months after the Qualifying Examination. Failure to complete and defend a dissertation proposal by the end of the third year of doctoral study may result in a delay in the completion of the program or even dismissal from the program. The student is responsible for working with the Advisory Committee to schedule a date and room for the event. Upon selecting a date and location, the student is then responsible for notifying the Graduate Program Coordinator at least 2 weeks prior to defense.

   The written dissertation proposal is submitted to the Advisory Committee one week before the scheduled oral dissertation proposal examination which consists of a public oral presentation during which the student highlights the existing knowledge and the proposed new study. This will be followed by a private question and answer period with the Doctoral Advisory Committee. The total duration of the dissertation proposal defense is typically two (2) hours, at the discretion of the Doctoral Advisory Committee. At least four (4) members of the Doctoral Advisory Committee must be present for the proposal defense in accord with SEAS guidelines, including two (2) primary BME faculty.

3. **Defense Committee Composition:** The Examining Committee for the dissertation proposal is the student’s PhD Dissertation Committee. Four of the members of your committee must be present during the proposal. Once of the four members must be the outside committee member.

4. **Proposal Format:** The written proposal should follow the general form of an NIH grant application, including page limits. Format guidelines can be found at: [http://grants.nih.gov/grants/grant_basics.htm](http://grants.nih.gov/grants/grant_basics.htm)

2.8.10 **PhD Dissertation Defense**

The doctoral dissertation should be typed according to the format of the School of Engineering and Applied Science.

1. **Purpose:** To demonstrate competence in the field of the dissertation research and the quality of the dissertation for publication in scientific journals.

2. **Timing:** As the PhD student enters his/her 5th year in the PhD program, if not sooner, the PhD student and his/her advisor should discuss and come to agreement about the timeline (and any associated expectations) for the student to write and defend his/her dissertation. The members of the student’s PhD Committee should also be informed about the student’s plan, expectations, and timeline, particularly if there is disagreement between the student and the PhD advisor about the timing, plan and/or expectations for scheduling the dissertation defense. If there is disagreement between the PhD Committee and/or the PhD advisor and/or the student, the student and/or advisor and/or members of the PhD Committee are encouraged to talk to the BME Graduate Program Director or BME Dept. Ombudsman, who can serve as a mediator in these decisions. At completion of writing an approved dissertation. The properly formatted draft with all the figures should be submitted to the Doctoral Advisory Committee **at least two weeks** before the examination. Using the [Final Examination Committee](http://grants.nih.gov/grants/grant_basics.htm) form, inform the Graduate Program Coordinator of the date selected for your defense, provide the title and a short abstract of the work, so that an announcement of the defense may be sent out. Public announcement of the dissertation defense **must be made one week prior** to the scheduled examination date. Failure to do so will result in the rescheduling of the dissertation defense.

3. **Defense Committee Composition:** The Examining Committee for the dissertation defense is the student’s PhD Dissertation Committee (see §2.8.2). All members of your committee must be present during the defense.

4. **Subject:** Defense of dissertation and questions about subject areas related to research field or arising from discussion of thesis work.

5. **Form:** The first part (40 minutes) is an oral presentation of the thesis which is open to the public. It is followed by a 1-2 hour oral defense before the Doctoral Advisory Committee and interested faculty.
6. **Failure:** Possibility for re-examination is determined by the Doctoral Advisory Committee.

### 2.8.11 Publication of PhD Dissertation

Students will upload their thesis or dissertation to LIBRA upon approval of the Exam Committee (after final exam forms have been submitted). Paper bound copies are no longer required. Students should discuss any copyright/embargo issues with their mentors and chairs prior to the upload. For more information on LIBRA and instruction of how to upload, please visit: [http://pages.shanti.virginia.edu/libra/](http://pages.shanti.virginia.edu/libra/)

### 2.8.12 PhD Graduate Exit Interview

Following the successful completion of a PhD Dissertation Defense, students will be invited to participate in a 30-minute long Exit Interview with the Graduate Program Director. The purpose of the interview is to obtain feedback from graduates about their experiences in the PhD program so that it can inform the Graduate Program Committee about ways they can improve the graduate experiences for future students. Graduates will be provided with the interview questions in advance, and they will be invited to edit the documentation of their responses, which will only be shared with the Graduate Program Committee in a de-identified manner.

### 3. Student Activities, Financial Aid, and Support

#### 3.1 Graduate Biomedical Engineering Society (GBMES) Chapter at UVA

The University of Virginia student chapter of the Biomedical Engineering Society (BMES) plays several roles within the department. Primarily, the chapter works to promote the exchange of ideas among students and faculty. We coordinate various educational and professional development, social, sporting, and service events throughout the year while reaching out to students who are interested in the application of science and engineering principles to medicine. Our chapter is comprised of undergraduate and graduate students within the BME department as well as students from other university departments who have an interest in BME. Our chapter has a strong record of service within the UVa and central Virginia communities and has been recognized by the National Biomedical Engineering Society several times.

