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Welcome to Biomedical Engineering at Texas A&M

Welcome! We are very pleased that you have chosen Texas A&M as the place to pursue your dreams of advanced degree(s) in Biomedical Engineering. The incoming class is a small group of individuals selected carefully from a large pool of highly-qualified applicants, so we also congratulate you on your achievements leading up to this point. It will be our pleasure to work with you while completing your degree, and supporting the process of technical training and professional development that will help you succeed in this dynamic field.

Purpose of this document: This handbook is provided as information and guidance to incoming students. It is intended to provide a complete view of the pathway to the various graduate degrees offered by the Department of Biomedical Engineering. While it does not constitute an official statement of departmental policy, to a large degree it accurately reflects these. Therefore, this handbook should be carefully reviewed and consulted regarding departmental expectations. Information in this handbook is subject to change without notice. Updated versions will be posted to the departmental website; students are encouraged to check periodically to ensure use of the most current version. Exceptions to degree requirements as specified in this handbook are rarely granted.

Departmental Vision and Mission Statements

Vision Statement
The departmental vision is to be a global leader in biomedical engineering by working to solve the world’s greatest health problems and engineering innovative research solutions that advance health, by providing quality teaching, mentoring, and experiential learning, and by excelling in professional and public service.

Mission Statement
The fundamental mission of the department is to serve its students by providing an exciting and challenging academic environment; serve its profession through the discovery and dissemination of knowledge; serve the university system by facilitating and leading multidisciplinary biomedical research; and serve the growing biotechnology and biomedical device industry in Texas via technology transfer and educating the workforce.

Contact Information
Department of Biomedical Engineering
5045 Emerging Technologies Building
3120 TAMU
College Station, TX 77843-3120

Phone: (979) 845-5532
Fax: (979) 845-4450
Email: bmen@tamu.edu
Website: http://engineering.tamu.edu/biomedical
# Graduate Program Administration

<table>
<thead>
<tr>
<th><strong>Dr. Mike McShane</strong></th>
<th><strong>Director of Graduate Programs</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. McShane is responsible for overseeing the graduate program, which includes everything from the admissions process through the completion of the student’s degree in the department. He chairs the Graduate Committee, which recommends policy changes and implements new policies in the form of requirements, procedures, rules, and guidelines. Dr. McShane may serve as an intermediary, should any conflict arise between a student and his/her advisor or committee. He is also the authority on granting exceptions to departmental degree requirements.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Dr. Balakrishna Haridas</strong></th>
<th><strong>Director of the Master of Engineering Degree</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Haridas is responsible for overseeing the Master of Engineering program, which includes assisting Dr. McShane with the M.Eng. admission process, assisting students through the completion of their degree, and managing the Bioinnovation Fellowship Program. He serves as the default Faculty Chair/Advisor for all Master of Engineering students.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Maria Lyons</strong></th>
<th><strong>Academic Advisor III</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The Graduate Advisor serves in a support role to the graduate and undergraduate programs, working closely with the Director of Graduate Programs and undergraduate advisor. Responsibilities include processing applications and advising current students on degree requirements and tracking their academic progress. Students should contact Maria Lyons with academic/general questions. If questions require a more technical background and/or need a higher level of authority, students are advised to contact the Director of Graduate Programs.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Yovonne Williamson</strong></th>
<th><strong>Academic Advisor III</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yovonne Williamson serves primarily as the Undergraduate Advisor in the department, but her secondary role is to help advise graduate students when the Graduate Advisor is unavailable. She may review forms in place of the Graduate Advisor.</td>
<td></td>
</tr>
<tr>
<td>Requirement</td>
<td>Process Details</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Plan courses for first semester</td>
<td>Meet with Faculty Advisor(s) to discuss research interests and coursework needs.</td>
</tr>
<tr>
<td>Choose a Committee Chair</td>
<td>Complete Research Lab Agreement form and submit student and Committee Chair signatures to the Graduate Advisor. <em>Must be completed on time to maintain funding status</em></td>
</tr>
<tr>
<td>Submit degree plan via <a href="http://ogsdpss.tamu.edu">http://ogsdpss.tamu.edu</a></td>
<td>List all previous, current, and planned courses for the degree as well as all committee members. Approved by Graduate Advisor, committee chair and members, Director of Graduate Programs, and OGAPS</td>
</tr>
<tr>
<td>Complete Qualifying Exam</td>
<td>Written exam composed of a critical evaluation of a research article. More information is provided in March-April during BMEN 674.</td>
</tr>
<tr>
<td>Complete instructional service (IS)</td>
<td>Two semesters of IS—contribution to undergraduate instruction. Includes training. Register for BMEN 685.*</td>
</tr>
<tr>
<td>Complete coursework</td>
<td>Ensure coursework completed matches the degree plan and make changes if necessary via <a href="http://ogsdpss.tamu.edu">http://ogsdpss.tamu.edu</a>.</td>
</tr>
<tr>
<td>Complete Preliminary Exam and Proposal</td>
<td>Scheduled when no more than 6 hours of formal coursework remain on the degree plan. The preliminary exam has both written and oral portions. Written exam questions are requested by the student from each committee member at least two weeks prior to the exam date. Committee members may opt to not require written exam questions. Approved by committee and Department Head</td>
</tr>
<tr>
<td>Submit Preliminary Exam Form</td>
<td>Obtain all committee signatures and bring to Graduate Advisor for Department Head review and approval. Approved by committee, Department Head, and OGAPS</td>
</tr>
<tr>
<td>Submit proposal and Proposal Approval Form</td>
<td>Obtain all committee signatures and bring to Graduate Advisor for Department Head review and approval. Must include a timeline for all aims, publishing, defending, and graduating. Approved by committee, Department Head, and OGAPS</td>
</tr>
<tr>
<td>Complete residence requirement</td>
<td>Complete all graded coursework on degree plan.</td>
</tr>
<tr>
<td>Apply for graduation</td>
<td>Visit your Howdy portal or <a href="http://graduation.tamu.edu">http://graduation.tamu.edu</a> and pay graduation fee.</td>
</tr>
<tr>
<td>Schedule final defense</td>
<td>Submit Request and Announcement of the Final Exam and the Departmental Final Defense Announcement Form to the Graduate Advisor. Defense must be advertised to the dept. Approved by Faculty Advisor, Department Head, and OGAPS</td>
</tr>
<tr>
<td>Advertise Final Defense</td>
<td>Defense must be advertised to the dept., open to the general public</td>
</tr>
<tr>
<td>Submit Final Defense Results</td>
<td>Obtain all committee signatures and bring to Graduate Advisor. Approved by committee and OGAPS</td>
</tr>
<tr>
<td>Submit dissertation and Dissertation Approval Form</td>
<td>Obtain all committee signatures and bring form to Graduate Advisor. The final document must be emailed to the Graduate Advisor and Department Head and then uploaded per the Thesis Office requirements Approved by committee, Department Head, &amp; Thesis Office</td>
</tr>
</tbody>
</table>

