Qualifying Exam Instructions

- The candidate’s dissertation director names the committee and chooses the date and time of the Written and Oral parts of the exam.
- The candidate’s dissertation director communicates with the committee to determine the four topics of the exam, completes the **BIOE PhD Qualifying Exam Topics Form**, and transmits the form to the candidate.
- The candidate receives a reading list from each committee member at least 2 months prior to the written exam.
- The committee members provide their written questions to the committee chair who puts them together into the final form of the written exam.
- The candidate takes the written exam. The candidate’s answers are transmitted to the committee members.
- The oral exam takes place about 1 week after the written exam.
- The committee Chair receives a packet for the Oral Exam containing these instructions, and the **Qualifying Exam Results Form**.
- The committee Chair completes the **Qualifying Exam Results Form** and returns it to the department.

Composition of the Committee

The committees for the qualifying exam consist of four individuals.

- A minimum of two members, including the chair of the committee, must be graduate faculty in the Department of Bioengineering.
- One member must be graduate faculty from outside the department.
- The chair of the committee is responsible for ensuring the correct forms are completed and procedures are followed.
- The dissertation director is the main scientist guiding the student’s research.
- The dissertation director cannot be chair of the committee.

Timeline

<table>
<thead>
<tr>
<th>Degree on entry</th>
<th>Exam completed</th>
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<tbody>
<tr>
<td>Entering with MS</td>
<td>By end of 1st year</td>
</tr>
<tr>
<td>Entering with BS</td>
<td>By end of 2nd year</td>
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Written Exam

A set of four topics, relevant to the student’s concentration and research topic, are assigned to the student as representing essential knowledge that the student should master to be successful in their research, at least two months prior to qualifier. In addition, the qualifying exam committee will provide the student a list of readings for each topic that the student is expected to master. The list of readings can include specific articles, books or book chapters, or syllabus items (e.g. from a class at Mason) for each of the topics. Each of the committee members creates written questions for one of the topics, which will be provided to the student on the day of the exam.

- The set of four topics and readings will be assigned by the committee 2 months before the oral exam.
- The set of four topics and assigned readings are specified on BIOE PhD Qualifying Exam Topics Form, which is completed and signed by the committee to determine the topics and the date of the exam.
- The written component is a 4-hour written exam that has questions from each of the 4 examiners. Each of the 4 topics are expected to require one hour to answer. The exam is closed book. One question can be replaced by a computational assignment to be completed by the time of the oral. In this case, the total written exam time is reduced to 3 hours.
- 1 question per examiner to be answered in 1 hour each.
- The written exam must be completed at least 1 week prior to the oral.

Oral Exam

The oral consists of answering questions by the qualifying committee related to the topics of the written exam.

Grading

The committee determines whether the candidate has passed or failed the exam based on the written report and oral exam and reports the results on Qualifying Exam Results Form. The committee optionally provides a list of recommendations, e.g. additional material the student needs to master. If the student fails the exam, the committee has the option of recommending that the student re-take the exam, and if so, must specify what must be improved, e.g. knowledge of certain topics, oral presentation, and/or written exam. The committee can also specify a time frame for the second exam. The exam can only be repeated once.