Our BMES student chapter is dedicated to promoting the personal and professional development of its members and enhancing the community of scholarship within the department and the university. Our core values include:

1. Fostering a welcoming environment for our diverse student body and the development of our members via participation in BMES general body meetings and attendance at national conferences, departmental symposia, and university-wide colloquia.
2. Enhancing the sense of community within the department, the university, and the central Virginia area via service events, orientation events for incoming students, jointly sponsored guest lectures with other student societies, sponsoring student-student and student-faculty interactions both within and outside of the classroom.
3. Increasing the chapter's visibility on the national scale via attendance and participation at national and international conferences, recruiting guest speakers from national corporations, and enhancing communication with the BMES national chapter through the president and vice president of graduate and national affairs. BMES typically has funds available to provide travel awards for students to help achieve this goal.

We are dedicated to improving understanding of the field of biomedical engineering, fulfilling the intellectual needs of our students, and assisting in their preparation for careers in biomedical engineering. BMES focuses much of its energy on identifying and reconciling the needs of its students and the larger community.

The Biomedical Engineering Society is devoted to fostering a collegial and collaborative environment between undergraduate students, graduate students, and faculty. To build a strong community we sponsor intramural sports teams, organize wine tasting tours, picnics, happy hours and bar nights, and other organized social
activities. In addition to student activities, we help to coordinate and organize a faculty-student fall picnic and holiday party.

Our chapter holds approximately six meetings throughout the year that are open to undergraduate BME students, graduate BME students, and other non-BME students interested in the field. Example meeting agendas include grant writing and alumni panels. We invite you to browse through our website at https://engineering.virginia.edu/departments/biomedical-engineering/academics/bmes.

Our chapter has a strong record of excellence. We hope to continue this tradition and look forward to you joining us! There are several officer positions available for interested graduate students and a number of opportunities to help and contribute to BMES. Any questions, ideas, or suggestions regarding BMES can be directed to either the Graduate BMES President or Vice President (current list in appendix II).

3.2 Financial Support and Fellowships

Graduate PhD students in the Department of Biomedical Engineering are typically supported through a combination of Graduate Research Assistantships (GRAs), Graduate Teaching Assistantships (GTAs), appointments on training grants, and Fellowships. Students on GTAs receive partial tuition and stipend support in return for their effort in assisting with education in specific courses at the University. Specific requirements and expectations will be defined by the instructor with whom the student is working. All doctoral students are required to participate as teaching assistants in BME courses as part of the degree program.

Students on GRAs receive tuition and stipend support in return for their contribution to a specific research laboratory in the Department. Since these funds originate from individual faculty research grants, requirements and expectations are determined by the Principal Investigator, usually the student’s research advisor. Students are expected to contribute at least 20 hours per week during the academic year and 40 hours per week in summer.

The 12-month base salary for GRAs and GTAs is $30,500 for PhD students. Students receiving financial support are not allowed to work outside the University without prior approval from the mentor, BME Graduate Program Committee, and the SEAS Office of Graduate Programs. There are periodic adjustments to the base stipend level to reflect cost-of-living-increases. Health and dental insurance are provided as part of a PhD students' annual support. Enrollment occurs in July of each year and you will receive notices from student health directing you to the online enrollment site.

In order to be eligible for full financial support, students must register for 12 hours in each semester (6 research hours in the summer). The hours may be any combination of course credits and research credits, or may be research only if all course requirements have been completed.

Students are encouraged to seek fellowship opportunities available to them from foundations, national societies, and the government, with the help of the faculty. All BME graduate students are members of the “BME Grad Studies” site on Collab which serves as a repository of information on graduate awards, fellowships, and scholarships.

The University offers free tax help to US and Permanent Resident students each year between February and April. You will receive a flyer via email when the services become available each year. Appointments can be made online at: www.cvilletaxaid.org. International students should begin any inquiries with Logan Hobbs https://issp.virginia.edu/taxes.

See pay chart/schedules in appendix

A partial list of the internal and external fellowships is available below. Students are encouraged to discuss with their faculty advisor for nominations. For external Fellowship applications with School of Medicine mentors, please notify Ian.