NOTES:
- Requirements listed above are for BMEN, and in some cases, are stricter than the university minimum guidelines. Failure to meet any of the above requirements could result in dismissal from the program.
- Students must be continuously registered every fall and spring semester until all degree requirements have been met.
- All documents (e.g. proposal, dissertation) must be submitted to your advisory committee at least two weeks prior to milestone completion.
# Steps to Fulfill M.S. Degree Requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Process Details</th>
<th>Timeline for Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan courses for first semester</td>
<td>Meet with Faculty Advisor(s).</td>
<td>Prior to the start of classes</td>
</tr>
<tr>
<td>Choose a Committee Chair</td>
<td>Complete Research Lab Agreement form and submit student and Committee Chair signatures to the Graduate Advisor.</td>
<td>Before the end of one long semester</td>
</tr>
<tr>
<td>Submit degree plan via <a href="http://ogsdpss.tamu.edu">http://ogsdpss.tamu.edu</a></td>
<td>List all previous, current, and planned courses for the degree as well as all committee members. &lt;br&gt;Approved by Graduate Advisor, committee chair and members, Director of Graduate Programs, and OGAPS</td>
<td>During second long semester</td>
</tr>
<tr>
<td>Complete coursework</td>
<td>Ensure coursework completed matches the degree plan and make changes if necessary via <a href="http://ogsdpss.tamu.edu">http://ogsdpss.tamu.edu</a>.</td>
<td>Within two years</td>
</tr>
<tr>
<td>Submit proposal and Proposal Approval Form</td>
<td>Obtain all committee signatures and bring to Graduate Advisor for Department Head review and approval. Must include a timeline for all aims, publishing, defending, and graduating. &lt;br&gt;Approved by committee, Department Head, and OGAPS</td>
<td>Within one year and one long semester</td>
</tr>
<tr>
<td>Complete residence requirement</td>
<td>Complete all graded coursework on degree plan. Final courses may be in progress during graduating semester.</td>
<td>Prior to scheduling final defense</td>
</tr>
<tr>
<td>Apply for graduation</td>
<td>Visit your Howdy portal or <a href="http://graduation.tamu.edu">http://graduation.tamu.edu</a> and pay graduation fee.</td>
<td>During first month of final semester</td>
</tr>
<tr>
<td>Schedule final defense</td>
<td>Submit Request and Announcement of the Final Exam and the Departmental Final Defense Announcement Form to the Graduate Advisor. Defense must be advertised to the dept. A waiver may also be requested, but should be done one semester in advance to ensure adequate planning if not approved. &lt;br&gt;Approved by Faculty Advisor, Department Head, and OGAPS</td>
<td>At least 10 business days before requested defense date</td>
</tr>
<tr>
<td>Advertise Final Defense</td>
<td>Defense must be advertised to the dept., open to the general public</td>
<td>At least 10 business days before defense</td>
</tr>
<tr>
<td>Submit Final Defense Results</td>
<td>Obtain all committee signatures and bring to Graduate Advisor. Approved by committee and OGAPS</td>
<td>Within 10 business days after final defense</td>
</tr>
<tr>
<td>Submit thesis and Thesis Approval Form</td>
<td>Obtain all committee signatures and bring form to Graduate Advisor. The final document must be emailed to the Graduate Advisor and Department Head and then uploaded per the Thesis Office requirements &lt;br&gt;Approved by committee, Department Head, &amp; Thesis Office</td>
<td>See OGAPS calendar for deadlines</td>
</tr>
</tbody>
</table>

**NOTES:**
- Requirements listed above are for BMEN, and in some cases, are stricter than the university minimum guidelines. Failure to meet any of the above requirements could result in dismissal from the program.
- Students must be continuously registered every fall and spring semester until all degree requirements have been met.
All documents (e.g. proposal, thesis) must be submitted to your advisory committee at least two weeks prior to milestone completion.

**Steps to Fulfill M.Eng. Degree Requirements**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Process Details</th>
<th>Timeline for Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan courses for first semester</td>
<td>Meet with Faculty Advisor(s).</td>
<td>Prior to the start of classes</td>
</tr>
<tr>
<td>Choose a Committee Chair</td>
<td>Any graduate faculty member may serve as chair, but for nearly all MEng students, the chair will be Dr. Balakrishna Haridas.</td>
<td>Before the end of one long semester</td>
</tr>
<tr>
<td>Submit degree plan via <a href="http://ogsdpss.tamu.edu">http://ogsdpss.tamu.edu</a></td>
<td>List all previous, current, and planned courses for the degree as well as all committee members. Approved by Graduate Advisor, committee chair and members, Director of Graduate Programs, and OGAPS</td>
<td>During second long semester</td>
</tr>
<tr>
<td>Complete immersion experience</td>
<td>Students may complete either an internship, clinical immersion or translational immersion.</td>
<td>After at least one long semester</td>
</tr>
<tr>
<td>Complete coursework</td>
<td>Ensure coursework completed matches the degree plan and make changes if necessary via <a href="http://ogsdpss.tamu.edu">http://ogsdpss.tamu.edu</a>.</td>
<td>Within two years</td>
</tr>
<tr>
<td>Apply for graduation</td>
<td>Visit your Howdy portal or <a href="http://graduation.tamu.edu">http://graduation.tamu.edu</a> and pay graduation fee.</td>
<td>During first month of final semester</td>
</tr>
</tbody>
</table>

**NOTES:**

-Requirements listed above are for BMEN, and in some cases, are stricter than the university minimum guidelines.
Failure to meet any of the above requirements could result in dismissal from the program.
- You must be continuously registered until all degree requirements have been met.
Summary of Degree Requirements

Degree Plan

Degree plans for all graduate students in BMEN should be filed by the end of the 2nd long semester (departmental rule). Students will incur a hold and will be blocked from pre-registration if they do not file a degree plan by the deadline. Needing to travel or obtain visa documents will not be reason enough to remove the registration hold due to not having a degree plan filed. Degree plans are entered through the online submission system at [http://ogsdpss.tamu.edu](http://ogsdpss.tamu.edu). Committee members will need to be decided prior to submission of the degree plan, and students should discuss their plans with each committee member prior to online submission.

