

CHECKLIST FOR SBME GENERAL EXAM

Approved on 2021-10-15

Planning Your Program of Study

- The student must be enrolled in at least two graduate credit hours during the semester the general examination is held.
- Work with your academic unit to form your committee and schedule the advisory conference. You will need to submit the **Advisory Conference Report form (ACR)** to the Graduate College **no later than one semester before you plan to take the general examination.**
 - If you are a graduate assistant receiving a Graduate College tuition waiver, in order to remain eligible for the waiver, you will need to submit this form after completing a certain number of hours at OU.

Before the General Examination

- If there are any changes to the coursework or committee membership listed on your approved ACR, you will need to submit a Request for Change in Doctoral Advisory Conference Report to the Graduate College before you apply for the general examination.
 - Your ACR must be up to date before the Graduate College can authorize your general examination.
 - Changes in committee membership are not permitted within the 30 calendar days before the general examination.
- At least five weeks prior to taking the General Exam**, the Graduate College's **Application for General Examination** must be completed and signed by the student, the members of the Doctoral Committee, and the Chair of Graduate Studies. It is then submitted to the Graduate College Dean for approval. This authorization for the exam must be obtained before taking the exam. The student must apply for the general examination and receive authority from the Graduate College before beginning work on the written portion of the exam. The result of an unauthorized exam will not, under any circumstances, be considered valid.
 - If approved, an *Authority Report Form* will be issued.
 - It is valid only for the period indicated on the form.
 - If no portion of the exam is held during this period, the graduate liaison or committee chair must notify the Graduate College in writing as to why the exam was not held and the form must be returned marked “Not Taken.”
 - The exam must then be rescheduled for a future term and the student must submit a new *General Exam Application for the Doctoral Degree*.
- After issuance of the Authority Form Report, and **at least 2 weeks before submission of the written research proposal (4 weeks prior to scheduled date of oral exam)**, the student must submit a **Rough Draft Specific Aims Page to each committee member**. The committee should provide feedback on the student’s draft Specific Aims, without input from the primary advisor.
- At least 2 weeks prior to the scheduled date of the oral exam, the written research proposal must be submitted to each committee member**. A student may not proceed to the oral portion until the written portion has been satisfactorily completed.
 - For the oral portion of the exam, the student, the committee chair and the outside member—at minimum—must be physically present at the same location.
- No changes in committee membership are permitted 30 calendar days before the general examination.
- The general examination should be held before the deadline indicated on the Academic Calendar. The exam may not be held during the period of final course examinations, nor may it be held while the university is not in session.

General Examination

- When you are enrolled in or have completed the final semester of coursework, you should prepare for the general examination. No later than the second week of the semester in which you will take the exam, submit the General Exam Application for the Doctoral Degree to the Graduate College. After your application is approved, the Graduate College will email the Authority Report Form for the General Examination to you, your committee, and your graduate liaison. You may not begin work for the exam until you receive the Authority Report Form.
- No later than 72 hours after the exam, submit the completed Authority Report Form**, including original signatures from all committee members to the Graduate College. You will be admitted to doctoral candidacy after satisfactorily completing the general examination.
- A student who does not pass the general examination on the first attempt may, at the discretion of the committee, repeat the exam once in a future term. No more than two attempts to pass the general examination are permitted.

SBME GENERAL EXAM POLICY

GRADUATE PROGRAM GUIDELINES

1.4.3 General Exam Outcomes and Expectations

The purpose of the general exam is to determine the competence of the student. During the written and oral examination, it is expected that the student:

- Demonstrate an ability to think critically and independently, and conduct independent, original research
- Demonstrate and communicate an understanding of an appropriate background of the problem addressed
- Interpret and critique implications of the theoretical results of the proposed study
- Rigorously defend his/her critiques on the interpretation of the study

1.4.4 Doctoral General Examination Overview

The purpose of the General Exam in the Stephenson School of Biomedical Engineering is for the PhD student to propose original research ideas, to demonstrate an ability to formulate a hypothesis/design, and to create an experimental plan to test that hypothesis/design. All PhD students must take the Graduate Doctoral General Exam to be admitted to PhD candidacy. PhD students must be in good academic standing, and any probationary status must be cleared. PhD students should take the General Exam by the start of their 3rd year of study. A student who fails to perform satisfactorily on the General Exam may be permitted, at the discretion of the faculty, to retake the examination one time.

The General Exam is administered by the student's advisory committee by adhering to the following rules:

- Exam will be conducted in **three parts: (1) a rough draft specific aims page** which must be submitted to the student's committee members, **at least 2 weeks prior** to submission of the written research proposal; **(2) a written research proposal** that provides evidence of the student's capabilities to pursue independent research. The written research proposal must be submitted to the committee at least 2 weeks prior to the scheduled date of the oral exam; and **(3) an oral exam** that includes a research presentation and an examination of student's in-depth understanding of his/her graduate course work.
- A student may not proceed to the written research proposal until the Rough Draft Specific Aims Page has been submitted to the student's Primary Advisor. A student may not proceed to the oral portion until the written portion been satisfactorily completed, as per approval of the committee.
- Both the written portion and the oral portion must be completed within the same semester.

