

# Department of Biomedicine

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**School of Science and Engineering Website** for fillable forms, information and additional  
resources on SSE specific policies: [https://www.slu.edu/science-and-engineering/student-  
resources/graduate--](https://www.slu.edu/science-and-engineering/student-resources/graduate--)



## 1. Application for

The Biomedical Engineering Department

minimum) of Thesis Research (BME 5990) toward their B.S. degree. This requirement is fulfilled by the completion of BME 5990.

Candidates for the Master of Science Research Thesis Option are required to pass an oral

the doctoral qualifying exam or the doctoral oral dissertation proposal and subsequently changed to the M.S. program.

Students who have completed an M.S. degree at SLU can petition to transfer up to 24 credit hours of eligible coursework (excluding thesis credits) towards the Ph.D. degree.

### *3.8. Changing from the M.S. to the Ph.D. program*

Students who were accepted into the M.S. program but have decided, in consultation with their graduate advisor, to forego completion of the M.S. degree and change over to the Ph.D. program will need to complete the Petition to Amend the Graduate Program form (fillable form at [https://www.slu.edu/academics/graduate/pdfs/petition\\_to\\_amend\\_grad\\_program\\_form.pdf](https://www.slu.edu/academics/graduate/pdfs/petition_to_amend_grad_program_form.pdf)) (t)-6 8.0



include BME 3850/5850 Design of BME Lab Experiments or BME 4970/4980 Independent Research will be given priority. BS/MS thesis applicants should first seek approval from their tentative research advisor before submitting the application by the March deadline.

Students should normally apply to the Program for pre-admission to the accelerated BS-MS program in the spring semester of their junior year by filling out and submitting the Accelerated BS-MS Program in BME Application for Admission form (available at <https://www.slu.edu/science-and-engineering/student-resources/graduate-resources/index.php>) and <https://www.slu.edu/academics/graduate/current-students/forms-petition.php>. For non-thesis BS/MS students, the application includes Statement of Purpose and a Program of Study. For thesis BS/MS students, this application also includes a plan for integrating the Senior Project with the Thesis project, along with a Statement of Purpose and a Program of Study. In their senior year, all accelerated BS-MS

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semester of degree) and BME 5040 Technical Communication (1 credit – to be taken when a student is ready to write their first research paper). Additionally, student should register for the BME Graduate Seminars (0 credits, non-course degree requirement) for 6 semesters, but are encouraged to attend seminar for the duration of their studies.

### 5.3. *Transfer of Credit*

A maximum of 24 semester hours of graduate course work taken while earning a Master of Science degree at SLU or other institutions may be applied toward the Master's degree. The BME Graduate Program Coordinator and the SSE Graduate Office must agree that the specific courses are acceptable. Thesis credit hours completed as part of the M.S. degree may not be applied. No credit transfer will be allowed for any courses that have been used in fulfillment of the requirements of any other degree. Due to academic and procedural differences between U.S. and foreign institutions, credit from foreign universities is not normally acceptable for transfer.

### 5.4. *Work and Productivity Expectations for Ph.D. Students*

Students pursuing the Doctoral Program will be expected to work on their research projects for at least 20 hours per week during the academic year while taking classes and full time (40 hours per week) after all coursework has been completed as well as during breaks and over the summer. Students with teaching assistant (TA) duties will have a scaled back work requirement based on their TA workload. Lower number of hours per week may result in delayed graduation. During their time in the Ph.D. program, students will be expected to produce at least three complete journal manuscripts (or equivalent) gtp w 0.7 2.7.5 (d) 1.1 1.8.0.003 Tw 2.696 Tc 0.003 Tw 0. (3 0.003 Tw 2.696 Tc 8/t2.2 (d)t-2.9 (e)7.8 (j)9.

degree program or choo

program of study for the degree, including the dissertation and final oral examination, within four years after admission to candidacy. Requests for postponement of the Ph.D. thesis defense beyond the 4-years' time limit must be made in a written petition to the BME Graduate Program Coordinator. The form should clearly state the reason for the delay and be signed by both the student and his or her research advisor. The petition will be considered by the BME Graduate Committee and there is no guarantee for approval.

#### *5.7. Timeline for Completion of the Doctoral Degree*

It is expected that students will complete the doctoral degree within 5-6 years of admission starting from a B.S. degree and 3-5 years starting from a M.S. degree. A typical time to degree for a BME PhD student is 5 years, where the University limit is 7 years with a previous M.S. degree and 8 years with a previous B.S. degree. Important dates are also established by SLU's Office of Graduate Education. Students should review the dates as early as possible to ensure the defense is scheduled according to the University's established deadlines. By not adhering to the provided deadlines, degree conferral may be delayed. Link to these: [Information for Current Students: SLU](#)

## Appendix A

### Qualification through Three Topic Exam Style

With regard to three topic qualification examination, this appendix describes exam format and timeline, selection of examiners, administration of the exam, and exam outcomes.

