

## UM/UT Joint Program in Biomedical Engineering Level A Exam: Guidelines

### 1. Schedule and Content

This 4 hour written exam, to be held on the UM Campus (**ET 302**), will cover the areas of life science, mathematics, and instrumentation. There will also be a general biomedical engineering question incorporating various aspects of these three areas. Students taking the exam must address each of these four sections; that is, a passing grade on the Level A exam cannot be earned if the student does not attempt to answer a question in each section. Because copies of your work are distributed to members of the exam committee for grading, please make every effort to write as clearly as possible so that the photocopies will be completely legible. Answers that cannot be read cannot be graded. Students will be allowed to bring the following material to this part of the exam: one (1) textbook covering measurements and instrumentation; one (1) textbook covering mathematics; one (1) textbook covering life sciences; and two (2) textbooks covering general BME material. In addition, students can bring all of their lecture notes from their classes to the exam. A calculator is allowed.

In this 2 hour exam all students will read, summarize, and critically evaluate a journal article from the BME literature. Students will be given access to the computers on the UM campus (**ET 312**) in order to prepare their written critique and print it out on the laser printer. Students should briefly summarize the objectives of the research, evaluate the content of the paper, present criticisms and/or praise for the methodologies, judge whether the data support the authors' conclusion, etc. These critiques are typically 2 to 4 pages long (double-spaced). No textbooks or class notes are allowed for this portion of the exam.

Oral presentations begin on the UM campus in **ET 330**. Students will present a portion of proposed or completed research and are allotted a total of 25 minutes for this part of the exam, including time devoted to questions by the committee. The remaining 25 to 30 minutes is used by the committee to follow up on the student's performance on the written portions of the exam, including the critique, as well as evaluate their general BME knowledge. Oral presentations will last no more than 55 minutes and this guideline will be strictly enforced.

**NOTE:** *Only students taking the Level A exam at the PhD level give oral presentations.*

## **2. Joint Program Policy**

As outlined in the proposal approved by THEC in July 1996, and refined over the past decade, students pursuing their project MS degree or PhD degree within the Joint Program must pass the Level A exam, as judged by the faculty. The responsibility for evaluating student performance on the Level A exam has been delegated by the Joint faculty to the exam committee. The requirements for a passing grade for MS and PhD students differ, as described below:

**Project MS Students:** A passing grade will not be given unless at least three of the four sections of the written exam are completed in a satisfactory manner. A failing grade will be given for an unsatisfactory performance on two or more sections of the written exam. A satisfactory performance on the written critique is required.

**PhD Students:** A passing grade will only be given for the satisfactory completion of all four sections of the written exam and a satisfactory performance on the written critique. Students are allowed a maximum of two (2) opportunities to satisfactorily complete the Level A exam. Failure to pass the exam after two attempts will result in dismissal of the student from the program for the degree being sought.