BME and UVA-specific Fellowships:

UVA Award for Excellence in Graduate Diversity
Robert R. Wagner Fellowship
Mary and Otis Updike Professional Development Award in BME
John McGaughy Award
Jill E. Hungerford Award
Peach Fellowship Award
Micron Fellowship
Sture G Olsson Fellowship
ARCS Fellowship
L. William Ballard Jr. Fellowship
Virginia Engineering Foundation
James G Simmonds (Applied mechanics/mathematics)
Volkswagen Group of North America Fellowship

**External Fellowships:**
NSF Graduate Research Fellowship
Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellows
American Heart Association Predoctoral Fellowship
Ford Foundation Fellowship
RWJF Health Policy Research Fellowship
P.D. Soros Fellowship for New Americans
SREB Doctoral Scholars Program Fellowship
Graduate Women in Science National Fellowship
UNCF/Merck Graduate Science Research Dissertation Fellowships
American Association of University Women American Fellowship
Office of Navajo Nation Scholarship & Financial Assistance Scholarship
American Indian Graduate Center Fellowships
NASA Harriett G. Jenkins Predoctoral Fellowship Project
NDSEG Graduate Fellowship
DoD SMART Fellowship
Merck Graduate Science Research Fellowships
Society for Women Engineers (SWE) Scholarships
Schlumberger Foundation Faculty for the Future Fellowship
Golden Key Fellowships
Microsoft PhD Fellowship
Women Techmakers Scholars Program
American Society for Microbiology Graduate Research Fellowship
The VPR’s office provides access to **two searchable grant data bases- Pivot and Grant Forward**. You may search by field, and set up alerts as applications open and deadlines approach. [https://researchdevelopment.vpr.virginia.edu/search-funding-pivot-and-grantforward](https://researchdevelopment.vpr.virginia.edu/search-funding-pivot-and-grantforward)

### 3.3 Rotation Program and Fellowships

Students supported by fellowships receive tuition and stipend as described under the conditions of the specific fellowship. In many situations, fellowships are meant to support a student's general education and do not entail specific time or task requirements. Departmental and training fellowships awarded to first-year students may require completion of a rotation program in the first semester of study. The rotation program is designed to broaden the perspective of students in biomedical engineering research and to help them to make an informed choice of laboratory for their thesis work. Students typically rotate in two to three laboratories identified during the interview and admissions process. It is expected that students will spend six weeks working in each lab during the fall semester. Activities in the laboratory will consist of literature reading, participation in designated experiments, learning the specific aims and rationale of the faculty member’s research, attending lab or journal club meetings, and preparing a summary of their experiences in each lab.

### 3.4 BME Department Seminars and Student Research Symposia

During the academic year, BME holds a weekly Seminar Series, a weekly event that brings together faculty, students, and clinicians across disciplines from the University and Medical Center to learn about new research and technologies in the biomedical sciences and engineering. Research presentations are given by prominent speakers from within the university community and nationally recognized biomedical engineers, cell and molecular biologists and clinicians in academia and industry. There are also special seminars presented throughout the year such as: a BMES student chapter sponsored speaker, BME Graduate Student Research Symposium, and the BME Distinguished Speaker Seminar Series. The Distinguished Speaker series is a great opportunity for all of us to hear from a prominent and internationally recognized leader in the field of biomedical science and engineering. These may include department chairs, national academy members, and industrial leaders in biotechnology.

All students and faculty are expected to attend each weekly Friday seminar. A “Meet the Speaker” session is open for all graduate students following the seminar presentation, and provides a unique opportunity for students to engage with seminar speakers in a more informal manner.

### 3.5 Student Travel

All students, particularly those in the PhD program, are encouraged to attend national, and where possible, international conferences with their laboratory group. Attendance at such meetings gives students opportunities to meet and interact with researchers with a broad range of interests. These experiences are instrumental in assisting students to develop, formulate, and modify their Master’s and PhD projects and career plans. Also, excellent Career Fairs or networking opportunities exist at most major meetings.

Some student fellowships and traineeships have specific allotments for travel and other related purposes, which is returned to the funders if unused in the allotted timeframe. Students working on research projects can sometimes arrange to have special expenses paid by a research grant. Consult your project director or faculty advisor.

In exceptional circumstances, students seeking travel and other funds for paper presentation who have exhausted other possibilities for funding their travel should submit a request accompanied by the research paper to the department Chair. Prior approval is required. Students should also be familiar with state regulations governing, for example, receipts to justify the expenditures, the use of state cars and the limits on lodging and meal costs. Students are responsible for making their own travel arrangements in compliance with University requirements regarding travel.
3.6 **Office Space Assignment**

Students may use desks in their advisor’s laboratory or office space. Other spaces in the department are available upon request for student meetings or activities. The BME Department also has a small collection of books and journals in the Library (Rm. 2019). This is a reading/reference library and journals and books should not be removed from the room.