1.4.4.1 Research Area Topic

The topic and aims of the general exam will be focused on the student's research but are not specifically restricted to being a thesis proposal that must be completed for graduation. The ideas of the proposal must be original ideas from the student. It is required that the proposal topic be on the student's thesis research project area. Any work completed up to the time of the General Exam cannot be counted as part of the student's proposed research plan but can be included as preliminary supporting data. The goal is to outline a cohesive research plan with a hypothesis/design and specific aims that rigorously test this hypothesis/design.

1.4.4.2 Rough Draft Specific Aims Page

The student must submit a rough draft of Specific Aims Page to all committee members. The primary advisor shall not provide input on the Specific Aims Page before the rough draft is submitted to the committee.

Each committee member should provide feedback via email (or written reply) within 1 week to the student stating 1) APPROVAL or 2) DISAPPROVAL of the student's draft Specific Aims. The draft must be a 1-page typed plan which explains their proposed research plan (single spaced, Arial, 11-point font, and margins no smaller than 0.5 inch on all sides). The rough draft specific aims page must be submitted to the primary advisor **at least 2 weeks prior** to submission of the written research proposal. Typically, the first ½ page is introduction/ background and

the rest of the page is 2-4 concisely written Aims.

1.4.4.3 Written Research Proposal

The written portion of the general exam will be written in the style of an NIH R21 proposal. The document will be single-spaced and a **maximum of 7 pages single-spaced including figures, and including the Aims page, but excluding references and title page**. The report must be written in Arial, 11-point font, and margins no smaller than 0.5 inch on all sides. It must include the following components, and must be completed and turned into your committee at least 2 weeks prior to your scheduled oral exam:

1. Title Page. (1 page) Not counted toward overall proposal length. This page must include a brief project abstract of no more than 250 words.

Specific Aims Section:

2. Specific Aims Page. (1 page) Typically, the first ½ page is introduction/background and the rest of the page is 2-4 concisely written Aims.

Innovation Section:

3. Innovation. This section should detail why your proposal is novel and innovative.

Significance Section:

4. Research Significance and Background. This section should give in depth details about the context supporting your research, including a statement of the overall problem being addressed. It should also cite data supporting this novel concept. This section will generally give in depth details about preliminary studies and current progress which supports these experiments.

Approach Section:

5. Research Plan and Approach Section. This section must give in-depth details about each experimental aim and subaim. For each aim, details must be given about the respective data collection, analysis, and interpretation. This section must also detail potential challenges and pitfalls of the approach, and possible alternative approaches. Focus on experimental design (e.g., groups, time points, outcome analyses, sample sizes) is more important than method details (e.g., how many milliliters of solution are used in a particular assay).

6. Statistical Considerations and Timeline. This section must detail the proposed statistical analysis which will be performed as part of the studies. It must also contain a projected timeline of project milestones.

References Section:

7. References. Not counted toward overall proposal length. Format the references in the same format as any peer reviewed journal related to your PI's area of research.

Additional Requirement:

8. In addition to your 7-page proposal, you must include a section at the end of your report (after the references section, 1-page maximum, single-spaced) that clearly delineates your specific innovative contributions to this proposal. This section is not counted toward overall proposal length.

1.4.4.4 Oral Exam

The oral exam is a 30-minute-long presentation that summarizes the written proposal. Students are expected to present the same report components as outlined in the Written Research Proposal section above (Significance, Innovation, Preliminary Results, Research Plan, etc.). 30-50 minutes of questions and answers will follow the presentation,

although clarification questions may also be asked during the presentation. Questions will first come from the audience and then all non-committee members will be asked to leave the room. Next, questions will come from the Doctoral Committee. During questioning, students are expected to be able to defend all aspects of their research proposal.

1.4.5 Doctoral General Examination Results and Retakes

Upon completion of the exam and questioning, the student will leave the room and the Doctoral Committee will discuss the student's performance on both the written and oral portions of the exam. The Doctoral Advisor will condense all discussed comments, which are intended to serve as constructive criticism to help the student identify their strengths, weaknesses, and deficiencies. The Committee will then vote on the student's performance according to the following options:

- 1) **PASS, With Recommendations.** The primary doctoral advisor will explain the committee's recommendations immediately and is responsible for enforcing these recommendations upon the student. The student must follow up with the committee on the recommendations from the oral defense within 2 months.
- 2) **PASS, Conditionally.** If the result of either portion of the general examination is marginal, but not unsatisfactory, and the committee wishes the student to do further reading, investigations, etc., the committee can request to hold the result of the exam in abeyance. To request abeyance, the committee and graduate liaison will submit a petition to the Dean of the Graduate College, which identifies the required additional work and outlines a specific period to complete the extra work. Completion of the additional work should typically be limited to 2 months but no longer than one semester. At the end of the abeyance period, the committee must report its decision to the Graduate College on the *Authority Report Form for the General Examination* by indicating a "satisfactory" or "unsatisfactory" result for each portion. If the request for Abeyance is denied by the Dean of the Graduate College, the committee must report a result of "no pass" of the examination to the graduate college on the *Authority Report Form for the General Examination*.
- 3) **NO PASS.** The student has demonstrated multiple deficiencies and weaknesses and has not provided an acceptable research proposal. If this is the student's first time taking the general exam, then they will be allowed only ONE RETAKE, which must be completed within 6 months of the NO PASS result. For students with a second NO Pass result, they can elect to pursue an MS degree or must withdraw from the program.

Following voting, the student will be called back into the room, and the Doctoral Advisor will summarize the results of the Committee, including strengths, recommendations, conditions for passing, and deficiencies.