

Biomedical Engineering Directed Research Guidelines

BIOMED E 590

(1) Project Selection: Whereas a student goes to a particular faculty member presumably to learn more about the faculty member's area of research interest, generally it will be the faculty member who presents the student with a choice of possible research projects rather than the other way around. In certain cases the student may suggest possible projects that may be acceptable to the project director.

Projects may consist of one or more of the following: (i) an in-depth library search of an area, (ii) the design and/or construction of hardware, (iii) the collection and/or analysis of experimental data, (iv) the generation of computer software.

The project should require some creativity and/or independent work by the student. The faculty member should not expect the student to be a free helper and consequently the project should not require excessive menial work.

(2) Academic Credit: Once a project has been agreed upon, the faculty member and student should establish the credit to be received. Typically, three to four hours per week of actual "work" time is expected for each credit hour given in a normal term. In a half-term, this should be doubled. The "work" time should include the library-search time, the laboratory time, and the final report writing time.

Typically, a directed research project is for two (2) credit hours per term. The student may elect up to four (4) additional hours of directed research as a continuation of the two (2) hour core requirement for the M.S. degree. These additional hours may be applied towards meeting the eight (8) hours graduate engineering credit requirement. No more than six (6) hours of directed research may be applied toward the M.S. degree. If (4) four or more hours of directed research are applied toward the masters degree, a M.S. thesis is required. All directed research credit is to be granted under BIOMED E 590.

(3) Final Report: A final report must be written by the student to complete the project. The student's report should be a minimum of two typewritten pages explaining the project and what was accomplished. All circuit diagrams, final software, and a list of references should be included with the report. This report will become a part of the student's file. In addition a third page will be added by the project director.

The standard report form in Appendix A is to be used to provide uniformity.

(4) Course Grade: Grades of S and U are only to be given for directed research. Since the written report will become a part of the student's file for future reference and will require specific comments by the project director, a letter grade, if deemed necessary, may be indicated on the written report only.

(5) Report Form Access: The information contained in the written report is intended for use by: (1) members of the Biomedical Engineering faculty who want information about a students research experience and ability; (2) the Graduate Education Committee for student evaluation; and (3) faculty members asked to write letters of recommendation for students. The student will receive a copy of this report.

(6) Financial Remuneration: Directed research credit will not ordinarily be given for work done for financial remuneration.

(7) Non-Faculty and Non- Biomedical Engineering Faculty Project Director: Students may wish to work with project directors who do not hold a faculty appointment (e.g., research associates and research scientists) or with a non-Biomedical Engineering faculty member. In order for proper credit to be given, however, the student must present the Graduate Education Committee with a petition (see Appendix B for suggested format) detailing the project to be done and with whom it is to be done. In order for Rackham to accept a grade, a faculty member must sign a grade sheet. Thus, the petition also must include the name of a Biomedical Engineering faculty member who will serve as surrogate and sign the student's grade sheet. It is expected that the faculty member will read the project report and receive from the project director a verbal recommendation before a grade of S or U is given.

(8) The final report must be returned to Maria Steele (1113 Carl A. Gerstacker) upon completion of the project. A student will not be granted a Master's degree without a copy of the report in said student's file.