3.7 **Use of Computer Equipment, Library, and External Facilities**

BME Students are welcome to use the department’s computer lab, network printers, and other technology resources for academic purposes. Laboratory computers and research equipment should only be used with permission from the responsible laboratory director.

University computing accounts are managed by the Information Technology Services (ITS) group and are used by BME to access network resources. ITS also provides limited network file storage at no cost to users. Please contact BME IT Support with questions.

Computers and other tangibles purchased with University funds, research grant funds, or Fellowship money but purchased through the University, become the property of the University and must be surrendered prior to graduation.

3.8 **Graduate Diversity Action Committee**

The committee consists of graduate student volunteers with the goal of recruiting students from diverse backgrounds and ensuring that the department remains a welcoming environment for all. This committee promotes access to UVA resources for underrepresented minorities, women, families, LGBT, and nontraditional students. For more information or to get involved contact the chair of the Diversity Action Committee (see Appendix).

3.9 **Forms**

A listing of all SEAS required forms can be found at: [https://engineering.virginia.edu/current-students/current-graduate-students#accordion88012](https://engineering.virginia.edu/current-students/current-graduate-students#accordion88012)

In addition to the forms published on the SEAS website, there are several forms that BME requires that are not available on the SEAS website. These include the Plan of Study forms for all of the degree plans and the Educational Elective Forms for the PhD plan. The forms can be accessed via the BME Graduate Program Collab site: [https://collab.itc.virginia.edu/portal](https://collab.itc.virginia.edu/portal). You will be subscribed to this Collab site once you have activated your UVA email account.

*In addition to the above outlined curriculum and guidelines, students at the University of Virginia are subject to the University’s academic, financial, and non-academic rules and regulations. Students are also subject to the academic policies of the School for Engineering and Applied Sciences. The information contained herein and any other information conveyed to students is subject to change at any time by the authorities responsible for making these rules and regulations. The University reserves the right to suspend, enforce the withdrawal of, or expel a student who violates the University’s Standards of Conduct or whose academic standing is, in its judgment, unsatisfactory. In addition, the University will automatically enforce the dismissal of a student certified by the Honor Committee to be guilty of a breach of the Honor System, and, where applicable, will consider revocation of a degree already conferred.*
CHECKLIST FOR MASTER'S PROGRAMS

___ Request an advisor. Due no later than the end of the 1st semester

___ ME and MS Plans -- Meet with your advisor and prepare a Plan of Study form. Due no later than end of 1st year

___ ME Plan -- Submit Plan of Study to advisor by the end of your first term. Project completion timeline TBD by advisor and student, but expected to be completed within 15 months.

___ MS Plan -- Written draft of thesis proposal to advisor and committee. Ideally by the end of your first year.

___ MS Plan -- Schedule Final Defense of Thesis. No later than 5th year.

    This examination is public and announcement of it must be distributed at least 7 days in advance.

    Two forms must be prepared in advance of the scheduled defense: Report on Final Examination and Thesis Outcome Assessment. Your Graduate Program Coordinator will prepare these using the information you submit for the public announcement – Date, Time, Location, Committee Members Names, Title and Abstract.

    There are specific deadlines set by the Registrar’s Office and the SEAS Deans Office that must be met in order to complete your degree requirements to have your degree conferred during the applied term. Once you apply for your degree you will receive the notification emails with those specific dates. You MUST adhere to those dates or you will be removed from the degree candidate list.

___ ME Plan – Complete 3 program assessments and submit to The Graduate Student Coordinator.

___ Apply for your degree in the Student Information System (SIS). Dependent on defense date.

    Graduation application DUE DATES – October 1 for January graduation, February 1 for May graduation, and June 1 for August graduation.

___ Upload your dissertation to LIBRA.

    Due date – refer to date published by the SEAS Graduate Office for the term you have applied for graduation.
CHECKLIST FOR PHD PROGRAM

___ Select or Request an advisor. Due no later than end of 1st semester

___ Appointment of a doctoral advisory committee. Due no later than end of 1st year

___ Submit a Plan of Study Due end of 3rd Semester

MUST BE COMPLETED PRIOR TO SCHEDULING QUALIFYING EXAM.

___ Request and take the Ph.D. qualifying examinations. Schedule in May/June of 2nd Year

(Approximately the same time course work is completed.)

___ Submit written draft of dissertation proposal to advisor. Middle of 3rd year. No later than 4th year

___ Schedule presentation of dissertation proposal with committee. No later than 4th year.

___ Schedule defense (final oral examination). No later than 5th year.

This examination is public and announcement of it must be distributed at least 7 days in advance.

