

SAMPLE INFORMATION ON COMPREHENSIVE EXAMS

FROM PHARMACEUTICAL SCIENCES:

The construction of the comprehensive exam

The major field written exam will consist of at least three, but no more than six, sets of two questions. The student must answer one question from each set. The minor exam, if within the School, will consist of two sets of two questions. The student must answer one question from each set. Two of the three sets of major concentration questions will be constructed by faculty from the subfield, and given to all Ph.D. students taking that exam in a given period. One set of the major subfield questions will be constructed by the Ph.D. exam committee. The minor questions are constructed by the subfield, and given to all Ph.D. students taking that minor subfield in a given exam period. The Ph.D. exam committee administers and evaluates both the oral and written exam.

4.3.4. The timing and execution of the comprehensive exam

The comprehensive exams can be taken either in the mid-to-late Fall or the Spring semester. The written exam takes place across a single week. The student receives the full exam prior to 9:00am on the Monday morning and is required to turn in their final answers by 3:00pm on the Friday afternoon. The written exam is “open-book” and “take-home.” The exam should begin no later than Spring Break. Both oral and written exams must be completed by March 31st (whether taken in the Fall or the Spring) to allow sufficient time to evaluate whether the student is making satisfactory progress.

4.3.5. The evaluation of the comprehensive exam

The comprehensive examination is considered to be a single examination, although it consists of written and oral parts. Because students are not permitted to undertake the oral examination until they have performed satisfactorily on the written examination, there shall be an initial evaluation of the written examinations followed by a final evaluation of the entire comprehensive examination. Once the committee are satisfied with the written portion of the exam they will schedule the oral part. This will ideally occur within two weeks of the submission of the eventually passing written exam. In the case of a failed first attempt at the written comprehensive examination, the exam committee may request a re-write of part or all of the exam. If the committee is satisfied with the re-write, they will proceed to scheduling the oral examination. If they are not satisfied with the re-write, then the student is judged to have failed the comprehensive exam and the faculty will proceed with removal of the candidate from the program. In the case of a failed oral examination, the exam committee will recommend one of the two following options:

- If the student is clearly so unqualified that the prospect of passing a second examination is remote, then the student may be advised not to undertake a second attempt. However, a student may repeat a failed examination one time if he or she chooses to do so.
 - If the student has a reasonable chance at succeeding in a later examination, then a reexamination will be recommended. In the case of a failed second attempt at the preliminary examination, the student is dismissed from the degree program. Students who fail the comprehensive examination (for the first time) will be ranked as lower priority funding. Upon successful re-take of the examination, the student may be considered as priority for funding. Students who successfully complete comprehensive examination in a timely manner will be given the highest consideration for funding.
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The student's Dissertation Committee is responsible for administering the oral examination. The student is responsible for scheduling the Oral examination through GradPath. No student will be allowed to officially schedule the oral exam unless the written exam has been passed, although a tentative date can be arranged at any time with the Dissertation Committee. The student is responsible for scheduling the room for the oral exam. The oral portion of the comprehensive exam generally will consist of two components: (1) a defense of an original research proposal and (2) questions concerning general knowledge within the field of Drug Discovery & Development. The defense of the research proposition will test the student's ability to generate original ideas and to defend the adequacy of the proposal for solving the problems addressed. It is expected that the student will demonstrate a reasonable knowledge of the literature and special techniques of the field. The general questioning portion may account for up to 50% of the oral examination. The general questions will primarily be derived from both the core and elective courses that the student has taken. Additional questions pertaining to the questions from the written portion of the exam may also be asked. The oral exam must last a minimum of 2 hours, but cannot exceed 3 hours. It is common for the student to give a 5- to 10-minute overview of the research proposal followed by questions from the committee centered about a defense of the research proposal (1 to 1.5 hours). The best way to study for the exam is (1) to know the proposal thoroughly, including all related topics, (2) to review all class notes and lecture material from all classes taken as a graduate student up to that point, especially the core course material, and (3) to be familiar with the recent literature (particularly in the fields represented by the committee members). It is important to plan your studying so that you do not get "burned out" before the exam. Know what material you want to cover and then systematically go through it. It is an excellent idea to have at least one "practice oral exam" with other graduate students and postdoctoral associates about two weeks before the scheduled exam. This can be very helpful in identifying weaknesses and will give students practice thinking on their feet.

... Students who fail a second attempt of the oral comprehensive examination are automatically dismissed from the Ph.D. Program. It is possible, with a recommendation from the comprehensive examination committee, to convert the student to the M.S. Program. The student will be required to complete an M.S. thesis. See Section 7.0, of this handbook for M.S. degree requirements.

FROM BIOMEDICAL ENGINEERING GIDP:

If a student does not pass the first attempt at the written portion of the examination, the examining committee may recommend that one second examination be allowed. The second examination, if approved, must take place at least three months from the first attempt, and no later than the following semester, not including summer sessions. A second attempt to pass the Oral Comprehensive Examination will be allowed upon the recommendation of the examining committee at a date agreed upon by the committee, Program Chair, and student. If a reexamination is recommended, the committee members must be the same as those present at the first examination. If changes are made in the composition of the examination committee, the Dean of the Graduate College and BME GIDP program chair must approve them prior to the examination. The

second examination, if approved, must take place no later than the following semester, not including summer sessions.