Committee Requirements

*Ph.D.* committees will consist of a committee chair (BMEN), at least two more BMEN faculty committee members, and at least one outside member (not BMEN faculty). *Master of Science* committees will consist of a committee chair (BMEN), at least one more BMEN faculty committee member, and at least one outside member (non BMEN faculty). *Master of Engineering* committees will consist of a committee chair (BMEN), and additional committee members may be requested by the chair.

A BMEN faculty member who has an appointment in another department/program may serve as either a BMEN committee member or an outside committee member to help the student fulfill their committee requirements. To find out in which departments/programs a faculty member has appointments, visit the OGAPS website at [http://ogapsapps.tamu.edu/faculty-advisors/search/](http://ogapsapps.tamu.edu/faculty-advisors/search/).

The department requires that a minimum of two committee members have a primary appointment in Biomedical Engineering. This means that they must be administratively located within the Biomedical Engineering Department.

Transfer Course Requirements

Students may transfer a maximum of 12 credit hours for M.S. and M.Eng degree plans, and 24 credit hours for Ph.D. degree plans. This must be approved by the entire Advisory Committee and the Director of Graduate Programs before submitting for approval to OGAPS. Transfer credit must also meet the university criteria, which may be found in the Graduate Catalog.

Undergraduate Course Usage Requirements

Up to two upper-level undergraduate courses (300-400) may be used on the degree plan, provided that the student’s chair and committee approve. Upper-level courses may not be used if the student’s undergraduate (or previous master’s) degree was in that major. For example, students with a B.S. in BMEN may not take BMEN undergraduate classes and apply them towards their degree. Further, undergraduate classes required for leveling coursework may not be applied to the degree plan. Exceptions to this are reviewed on a case-by-case basis by the Graduate Committee and must be submitted before the course in question is completed.

Degree Plan Submission

In order to submit a graduate degree plan, students will use the OGAPS Online Document Processing Submission System (OGSDPSS). Students will need their NetID and password to log in. Before submitting the degree plan, students should complete the appropriate degree plan worksheet (included in the Forms section of this handbook), which will help in gathering all of the necessary information. After completing the worksheet, it is suggested that students meet with the Graduate Program Coordinator to make sure it meets all degree requirements. Then students can enter the degree plan online.

Students may also find it helpful to run a degree evaluation periodically. This will show the courses
they’ve taken, what semesters they were taken in, and what grades were received. This can be done by logging into the Howdy portal and clicking on the My Record tab. Once there, students should see the Degree Evaluation link toward the bottom of the page.

Another tool students can use to help plan out their courses is the Planned Courses for Degree Plan spreadsheet (also included in the Forms section of the handbook). This document will help students plan out their courses for each semester.

**IMPORTANT:** Degree plans are not considered “submitted” until they reach OGAPS. Before they reach OGAPS, they must first be approved online by the Graduate Advisor, then by the student’s committee chair and committee members, then the Director of Graduate Programs, and then they go to OGAPS for official processing and approval. As a result, this signature routing can take several weeks, and students will need to make sure they are following up with committee members to make sure they need to log in and approve. (The degree plan system is supposed to send an automated notification email, but students shouldn’t rely on these emails, especially since it’s possible for them to get caught up in junk mail.) Once the degree plan reaches the “submitted” status, it may take up to 6-8 weeks for it to be processed and approved by OGAPS.

**Leveling Courses**
Leveling courses are required for students who do not have an engineering background and should be discussed with the student’s chair/advisor. The student’s chair/advisor will then submit a list of recommended courses to the Director of Graduate Programs for approval. Students who have backgrounds in engineering, but disciplines other than biomedical engineering may only need to take a physiology course, but the final decision is made by the student’s graduate committee. A grade of C or better must be achieved in all leveling courses. The list of leveling courses may be found in this handbook, as well as on the website, http://engineering.tamu.edu/biomedical/admissions/graduate-admissions/leveling-courses

Leveling or prerequisite courses are not counted towards degree requirements (not counted in the 64/96 hours), since they are graduation requirements. However, they do count toward the cumulative GPA.

**Petitions**
After the degree plan has been submitted, any changes to the degree plan, including committee members, coursework, degree program, etc. should be made through a petition to the Office of Graduate and Professional Studies. This is also done through http://ogsdpss.tamu.edu. Students will submit an Major/Degree/Department (MDD) petition to change their major, degree, and/or department. Students will submit a Long Form petition to request a course change, committee change, a time limit extension, or other special waivers. These submissions require the approval of the Graduate Advisor, advisory committee, Director of Graduate Programs, and OGAPS.

**Qualifying Exam – Ph.D. Students Only**
A written Qualifying Exam is required of all students at the end of the first year. In Biomedical Engineering, the qualifying exam is a written evaluation and critique of original research paper published in a journal (article options to be provided). This critique will include consideration of the context of the work, literature review, hypothesis/design goals including underlying engineering principles, novelty/innovation, methods, data presentation and discussion, data analysis including statistics, and conclusions.

The format of the document is open to the preference of the student. Suggested fonts and layouts include: 11-point Arial or 12-point Times New Roman; 0.5 inch margins; single spacing, with an expected length of 5-10 pages. Within the selected format, the following elements must be addressed. It is highly recommended
to structure the document with the following sections to facilitate grader identification of the student’s knowledge in each area, according to a rubric provided approximately one month before the exam is to take place.

- Executive summary
- Critique of theory
- Critique of literature review and novelty of work
- Critique of methods
- Critique of data presentation
- Critique of conclusions

**Residency Requirement**

A student who enters the doctoral degree program with only a baccalaureate degree must spend one academic year plus one semester in resident study. A student who holds a master’s degree when he/she enters the doctoral degree program must spend one academic year in resident study. One academic year may include two adjacent regular semesters or one regular semester and one adjacent 10-week summer semester. The third semester is not required to be adjacent to the one year. Enrollment for each semester must be a minimum of 9 credit hours each to satisfy the residence requirement. (See the Graduate Catalog for more information.)

*M aster’s* students must complete 9 resident credit hours during one regular semester or one 10-week summer semester.

**Preliminary Exam – Ph.D. Students Only**

The Preliminary Exam shall have written and oral components, unless otherwise recommended by the student’s advisory committee. The committee chair is responsible for coordinating the written exam with input from the other committee members. Students should schedule an oral preliminary exam, which will involve a presentation and defense of the research proposal with the committee. The closed session will cover questions on the thesis research and generally related topics. This question/answer period will serve as the oral portion of the Preliminary Exam. The written portion of the Preliminary Exam must be completed prior to the proposal defense. An additional form is required to be completed.

NOTE: The Preliminary Exam and Proposal are two separate university requirements, but in BMEN, these two steps occur together.