Two forms must be prepared in advance of the scheduled defense: Report on Final Examination and Dissertation Outcome Assessment. Your Graduate Program Coordinator will prepare these using the information you submit for the public announcement – Date, Time, Location, Committee Members Names, Title and Abstract.

There are specific deadlines set by the Registrar’s Office and the SEAS Deans Office that must be met in order to complete your degree requirements to have your degree conferred during the applied term. Once you apply for your degree you will receive the notification emails with those specific dates. You MUST adhere to those dates or you will be removed from the degree candidate list.

___ Apply for your degree in the Student Information System (SIS). Dependent on defense date. TERM DUE DATES – by October 1 for January graduation, February 1 for May graduation, and June 1 for August graduation.

___ Upload your dissertation to LIBRA.

Due date – refer to date published by seas grad office for term you have applied for graduation.

___ Submit Survey of Earned Doctorates. Print completion certificate, scan and email to Barbara Graves, bag2y@virginia.edu, SEAS Graduate Engineering Registrar.

Due date – refer to date published by seas grad office for term you have applied for graduation.
APPENDIX I: DEPARTMENTAL COMMITTEES AND DIRECTORS

UNDERGRADUATE PROGRAM DIRECTOR
Shannon Barker
Email sb3xk@virginia.edu

GRADUATE PROGRAM DIRECTOR
Shayn Peirce-Cottler
Email smp6p@virginia.edu

GRADUATE PROGRAM COMMITTEE
Chair: Shayn Peirce-Cottler. Members: Silvia Blemker, Don Griffin, Gustavo Rohde, Eli Zunder, Jonathan Rosen, Chris Highley, John Hossack, Craig Meyer (ad hoc), Jason Papin (ad hoc, ombuds)

GRADUATE RECRUITMENT AND ADMISSIONS COMMITTEE (2019-2020)
Chair: Craig Meyer
Student Co-Chairs: Allie McCrady and Julie Leonard-Duke

SEMINAR COMMITTEE
Chair: Silvia Blemker

DIVERSITY EQUITY AND INCLUSION COMMITTEE
Faculty Co-Chairs: Mete Civelek and Kevin Janes.
Student Co-Chairs: Yoni Aberra, Bryana Harris, and Taylor Marohl

APPENDIX II: STUDENT ORGANIZATION OFFICERS

BMES STUDENT CHAPTER OFFICERS
President: Delaney Fisher
Outreach Chair: Mackenzie Grubb
Diversity and Inclusion Chairs: Bryana Harris, Taylor Marohl, and Yoni Aberra
Recruitment Chairs: Julie Leonard-Duke and Allison McCady
Professional Development Chair: Michael Rariden
Seminar and Symposium Chairs: Tor Breza and Katherine Crump
International Students Chair: Mukti Chowkwale
Social Chairs: Dawson Payne and Gabe Hanson
ME Representatives: James Bonaffini and Angie Campo
APPENDIX III: IMPORTANT AND USEFUL STUDENT LIFE RESOURCES

General UVA information:
BME home page: http://www.bme.virginia.edu
BIMS home page: http://www.bims.virginia.edu
UVA Graduate Guide: http://www.virginia.edu/graduateguide/
UVA Health System home page: http://www.med.virginia.edu/
School of Engineering: http://www.seas.virginia.edu/index.php
School of Medicine: http://www.healthsystem.virginia.edu/education-research/medschl.cfm

Academic information:
Academic Calendar: http://www.virginia.edu/registrar/calendar.html
Course Offering Directory: http://www.virginia.edu/registrar/ -- click on Course Offering Directory link
Registrar's Office: http://www.virginia.edu/registrar/
Summer Session Office: http://www.virginia.edu/summer

Library and Computing Facilities:
Claude Moore Health Sciences Library: https://guides.hsl.virginia.edu/home
ITC Web: http://www.itc.virginia.edu
OVID Medline
UVA Research Computing: https://www.rc.virginia.edu/
UVA Library Research Data Services + Sciences: https://data.library.virginia.edu/

Career Planning and Development:
Office of Career Planning and Placement: http://www.career.virginia.edu/
SEAS Professional Development: https://engineering.virginia.edu/future-grads/professional-and-career-development-graduate-students
Handshake: https://career.virginia.edu/handshake
Resources for Underrepresented Minority Students and Women in Science:

Graduate and Postdoctoral Diversity Programs: [https://graddiversity.virginia.edu/](https://graddiversity.virginia.edu/)
Center for Diversity in Engineering: [http://www.seas.virginia.edu/admin/diversity/](http://www.seas.virginia.edu/admin/diversity/)
Black Graduate and Professional Student Organization (BGPSO): [https://www.facebook.com/bgpso/](https://www.facebook.com/bgpso/)
Graduate Student LatinX Organization (gradLatinX): [https://www.facebook.com/groups/UVAGradSWE](https://www.facebook.com/groups/UVAGradSWE)
Society for Women Engineers (SWE): [https://www.facebook.com/groups/UVAGradSWE](https://www.facebook.com/groups/UVAGradSWE)
LGBTQ Center: [https://lgbtq.virginia.edu/](https://lgbtq.virginia.edu/)
Report a Barrier: [https://reportabarrier.virginia.edu/](https://reportabarrier.virginia.edu/)
UVA Title IX: [https://eocr.virginia.edu/title-ix](https://eocr.virginia.edu/title-ix)
Office of African American Affairs: [https://oaaa.virginia.edu/](https://oaaa.virginia.edu/)
Diversity at UVA: [https://vpdiversity.virginia.edu/](https://vpdiversity.virginia.edu/)
President's Commission on Slavery and the University: [https://slavery.virginia.edu/](https://slavery.virginia.edu/)

Housing Resources:

International Center Temporary Student Lodging: [https://internationalcenter.virginia.edu/lodgings](https://internationalcenter.virginia.edu/lodgings)
On-grounds graduate housing: [https://housing.virginia.edu/graduate-students](https://housing.virginia.edu/graduate-students)
Off-grounds housing: [https://offgroundshousing.student.virginia.edu/](https://offgroundshousing.student.virginia.edu/)
Housing Division: [http://www.virginia.edu/housing/](http://www.virginia.edu/housing/)

Confidential Resources:

Counseling and Psychological Services: [https://www.studenthealth.virginia.edu/caps](https://www.studenthealth.virginia.edu/caps)
Faculty Employee Assistance Program: [https://uvafeap.com/](https://uvafeap.com/)
Maxine Platzer Lynn Center: [http://womenscenter.virginia.edu/](http://womenscenter.virginia.edu/)
UVA Medical Center, including the Emergency Department* (434) 924-2231
Student Health: Gynecology* (434) 924-2773
Student Health: Psychologists in the Student Disability Access Center (SDAC): (434) 243-3915 [https://www.studenthealth.virginia.edu/student-disability-access-center/accommodation-services](https://www.studenthealth.virginia.edu/student-disability-access-center/accommodation-services)
UVA Teen and Young Adult Health Center**: (434) 982-0090 [https://childrens.uvahealth.com/services/teen-health](https://childrens.uvahealth.com/services/teen-health)

* The University's Medical Center Emergency Department and the Elson Student Health Center Gynecology Department are the only local facilities with nurses who are specially trained to collect evidence for victims of sexual assault; that evidence collection must occur within 120 hours of the assault. According to the Virginia
Department of Forensic Science, some types of forensic evidence may be collected for up to 120 hours after a sexual assault; however, the sooner the care is received the more options are available for evidence collection and/or medical treatment. The UVA Emergency Department is open 24 hours a day, 365 days a year. The Elson Student Health Center is open Weekdays from 8:00 AM - 5:00 PM and available after hours at (434) 297-4261.

** Provides health care for ages 12 to 26.

**Other useful information:**

UVA Collab: https://collab.itc.virginia.edu/portal - BME Grad Studies

Athletics: http://virginiasports.com/

International Studies Office: http://www.virginia.edu/iso/

Intramural/Recreational Sports: http://www.virginia.edu/ims/

Parking and Transportation: http://www.virginia.edu/parking/

Real Time UVA Bus locator: https://uva.transloc.com/

Student Health: http://www.virginia.edu/studenthealth/

UVA ADA Coordinator: https://eocr.virginia.edu/ada-coordinator

UVA News: https://news.virginia.edu/

Report a Barrier: https://reportabarrier.virginia.edu/

EOCR Office for Equal Opportunity and Civil Rights: https://eocr.virginia.edu/

Resources for a Resilient UVA: https://eocr.virginia.edu/resilient

Emergency Alert Sign-up page: https://uvaemergency.virginia.edu/uva_alerts

Respect UVA: https://hr.virginia.edu/employee-relations/respect-uva

If you are having trouble making ends meet, the University has the following resources:
https://sfs.virginia.edu/emergencyloans

**Lee Emergency Loan**

The Lee Emergency Loan is a short-term, interest-free loan available to undergraduate students for up to $500 and graduate students for up to $750 per semester. The loan is due on the last day of the month after it is taken out (e.g. a loan taken out any day in February will be due March 31). As long as it is paid on time, there is no fee or interest. If it is paid late, there is a one-time late fee of $10.