It is the responsibility of the student to:

1. Select your Comprehensive Examination committee in consultation with your mentor. The committee must consist of at least five faculty members, three of which must be BME GIDP faculty. See current Graduate College requirements for tenure/tenure eligible status requirements for examination committee members. Each member should be able to supply at least one question from a core BME course area to cover the five core courses as well as the student's chosen area of specialty for a total of 6 questions. Each member will grade the question(s) they pose to the student.
2. Submit the names of the proposed Comprehensive Examination Committee members to the Program Subcommittee (via the BME Program Coordinator) for approval, along with the plan of study.
3. Provide your committee with your plan of study, including all of the courses that will be used to fulfill your degree requirements;
4. Meet with committee members and select a committee chair. This chairperson may not be the student's advisor (see following paragraph).
5. Submit the "Comprehensive Exam Committee Appointment" form via the Grad Path system prior to your written comprehensive exam
6. Students are encouraged to meet with the examination committee frequently and to discuss the possible scope of questions with them before the examination.

The student chooses whether to have a face-to-face group meeting with all committee members or an email meeting. If the student feels more comfortable with an actual meeting, or has some faculty that are new to BME comps, then meeting everyone at once may be beneficial. Aim to have as many committee members attend as possible, and submit minutes of this meeting to the Program Coordinator. If the student chooses to have an email meeting, once all details are decided, the student will summarize these, in one email, and send to all committee members, as well as the Program Coordinator. These will serve as the minutes.

Proposed examination questions and brief outlines of solutions (on separate pages) must be submitted to the BME Program Coordinator at least 2 weeks prior to the examination. The committee chair is responsible for distributing the questions to the student, and returning copies of the completed examination to the student and the other members of the Examination Committee. During the oral examination, the Chair of the Comprehensive Examination Committee determines the agenda and directs the questioning.

Content and Grading of the Written Portion of the Comprehensive Examination

The written examination will be six hours in length (2 sessions of 3 hours each, on 2 consecutive days) and will be based on materials covered in courses in the student's plan of study, primarily core course work. Six questions will be posed by the examiners; 1 day will consist of 3 life science questions, and the other day 3 engineering questions.

Use of a cell phone during the written examination is prohibited. A copy of each question and a brief outline of the solution, each on separate pages, will be submitted to the BME Program Coordinator for review 2 weeks prior to the examination. The student will be required to submit answers to 4 of the 6 questions. The two unanswered questions will be the first questions presented during the Oral Examination. Students are encouraged to meet with the examination committee frequently while preparing for the examination, and to discuss the possible scope of questions with them prior to the examination.

Each of the students' written examination answers will be evaluated by the committee member who wrote the question. The examination committee shall determine whether the student has passed the examination. Each of the questions will be graded on a 100 point scale. A score of less than 60/100 is a "fail". The student cannot fail more than one out of the four answered questions, and the average of all four of the answered questions must be 70 or higher (a sum of 280 points out of 400 total). The student's answers, with written comments, should be returned to the student within 3 business days after the student completes the examination. A copy of the student's answers to all questions should be given to each examination committee member, and a copy kept by the BME Program Coordinator in the student's file. If a student fails the examination, the examination committee will advise the student on his/her deficiencies, and the written examination must be taken during the following semester for a second and final time. The second written examination attempt must take place at least 3 months after the first attempt. As of 2014, the BME GIDP has a new policy for viewing graded written comp exams: the student must be in the presence of the BME Program Coordinator (BME GIDP Office located in Keating 103), **OR** can be viewed in the presence of a BME GIDP faculty (Mentor or Chair of Comp Committee) – appointment must be made prior to viewing.

FROM STATISTICS GIDP:

The Comprehensive Examination Committee bears the responsibility for setting the written portion of the qualifying exam. The format and the timing for the exam is flexible and left to the discretion of this Committee with the goal to structure the exam in the best interests of advancing the preparation of the candidate. The typical format for the written portion of the examination is a series of technical and conceptual questions put forth by the committee concerning the student's expected dissertation research. A variety of formats are acceptable and not limited to the following suggestions.

- A series of written questions prepared by the Committee under a specified schedule.
- A review paper based on a specific set of background documents set by the Committee and related to the candidate's research topic.
- A literature review of the dissertation topic with an analysis of the shortcoming of previous research as they apply to the candidate's research topic.
- A dissertation proposal with preliminary analysis.

The written portion of the exam will be graded by the examining committee and results transmitted to the student within 14 calendar days of receipt of the student's answers. A student who fails her/his written portion may sit for a second attempt; an entirely new set of questions may be drawn up and graded by the committee. This second sitting must be scheduled within 90 days of the original sitting. Failure on a second written portion will lead to a student's dismissal from the Program.