Once a student is within 6 hours of completing formal coursework on their degree plan, the Preliminary Exam should be scheduled (typically at the end of the student’s 2nd year after commencing graduate studies within the department.) Students will be notified when they are eligible to complete this milestone and the deadline as required based on course completion and previous degrees. (Courses in progress will be counted as completed courses for the purpose of determining eligibility.)

Additionally, the exam should not be administered until the proposal is in substantially final form. Once the Preliminary Exam is passed, the student has 4 calendar years to complete all remaining degree requirements (OGAPS rule).

The Proposal Title Page and a hard copy of the proposal (which includes the timeline*) should be submitted to OGAPS, along with the Preliminary Examination Checklist and the Report of the Preliminary Examination. After completing the Preliminary Exam, these documents must be submitted within 10 days to OGAPS. (The student should fill out the Preliminary Exam checklist prior to the Proposal Defense to ensure that they are eligible to take the exam, and they will need to get their chair’s signature before the defense is held.)
Proposal Submission – M.S. and Ph.D. Students

The research proposal is a description of the research which the student intends to undertake and which will be reported in a detailed, comprehensive fashion in the completed thesis. It is expected that the proposal follow the format of either an NIH R01 or NSF proposal. The timeline, included at end, should include all details of the path to degree completion including research aims, proposal, publications, thesis/dissertation submission, coursework, and graduation.

The proposal offers the student an opportunity to convince the chair and other members of the Advisory Committee of his/her ability to pursue the projected topic to a successful conclusion. Master of Science students are required to submit the research proposal by the end of their first year plus one semester after commencing graduate studies within the department. Ph.D. students should submit their proposal once they have completed the preliminary exam (see section above). A minimum of two weeks is required for review of the proposal by the advisory committee prior to the Proposal Defense.

*NOTE: A template for the research proposal timeline is included in the Related Forms and Documents of this handbook.

Proposal Checklist

- Submit only one original proposal and Proposal Title Page to the Office of Graduate and Professional Studies.
- The Proposal Title Page should be signed by the student, all the members of the advisory committee, and the head of student’s major department
- Appropriate margins and spacing – follows NIH R01 or NSF guidelines
- Reasonable length – follows NIH R01 (1 page specific aims + 12 pages research strategy) NSF (1 page project summary + 15 pages proposal)
- Selected references cited
- If compliance issues have been approved, IRB or IACUC numbers must be provided

Required by BME@TAMU. Timeline, as detailed above.

Immersion Experience – Master of Engineering Students Only

Students must choose from one of the following immersion experiences prior to graduation. An offer to participate in any of the below programs is not guaranteed. Students will have

Industry Immersion

Entry into this track prepares the student for industry (often with the hosting company) via coursework in the first two semesters (typically fall and spring) and a minimum 3-month internship. The culminating experience in this track is a one- or two-semester industry internship (the second semester is optional). The internship experience can be obtained by the student working at the company, or alternately by the company sponsoring a medical device project at a faculty lab. In the latter scenario, it is mandatory that the company appoint a co-advisor/mentor for the student to direct the project in collaboration with the faculty member. The industry internship should involve deep immersion in the process of medical device design and/or manufacturing, and/or testing and the student should be able to articulate this experience in a final report submitted to the MEng Program Director for approval. In addition, the mentor from the company is required to provide an independent evaluation of the student to the MEng Program Director at the end of the internship experience. IMPORTANT: Students are responsible for securing their own internship. To assist with this process, information about several internship opportunities is made available to the students throughout the year. Some companies from the biomedical industry also visit campus at various times throughout the year to conduct interviews for paid internships in which they have openings. Under the guidance and direction of faculty advisors, students will secure qualified and approved industry internships.
Internships must last a minimum of three months, but may be extended if there is mutual interest between the student and employer. Students may not complete the internship during their first semester in the program unless they participated in the BMEN Fast Track program as an undergraduate. The student will be expected to function as a full-time employee, regardless of pay or number of hours registered. It is up to the company and student to agree on a payment arrangement. There is no program requirement mandating that students have to be paid. IP and confidentiality issues must be dealt with prior to accepting the internship. Students may work for companies owned by TAMU BMEN faculty; however, the internship supervisor may NOT be a faculty member.

Students will register for 1 hour of BMEN 684 (in-absentia if the internship is over 50 miles from Bryan/College Station) per semester that they are participating in the internship. Students will have to pay tuition and fees for the internship hour(s) for which they are registered. In order to register for internship hours, students must fill out the Graduate BMEN Variable Course Approval Form and obtain their committee chair’s signature. The completed form and a complete job description should be turned in to the Graduate Advisor.

**Translational Immersion**

This track prepares students to work on developing product prototypes and test beds for new exciting ideas and patents coming out of research labs, and provides the students a real-world experience in developing the technical and commercialization pathways for new medical devices and products, paving the way for the formation of new startup ventures. Students are prepared via coursework in the first two semesters (typically fall and spring). Student then complete their culminating experience within the laboratories of one of the A&M faculty (or at one of our clinical partner sites such as Houston Methodist Hospital, Texas Childrens Hospital, etc) to work on the chosen (disclosed) medical technology inventions (disclosure or patent) for the purpose of commercialization. Students participation in this track is approved based on demonstrated interest by an admitted student who is in Track A in the first semester. Students who choose this track should be interested in productization, and testing of early stage medical technologies to establish the technological feasibility prior to startup venture formation. The technologies chosen for this translational immersion will be sourced from medical device invention disclosures made by A&M Engineering faculty (including BMEN) to the TEES Division of Commercialization (A&M Engineering’s office that works on patents and commercialization), or the A&M’s central Tech Transfer Office that processes patents from other colleges within the A&M system.

This translational immersion must last for a minimum of three months and should end in the presentation of an innovation portfolio. The student must work 40 hours/week for the duration of the experience. An innovation portfolio may include a comprehensive product design, an algorithm or a prototype, test bed development and test results, or a technology commercialization case study.

Students will register for 1 hour of BMEN 685 (in-absentia if the internship is over 50 miles from Bryan/College Station) per semester that they are participating in the immersion. Students will have to pay tuition and fees for the hour(s) for which they are registered. In order to register, students must fill out the Graduate BMEN Variable Course Approval Form and obtain their committee chair’s signature. The completed form and a complete project description should be turned in to the Graduate Advisor.