#### Forms

All forms can be found at <https://www.slu.edu/science-and-engineering/student-resources/graduate-resources/index.php>

Or

<https://www.slu.edu/academics/graduate/current-students/forms-petition.php> for most up to date information.

#### Timeline

##### **When to take the qualifying exam?**

Students are advised to pursue this qualifying examination at the end of their first or second academic year in the PhD program.

##### **When to schedule the qualifying exam?**

Students should submit the completed PhD Qualifying Exam Petition Form to the Office of Graduate Education & Research at least 30 days prior to date of examination.

### Exam Day

A proctor is appointed by the program to administer the qualification examination. Faculty evaluators provide the exam questions to the proctor at least one day prior to examination day. The proctor will return the student answers to the faculty evaluators for grading in 24 hours after completion of the exam.

### Exam grading

Students are expected to provide the faculty evaluators with the PhD Qualifying Exam Results Form. The steps for completing this form are explained in the Ph.D. Qualifying Exam Policy. The faculty evaluators will grade the exam no later than two weeks after the exam and will forward the exam results to the student's PhD Advisor. The PhD advisor will notify the student of the outcome of the PhD qualifying examination in writing within two weeks of the examination. The outcome for each examination topic will be reported as follows:

- Pass: indicating the student passed in the three topical area(s) selected.
- Conditional Pass: indicating the student did not pass in the selected topical area(s). The faculty evaluator in consultation with the PhD Advisor will determine the additional work that should be completed by student to pass the topical exam.
- Fail: indicating the student failed one or more of the topical areas. In this case, based on the discretion of the student's PhD advisor, the examination committee, and the BME Graduate Program Coordinator, the student might be instructed to re-take the topic(s) or could be given a

## Qualification through Research Writing(s) and oral examination

With regard to this "Research Writing(s)" type of examination format, this appendix describes administration of the exam, selection of examiners, expectations regarding work submitted by the student, required oral examination, exam outcomes, and notification time frame.

### Timeline



### The Examination Committee

The qualifying examination committee shall consist of three individuals, with at least one individual from the respective program(s) housing each selected exam topic. Examination committee members are suggested by the PhD advisor. One examination committee member will ordinarily be the student's PhD advisor.

### Petition requirements

The research writing(s) that a student submits for consideration by the qualifying examination committee must be submitted together with the Qualifying Exam Request Form to the examination committee. Prior to submitting the Qualifying Exam Request Form and research writing(s), students are strongly encouraged to consult with their research advisor or the BME Graduate Program Coordinator to ensure that the submitted research writings are reasonable and commensurate with the general expectations for this type of qualifying examination.

### Assessment

Qualification will be assessed by the examination committee's overall evaluation of the student's PhD level knowledge in the three topical areas selected. This will be accomplished through 1) evaluation of the quality and significance of the submitted research writing(s); 2) evaluation of how well the student responds to questions on fundamentals in three topical areas, where in all cases the questions will stem from concepts presented in the research paper(s); 3) evaluation of how well the submitted research writing(s) represent the PhD research topic to be pursued by the student; and 4) the student's ability to demonstrate both depth and breadth of knowledge in the topical areas in relation to the submitted research writing(s). The foregoing will be assessed by the examination committee through both a review of the submitted research writing(s) and a subsequent, required oral examination that is not to exceed 90 minutes in length.

### Exam grading

The outcome for a PhD qualifying examination is determined by majority vote of the qualifying examination committee members, and leads to one of the following results:

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## **Appendix B**

### **Summary of BME Program-Specific Requirements for Ph.D. Qualifying Exam**

The Qualifying Exam is intended to test the student's foundational knowledge in biomedical

## Appendix C

### Dissertation Proposal Guidelines

*These guidelines have been adapted from the National Science Foundation proposal guide. You can find the original document at: [http://www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=gpg](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg)*

#### 1. Written Report Maximum Length and Pagination Instructions

The Dissertation Proposal written report should be no more than 15 pages in length and each page must be numbered. Do not number the Title Page if included and begin numbering your pages with 1. Appendices are not allowed. Students should only use a standard, single-column format for the text. While line spacing (single-spaced, double-spaced, etc.) is at the discretion of the student, established page limits must be followed.

#### 2. Written Report Margin and Spacing Requirements

The written report must be clear, readily legible, and conform to the following requirements:

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