To apply for the loan, come to the Student Financial Services desk in Carruthers Hall with your UVA ID card. The last day for Spring graduates to obtain a Lee Loan is March 31. The last day for Fall graduates to obtain a Lee Loan is October 31. Lee Loans are only available to Summer Session students if they are enrolled in the ensuing Fall term. Past due balances must be paid prior to obtaining a Lee Loan.
**Honor Loan Fund**

The Honor Loan is a short-term, interest-free loan available to full-time graduate and undergraduate students. This loan is administered by the Office of the Dean of Students. For more information, please visit ODOS in Peabody Hall or call (434) 924-7133 to make an appointment.

**APPENDIX IV: RESOURCES FOR INTERACTING WITH BME OFFICE STAFF**

**Travel Reimbursement Logistics:**

- **START BY...** UVA uses two systems for reimbursement so you need to figure out which one you use: “Voucher system” or “Chrome River”. The simplest way to figure this out is if you have access to Chrome River then they do it there. It is self-service. If not, fill out a "Non-Employee Reimbursement form" (which you can get from Anita or Elida in the BME Main Office), and bring their receipts to either Anita or Elida, along with a PTAO (which you get from your advisor or whoever is paying for your travel).

- **PLANE TICKETS:** For plane tickets you are more than welcome to use one of the department p-cards, **but you are not allowed to physically take the p-card, so you should bring a laptop with you to Elida or Anita’s desk in the Main BME Office.** Alternatively, you can ask Elida or Anita for the contact information for one of our approved travel agency contacts, where they have these p-cards on file and can easily make their travel arrangements and then those will automatically be charged to the p-card.

- **CONFERENCE REGISTRATION:** For conference registrations it is highly recommended to use a p-card (follow same instructions as stated above for plane tickets).

- **HOTEL ACCOMMODATIONS:** For accommodation p-card is not available as they cannot pay for accommodation in advance. (Also, Air Bnb's not allowed on p-cards.). So you must pay for your hotel/AirBnB yourself. You will get reimbursed when you show your receipt to Anita/Elida **after your trip.**

- **GETTING REIMBURSED:** You have 30 days from the last day of your trip to submit your receipts, otherwise it becomes taxable income. The time it will take for you to get reimbursed depends on how long it will take for each process to go through approvals, but it should normally **not take longer than a week** unless there are circumstances, such as the PI not approving the expense on Chrome River on time.

**Instructions for Reserving Meeting Rooms and Classrooms:**

1) If you want to reserve these rooms, you need to email Keisha (kj3e@virginia.edu) in the Main BME Office **at least 2 weeks in advance of your meeting:**

   MR5 1041 (BME Classroom)  
   MR5 2019 (BME Library)  
   MR5 2012 (BME Small Conference Room inside the BME office)

   For any equipment issues or support please contact BME IT (Henry Pritchard: hep6n@virginia.edu)

2) If you want to reserve these rooms, you need to go to this link and make your reservation: [http://rs.med.virginia.edu/rsrequest/login.asp](http://rs.med.virginia.edu/rsrequest/login.asp)

   MR5 2005 (before 1:00pm Monday- Thursday and all day Friday's)  
   MR6 G501  
   MR6 2502  
   MR6 3501  
   MR6 3502  
   Pinn Hall 1005  
   Pinn Hall 1014
3) If you want to reserve these rooms, you need to email the people indicated here:

MR5 1005 (Megan Payne: mlp9df)
MR5 1019 - CVRC Library (Megan Payne: mlp9df)
MR5 2005 after 1:00pm (Lucille Bland: LTM3E)
MR5 3005 (Susan Bywaters: SAB6J)
MR6 2501 (Glenn Glover: GMG6N)
Pinn Hall Conference Rooms and Auditorium (Sibyl Hale: SDH9T)
### 2020-2021 GRA GTA & FELLOWSHIP Schedule

**University of Virginia - School of Engineering**

<table>
<thead>
<tr>
<th>Pay Period (10) payments</th>
<th>Pay Dates</th>
<th>GTA/ GRA Wages Fall 2020 (before Taxes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-Aug</td>
<td>1 16-Aug</td>
<td>21-Aug</td>
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<tr>
<td>17-Aug</td>
<td>2 30-Aug</td>
<td>4-Sep</td>
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<tr>
<td>31-Aug</td>
<td>3 13-Sep</td>
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<td>14-Sep</td>
<td>4 27-Sep</td>
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<td>28-Sep</td>
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<td>12-Oct</td>
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<td>3-Aug</td>
<td>1 16-Aug</td>
<td>September 23-Aug</td>
</tr>
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<td>17-Aug</td>
<td>2 30-Aug</td>
<td>October 23-Sep</td>
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<td>3 13-Sep</td>
<td>November 23-Sep</td>
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<tr>
<td>14-Sep</td>
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<td>December 23-Nov</td>
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<tr>
<td>28-Sep</td>
<td>5 11-Oct</td>
<td>January 23-Dec</td>
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<tr>
<td>12-Oct</td>
<td>6 25-Oct</td>
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<tr>
<td>26-Oct</td>
<td>7 8-Nov</td>
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<tr>
<td>9-Nov</td>
<td>8 22-Nov</td>
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<tr>
<td>23-Nov</td>
<td>9 6-Dec</td>
<td></td>
</tr>
</tbody>
</table>