**Clinical Immersion Fellowship Program**

The Clinical Immersion Fellowship Program involves the completion of Bioinnovation I, a graduate-level medical device development course that covers the front end of the design innovation process for healthcare applications. This is an experiential or project-based learning class that will train students working in project teams in the process of clinical immersion in various area hospitals (e.g.,
College Station, Temple, Houston) to identify unmet needs in specific clinical specialties. Students in this track will be trained in methods used to discover clinical problems, identify unmet needs and engage in design, development and verification testing of medical devices while participating in immersion experiences with the program’s established clinical partners. They will apply ethnography/contextual inquiry, brainstorming/mind mapping, product concept development and evaluation, concept prototyping, and intellectual property/invention disclosures towards a provisional patent application. Interested students must apply at the end of the fall semester in order to be considered for this program, which is offered in the summer semester and students can opt to continue the work into the fall semester. In addition, teams will follow FDA quality systems regulations (Design Controls CFR820.30) and compile a Design History File to complete the preliminary development of a new medical device innovation.

Students will have to pay tuition and fees for the bioinnovation course for which they are registered. Students that choose to accept their offer to join the Bioinnovation Fellowship Program will be automatically placed in the class.

Applying for Graduation
Students should apply for graduation in the beginning of their last semester. This is done online through the My Record tab in the Howdy portal. The deadline is usually within the first two weeks of the semester. Check the OGAPS deadline calendar for each semester’s deadline.

Final Examination (Thesis/Dissertation Defense) – M.S. and Ph.D.
The Request and Announcement of the Final Examination (final defense) should be submitted to OGAPS after the Preliminary Exam (Ph.D. only) and Proposal Approval forms have been approved by OGAPS AND within 10 working days of the scheduled final exam. Each defense presentation must be advertised for at least two weeks prior to the exam date. This includes submitting the Departmental Final Exam Announcement form to the Graduate Advisor as well as the BME receptionist, as well as posting it on the bulletin boards. The main component of the final exam is a public presentation of the thesis research followed by open question and answer session. Questions posed to the student by his/her committee in a closed session immediately after the thesis/dissertation presentation serves as the remainder of the final exam. Doctoral students are allowed only one chance to take the final exam. Master’s students are allowed one opportunity to repeat the final exam; a re-take final exam must be completed before the end of the next regular semester. Prior to scheduling the exam, students must have published at least one article in a refereed, archival journal.

The exam should not be administered until the dissertation/thesis is in substantially final form to the student’s committee, and all concerned have had adequate time to review and tentatively approve the document (at least two weeks in advance).

The Report of the Final Exam form must be submitted to OGAPS within 10 days of the final examination. The dissertation/thesis, which must be submitted by OGAPS deadlines for that particular semester, should be submitted to the Thesis Office according to the guidelines at http://ogaps.tamu.edu/New-Current-Students/Thesis-and-Dissertation-Services. No content changes may be made to the thesis after it has been submitted to the Thesis Office. A minimum of two weeks is required for review of thesis/dissertation by the department for required signature(s) prior to the thesis/dissertation submission. Documents submitted with less than two weeks lead time may be refused.

*Note: When scheduling the final exam, students will also be required to submit the appropriate Graduation Checklist (departmental form, not OGAPS).
Exemption from Final Exam (M.S. only)
With approval from the chair, committee and department head, master’s students who have a cumulative and degree plan GPA of 3.5 or higher may exempt the final. Typically, these requests are only approved if the student is continuing in a Ph.D. program immediately following the completion of the master’s degree. The Request for Exemption from the Final Examination form must be submitted to OGAPS by the deadline, which usually falls approximately 8 weeks prior to the graduation date. See the OGAPS Deadline Calendar for specific deadlines each semester.
University Policies & Procedures

Registration

Continuous Enrollment Rule
All students must be continuously enrolled (excluding summer). Students holding an assistantship must also be registered full-time in the summer (see next section). Failure to comply with this rule could result in suspension/dismissal from the university.

Degree Level/Program Changes
Degree level changes for domestic students must be made no later than the 20th class day in fall/spring and the 4th class day in summer. Degree level changes for international students must be made no later than the 12th class day in fall/spring and the 4th class day in summer. **International students must work with ISS when making this change** to ensure their immigration paperwork is in order. If students submit later than these deadlines, the requested change will not take effect until the following semester.

Miscellaneous Information

**Email Address:** All students will get a university email address, which they are expected to monitor for important correspondence from the department. For requesting an account or to log in, go to [http://gateway.tamu.edu](http://gateway.tamu.edu). Your NetID will be your username.

**Graduate Catalog:** For a comprehensive source of all university rules as they pertain to graduate students, you may access the Graduate Catalog at [http://catalog.tamu.edu/](http://catalog.tamu.edu/). Keep in mind that the information in the catalog represents the university minimum guidelines, and in some cases, BMEN has stricter policies.

**Health Insurance:** Health Insurance will be included as a benefit for students who have departmental assistantships; however, that coverage will not begin until the first day of the month following 90 days of employment. Students may be required to contribute to the cost of insurance. Students should check with their personal insurance provider for specific coverage policies. Some insurance companies will allow students to remain on their parents’ policies if they are full-time and under age 25. Other optional health insurance is available through Texas A&M University. Students employed in a graduate assistantship will have the opportunity to sign up for insurance when completing the required TEES/COE online orientation.

**Parking:** Parking permits are required to park on the TAMU campus. The parking lots closest to the Emerging Technologies Building are Lots 50 (students) and 51 (faculty/staff). Parking permits can be purchased by logging in with your NetID and password at [http://transport.tamu.edu](http://transport.tamu.edu).

**Rules:** Student Rules for Texas A&M University are broken down into three categories: Academic Rules, Student Life Rules, and Student Grievance Procedures. The rules may be accessed at [http://student-rules.tamu.edu/](http://student-rules.tamu.edu/).

**Shuttle Service:** The TAMU Department of Biomedical Engineering does collaborate with other departments on campus, some of which are located at the Vet School or the Medical School. Campus shuttles are available for students to get to these locations. There are also off-campus shuttle routes that run to various apartment complexes and stores around the Bryan/College Station area. Shuttle route maps may be found at: [http://transport.tamu.edu/transit.aspx](http://transport.tamu.edu/transit.aspx).

**Sports Pass:** TAMU has numerous varsity sports teams. Students can purchase a sports pass to attend these events without having to purchase individual tickets. Sports pass information can be found at: [http://mysportspass.tamu.edu](http://mysportspass.tamu.edu).
**Student ID Cards:** All students are required to have a student ID card before the start of classes. These cards are used for access to various departmental resources. The ID card office is located on the second floor of the General Services Complex. If you lose your card, replacements are available for a $5 fee.

**Tuition and Fees:** Information can be found at [http://finance.tamu.edu/sbs/tuition/cost_attendance.asp](http://finance.tamu.edu/sbs/tuition/cost_attendance.asp).
Biomedical Engineering Policies & Procedures

Graduate Forms

- When needing signatures on forms, meet with the Graduate Advisor first to have the form reviewed. The Graduate Advisor will collect the Department Head and/or Director of Graduate Programs signatures or provide instructions for completing the forms.
- ALWAYS fill out the form on the computer, and then print for signatures, so that the only handwritten information on the form is signatures.
- No advance notification to OGAPS is required for the Preliminary Exam, however students will need to submit the Request and Announcement of the Final Exam form in order to schedule the final defense.
- It is the student’s responsibility to download the appropriate forms for preliminary exam paperwork, final defense, immigration, etc.

Registration

Communications Course Requirement
All students are required to take BMEN 674 (Communications in BME) as a part of the graduate curriculum. This must be completed during the first spring semester.

Seminar
Students must attend Seminar (BMEN 681) every semester in which they are full-time, unless 1) they have a course in which they are a TA at the same time as the scheduled Seminar, or 2) they are enrolled in a formal course that meets at the same time as Seminar. Students are also required to register for Seminar hours as part of their degree plan requirements. (See degree plan for number of required hours.)

Instructional Service
All Ph.D. students are required to complete two semesters of instructional service prior to graduation. Each semester will involve a workload of approximately 10 hours/week and can be related to laboratory instruction, course lecture enhancement, or departmental service for semester-long recruitment activities (e.g. Aggie Medical Engineering Device (AggieMED) Competition). During the semester(s) in which the instructional service requirement is completed, students will be required to register for one hour of satisfactory/unsatisfactory credit under the supervision of Dr. McShane. This credit will be automatically added to your account by the Graduate Advisor following notification of the assignment.

Prior to the end of the first year, ALL Ph.D. students must complete the Teaching Assistant Institute (TAI) offered by the Center for Teaching Excellence. More information about this training may be found at [http://cte.tamu.edu](http://cte.tamu.edu).

Graduate GPAs
Graduate students have three GPAs: (1) semester GPA; (2) cumulative GPA (all courses taken at TAMU that are eligible to be used on a graduate degree plan); and (3) degree plan GPA (only counts courses on the degree plan). All must be maintained at ≥ 3.00 in order to remain in the graduate program. Leveling courses will be counted toward the cumulative GPA but not the degree plan GPA. English Language Institute (ELI) courses do not count towards A&M hours in determining assistantship eligibility, but they do count for ISS purposes.

M.S./Ph.D. Annual Evaluations
Students are required to complete an annual evaluation every year no later than May 15. The Annual Evaluation serves many purposes, perhaps most importantly to encourage regular engagement between
students and their committee members. This evaluation is written by the student. Following this, the student schedules a meeting with the faculty chair, who provides any comments/recommendations during the meeting and documents them in the annual evaluation. The student then shares the evaluation document with each of their committee members. Committee members may offer additional comments and suggestions, and may also request a meeting for discussion of progress. Signatures from all committee members are required. The final document is then submitted to the Graduate Advisor. Students will not be able to register for summer or fall classes until the annual evaluation is submitted with acknowledgement from all committee members. Electronic evaluations from the student are required. Handwritten or electronic comments may be added by any of the committee members. Signatures can be electronic or hard copy, as originals are not required for this purpose.

**M.Eng. Semester Meetings**

M.Eng. students are asked to meet with Dr. Haridas, Director of the M.Eng. Degree, once per semester. Students should bring a completed Degree Plan Worksheet (found in the appendices of the online version of this handbook) to the meeting. This serves as a living document that is updated every semester in the meeting and is also used.

**Probation and Dismissal**

Students may be placed on probation for multiple reasons. The first is related to performance in coursework. A Grade Point Average (GPA) of greater than or equal to 3.0 must be maintained. A student will be placed on probation for the following long term and blocked from pre-registration if the GPA falls below 3.0 in any category. This includes the cumulative, degree plan or semester GPA. One long semester (does not include summer) is allowed to correct the GPA deficiency and return to 3.0 or better. Students with a cumulative or degree plan GPA of less than 3.00 will not be allowed to hold or receive ANY type of departmental financial support. (A student may not participate in an internship if their cumulative or degree plan GPA is less than 3.00. If a student’s GPA deficiency is not corrected after one long semester, removal from the graduate program will result.)

**English Language Proficiency (for International Students only)**

Students must be verified in order to hold prelims/final exams by fulfilling ONE of the following:

- TOEFL internet score of 80 or greater
- GRE verbal score of 146 or greater
- IELTS score of 6.0 or greater

Students wishing to be employed as TAs must be certified by fulfilling ONE of the following:

- Score of 80+ on the reading, oral, and listening sections of the English Language Proficiency Exam (ELPE) and 75+ on the composition section of the ELPE.
- Score of 26+ on the reading, oral, and listening sections of the TOEFL and a 23+ on the writing section of the TOEFL.
- Score of 8.0+ on the reading, oral, and listening section of the IELTS and a 7.0+ on the writing section of the IELTS.
- Receive alternative certification (with departmental approval and if the undergraduate degree was completed at a 4-year U.S. institution)

The ELPE is offered several times a year. Contact Measurement and Research Services for more information, [http://dars.tamu.edu/Testing/ELPE](http://dars.tamu.edu/Testing/ELPE).

**Letter Requests**

Letters for various purposes are often requested. To obtain a departmental letter, students should send an email to the Graduate Advisor requesting the letter. The email should include: 1) the student’s UIN, 2)
deadline in which the letter needs to be ready, 3) who the letter should be addressed to, 4) detailed description/listing of the content that needs to be included in the letter. Once the letter is ready, it will be placed in the graduate student’s mailbox, and the student will receive an email notifying them that they can pick it up. Students should not wait until the last minute to make the letter request! Requests that need a quick turnaround (i.e. the same day) are not guaranteed to be ready on time, as it is the student’s responsibility to plan ahead and arrange for sufficient time in making the request.

*NOTE: In many cases, letters will need to be approved or signed by the student’s committee chair. In this situation, it is recommended that the student copy his/her advisor on this email in order to expedite the process.

**Funding**

**General Requirements**
- Satisfactory academic performance is required (> 3.0 GPA in degree plan and cumulative GPAs), for all funding types.
- Students in non-degree status or probationary status are NOT eligible for funding.

**Ph.D. Protocol**
All doctoral students are to be paid $25,000 per year (12-month assistantship position) for a minimum of four years. This funding is dependent on satisfactory academic progress, good academic standing, availability of funds, and the selection of a faculty member to serve as the advisory committee chairperson. A chair must be identified by no later than the end of the student’s first semester in the department. Students may start communicating with faculty regarding positions in their labs at any point after receiving notice of admission. Students are encouraged to formalize their advisor selection as early as possible, as faculty lab openings may fill up.