The fellowship stipends are created on the 23rd of each month. It is mailed or deposited a few days later.

<table>
<thead>
<tr>
<th>Pay Period (6) payments</th>
<th>Pay Dates</th>
<th>TA/ GRA Wages Spring 2021 (before Taxes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-Dec</td>
<td>11 3-Jan</td>
<td>8-Jan</td>
</tr>
<tr>
<td>4-Jan</td>
<td>12 17-Jan</td>
<td>22-Jan</td>
</tr>
<tr>
<td>18-Jan</td>
<td>13 31-Jan</td>
<td>5-Feb</td>
</tr>
<tr>
<td>1-Feb</td>
<td>14 14-Feb</td>
<td>19-Feb</td>
</tr>
<tr>
<td>15-Feb</td>
<td>15 28-Feb</td>
<td>5-Mar</td>
</tr>
<tr>
<td>1-Mar</td>
<td>16 14-Mar</td>
<td>19-Mar</td>
</tr>
<tr>
<td>15-Mar</td>
<td>17 28-Mar</td>
<td>2-Apr</td>
</tr>
<tr>
<td>29-Mar</td>
<td>18 11-Apr</td>
<td>16-Apr</td>
</tr>
<tr>
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<td>19 25-Apr</td>
<td>30-Apr</td>
</tr>
<tr>
<td>26-Apr</td>
<td>20 9-May</td>
<td>14-May</td>
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<table>
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<tr>
<th>Pay Period (6) payments</th>
<th>Pay Dates</th>
<th>Spring Fellowships 2021(before taxes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-Dec</td>
<td>11 3-Jan</td>
<td>January 23-Dec</td>
</tr>
<tr>
<td>4-Jan</td>
<td>12 17-Jan</td>
<td>February 23-Jan</td>
</tr>
<tr>
<td>18-Jan</td>
<td>13 31-Jan</td>
<td>March 23-Feb</td>
</tr>
<tr>
<td>1-Feb</td>
<td>14 14-Feb</td>
<td>April 23-Mar</td>
</tr>
<tr>
<td>15-Feb</td>
<td>15 28-Feb</td>
<td>May 23-Apr</td>
</tr>
</tbody>
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<thead>
<tr>
<th>Pay Period (6) payments</th>
<th>Pay Dates</th>
<th>GRA Wages Summer 2021 (before Taxes)</th>
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<tbody>
<tr>
<td>10-May</td>
<td>21 23-May</td>
<td>28-May</td>
</tr>
<tr>
<td>24-May</td>
<td>22 6-Jun</td>
<td>11-Jun</td>
</tr>
<tr>
<td>7-Jun</td>
<td>23 20-Jun</td>
<td>25-Jun</td>
</tr>
<tr>
<td>21-Jun</td>
<td>24 4-Jul</td>
<td>9-Jul</td>
</tr>
<tr>
<td>5-Jul</td>
<td>25 18-Jul</td>
<td>23-Jul</td>
</tr>
<tr>
<td>19-Jul</td>
<td>26 1-Aug</td>
<td>6-Aug</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pay Period (6) payments</th>
<th>Pay Dates</th>
<th>Summer Fellowships 2021 (before taxes)</th>
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</thead>
<tbody>
<tr>
<td>10-May</td>
<td>21 23-May</td>
<td>June 23-May</td>
</tr>
<tr>
<td>24-May</td>
<td>22 6-Jun</td>
<td>July 23-Jun</td>
</tr>
<tr>
<td>7-Jun</td>
<td>23 20-Jun</td>
<td>August 23-Jul</td>
</tr>
</tbody>
</table>

The fellowship stipends are created on the 23rd of each month. It is mailed or deposited a few days later.

GRA/ GTA pays on the date listed above are transmitted via direct deposit or pick-up at the UVa Payroll Office or mailed to the local address located in SIS.

Fellowships stipends are transmitted by Direct Deposit.

BME standard for PhD students is $30500 annually.

Bi-weekly wages are $1173.08.

Monthly stipends are $2541.66.