**Master’s Protocol**
Departmental funding is not available to master’s students. M.S. students may or may not be awarded RA positions by their faculty chair at a minimum pay rate of $24,000 per year. All master’s students are welcome to seek employment for advertised departmental positions or from other departments on campus. Unfunded students may be eligible for departmental scholarships as well as the College of Engineering Lechner Fellowship. Information about these will be sent to students when available.

**External Research Assistantships/Teaching Assistantships**
Students should not solicit graduate research assistant jobs around the campus by asking faculty members from different departments if they have available funding. The appropriate protocol is to be referred by a BMEN faculty member, or to apply for an advertised position. If looking for a Graduate Assistantship-Non Teaching (GANT), please visit the Student Employment Office. That office has listings for both GANTs and Student Worker positions currently available on campus. You may post your resume with them. You could also browse their website at [http://jobsforaggies.tamu.edu](http://jobsforaggies.tamu.edu). You may also provide your resume to the secretary of the department in which you wish to be considered. The Graduate Advisor will also email any available positions received in their office.
- RA/TA positions are generally half-time employment positions requiring 20 hours per week of work (or to be determined by employer).
- RA/TA positions require full-time student status:
  - Registered for 9 semester hours during fall/spring
  - Registered for 6 semester hours during the summer
Fellowships

- Fellowships come with certain conditions that are unique. Fellowships differ in length of duration, stipend rates, dispersion, funding for tuition and/or fees, registration requirements, etc. Fellowship recipients should familiarize themselves with the requirements of the individual fellowships.
- Fellowship holders should check with the funding source on number of hours for which to register.

Out-of-State Tuition Waivers
See the departmental Business Coordinator if you receive an assistantship position, fellowship, or scholarship which entitles you to in-state tuition to ensure that the required forms are completed.

Late Fees
Tuition and fees must be paid before the first day of classes. A $100 late fee is assessed, and your courses are dropped if tuition and fees are not paid. If you register on the 12th day of class or after, you will be assessed a $200 late fee. Students on assistantships and/or fellowships are responsible each semester for registering for the appropriate number of hours required by the assistantship/ fellowship. Students should check before the end of the 3rd class day to ensure that all expected departmental/fellowship payment of their tuition and fees (if applicable) were properly posted to their student account. This will ensure that registration is not affected by errors by the department or external funding agency. Students should contact the departmental business office if any expected payment is not posted to their account so that corrective action can be taken.

Other Financial Aid
If you need an emergency tuition loan, you must process this at least a week before classes. Please visit http://sbs.tamu.edu for more information.

Safety
The Department of Biomedical Engineering places a high level of importance on Lab Safety. You will find numerous resources on the Safety tab on the departmental website, http://engineering.tamu.edu/biomedical/safety. This is always a great place to start when you have questions regarding how to comply with university and departmental safety rules.

The department has a Safety Committee (comprised of faculty and staff), as well as a group of graduate student Safety Liaisons (one from each laboratory). The purpose of the Safety Committee is to evaluate safety measures in the department and to make recommendations to improve those practices. The Safety Liaisons meet periodically with the Safety Committee, and are responsible for communicating safety information to their lab members, ensuring their lab is compliant and prepared for safety walk-throughs, and communicating safety concerns that arise in their lab. Liaisons serve for a minimum of one academic year, but may serve longer.

Every graduate student working in a lab must complete 1) Hazard Waste Disposal Training Training, 2) Laboratory Safety Training, and 3) TEES Shop & Tool Safety Training. (http://engineering.tamu.edu/biomedical/safety and click on the appropriate Safety Training link based on your employment status). Students in certain labs will be required to complete additional training unique to their lab environment as well. Documentation of these trainings must be kept in the lab safety binder. The Safety Committee, as well as other safety officers on campus, will conduct periodic walk-throughs of labs, and this documentation must be present.

Miscellaneous Information

Mailboxes: Graduate student mailboxes are located on the 5th floor, Room 5041. Students are expected to check their mailboxes on a regular basis.
Departmental Staff Directory

Maria Lyons
Office: 5052 ETB
Phone: 979.845.2312
Email: mlyons@tamu.edu
Job Description: Serves as primary point of contact for all questions related to graduate degree progress, course completion, milestones, personal help/advice, and anything else you might need!

Yovonne Williamson
Office: ETB 5053
Phone: 979.845.3539
Email: ywilliamson@tamu.edu
Job Description: Serves as a back-up to Maria when she's not available, but new to the department and not yet trained on graduate program requirements.

Marcus Misztal
Communications Specialist II
Office: 5013 ETB
Phone: 979.845.1581
Email: m_misztal@tamu.edu
Job Description: Addition of additional webpages, developing stories to highlight students and brochures and flyers to market the department, as well as all department photography/vidoeography, and assisting students in obtaining TAMU business cards if needed.

Carl Johnson
Technical Laboratory Coordinator
Office: 0001C ETB
Phone: 979.458.2315
Email: carljohnson@tamu.edu
Job Description: Offers guidance in the design, fabrication, and training on the safe use of machine tools, practical engineering experience, facilitates the departmental 3D printer, other training offered for the following instruments: CO2 laser, Autoclaves, Excimer laser.

Amanda Myatt
Technical Laboratory Coordinator
Office: 5011 ETB
Phone: 979.458.2317
Email: amyatt@tamu.edu
Job Description: Help with access to building or labs, anything regarding safety, any issues or training on shared lab equipment, getting rid of old lab equipment, and any questions or issues regarding labs or other areas.

Karl Brinkmann
Senior Administrative Coordinator
Office: 5002A ETB
Phone: 979.845.2706
Email: karlb@tamu.edu
Job Description: Rental car reservations for research travel, coordinating student meetings with visiting faculty.

Barbara Slusher
Administrative Associate IV
Office: 5045 ETB
Phone: 979.845.5532
Email: bslusher@tamu.edu
Job Description: Receptionist at front desk- willing to help in any way- to answer questions or steer you in the right direction.

Barry Jackson
Senior Business Administrator I
Office: 5007 ETB
Phone: 979.845.5427
Email: b.jackson@tamu.edu
Job Description: Tuition payments/waivers for assistantship hires.

Kaitlin Nichols
Business Administrator I
Office: 5009 ETB
Phone: 979.458.2376
Email: knichols@tamu.edu
Job Description: Role includes hiring and payroll, leave request.

Tomi Johnson
Business Coordinator II
Office: 4074 ETB
Phone: 979.458.2376
Email: tomi.johnson@tamu.edu
Job Description: Roles include work related travel, paying invoices, and department purchases (Including checking out the dept. card).

Rick Aderholt
Office: 3019 ETB
Phone: 979.458.2383
Email: bmen-helpdesk@tamu.edu
Job Description: Supports IT services in the Emerging Technologies Building for both Biomedical and Industrial Engineering.
**Student Organizations**

**Alpha Eta Mu Beta**
The purpose of the Texas A&M Chapter of Alpha Eta Mu Beta is to bring into closer union and to mark in an outstanding manner the biomedical engineers at Texas A&M, who by their scholastic achievements in college, have manifested a deep interest and marked ability in their chosen life work. Additionally, the chapter will promote a better understanding of biomedical engineering to others and further the development of its members through wholesome activities beneficial to Texas A&M. For more information, visit [http://aemb.tamu.edu/](http://aemb.tamu.edu/).

**Biomedical Engineering Graduate Student Association**
The main goals of the BMEGSA are to represent the interest of the graduate students to the faculty and administration of the BME department and to facilitate networking and social interactions between students, administration, faculty, and staff within the biomedical engineering department.

**Biomedical Engineering Society**
The object of BMES is to promote the profession of biomedical engineering through the organized effort of this group in study, research, and discussions of the fields of biomedical engineering and the dissemination of knowledge thereby gained. The pillars of BMES are career awareness, professionalism, and community service. The society holds biweekly meetings where professionals from companies, universities, and hospitals come and share what biomedical engineering is like in their workplace. The goal of these meetings is to give members a sense of professionalism, teaching them how to act and dress in a professional setting. Additionally, the society provides opportunities for members to take part in community service activities such as Big Event and Relay for Life. More information can be found at [http://bmes.tamu.edu/](http://bmes.tamu.edu/).

**Engineers Without Borders**
EBW-TAMU delivers sustainable and innovative solutions to real-world problems in order to empower international communities by offering opportunities for the students of Texas A&M University to: manage international engineering projects; develop relationships with members of other cultures; create engineering designs; lead the implementation of those designs, and initiate the supporting functions of the projects: fundraising, manage finances and establish relationships with faculty and donors. More information can be found at [http://ewb.tamu.edu/](http://ewb.tamu.edu/).

**Engineering World Health**
The Engineering World Health (EWH) mission is to inspire and mobilize the biomedical engineering community to improve the quality of health care in vulnerable communities of the developing world. They achieve this mission through innovation and effective alliances with great partners. Our chapter focuses on two main objectives: (1) developing new, low-cost devices for developing countries through sponsorship of senior design teams and research teams within the organization; and (2) building “kits” – low cost devices that have been developed by EWH chapters to be donated to the developing countries. Our chapter will meet at least once per month.

**Graduate and Professional Student Council (GPSC)**
The Graduate and Professional Student Council (GPSC) serves as the student government for Texas A&M University’s graduate and professional students. It is a council of graduate students representing all TAMU graduate students with a purpose to improve graduate students’ academic, living and social experiences. The GSC represents students’ concerns and is their liaison with the University Administration. Each department may have one representative and up to two alternates. General Assembly Meetings take place every 1st and 3rd Tuesday at 6:00 p.m. in Koldus 144. Assembly meetings are open to all graduate students. More information can be found at [http://gpsctamu.org/](http://gpsctamu.org/).

**Society for Biomaterials**
The purpose of the Texas A&M University chapter of the Society for Biomaterials (SFB) is to encourage the development, dissemination, integration and utilization of knowledge in biomaterials primarily among students, the Texas A&M University community, and other members of SFB. Chapter events and activities include guest speakers from academia and industry, facility tours, meetings with other chapters, and hosting Biomaterials Day, a one-day symposium, at the Annenberg Presidential Center. More information regarding the chapter can be found at [http://sfb.tamu.edu/](http://sfb.tamu.edu/).
**Student Engineering Council (SEC)**
The Student Engineers’ Council (SEC) is the representative body for all students in the Dwight Look College of Engineering at Texas A&M University. Formed by the Dean of Engineering in 1939, the SEC represents the concerns of engineering students and professional societies to the college administration and to the university as a whole. Meetings are held every Monday evening. See [http://sec.tamu.edu/about/](http://sec.tamu.edu/about/) for more information.

**SPIE**
SPIE is a national organization dedicated to serving the scientific community of optics and photonics and advancing light-based technologies. Our chapter seeks to advance the visibility of the optical sciences at Texas A&M University by promoting events such as an optics journal club and regional conferences. Additionally, we seek to promote optics and photonics in the community through outreach events to K-12 students. Our chapter is also fortunate enough to be able to send 1-2 students per year to the national SPIE meeting and leadership conference in San Diego, CA. We are comprised of members from a variety of disciplines and areas of expertise.

*A comprehensive, searchable list of all Texas A&M student organizations can be found at [http://studentactivities.tamu.edu/online/search/](http://studentactivities.tamu.edu/online/search/).*
Ph.D. GRADUATION TIMELINE

YEAR 1
- CHOOSE COMMITTEE CHAIR
- CHOOSE COMMITTEE MEMBERS
- SUBMIT DEGREE PLAN TO OGAPS
- COMPLETE QUALIFYING EXAM

YEAR 2
- COMPLETE COURSEWORK
- COMPLETE INSTRUCTIONAL SERVICE

YEAR 3
- COMPLETE PRELIMINARY EXAM AND PROPOSAL
- PARTICIPATE IN POSTER SESSION
- SUBMIT PRELIMINARY EXAM FORMS
- SUBMIT PROPOSAL AND PROPOSAL APPROVAL FORM

YEAR 4
- SUBMIT DISSERTATION AND DISSERTATION APPROVAL FORM
- APPLY FOR GRADUATION
- SUBMIT FINAL DEFENSE RESULTS
- SCHEDULE FINAL DEFENSE
- COMPLETE RESIDENCE REQUIREMENT

BIOMEDICAL ENGINEERING
TEXAS A&M UNIVERSITY
M.S. GRADUATION TIMELINE

YEAR 1
- Plan & take courses for first semester
- Choose committee chair
- Choose committee members
- Submit degree plan to OGAPS
- Complete coursework

YEAR 2
- Schedule final defense
- Complete residence requirement
- Submit proposal and proposal approval form

YEAR 3
- Submit final defense results
- Apply for graduation
- Submit thesis and thesis approval form

Texas A&M University - Biomedical Engineering
M.E. GRADUATION TIMELINE

YEAR 1
- Plan & take courses for first semester
- Submit degree plan to OGAPS
- Complete internship or clinical immersion

YEAR 2
- Apply for graduation
- Complete coursework