

Course Title:
BME 488 Biomedical Engineering Internship

Course Description:

Participation in off-campus biomedical engineering practice. Students are required to submit a proposal to the undergraduate program director at the time of registration that includes the location, immediate supervisor, nature of the project, and hours per week for the project. One mid-semester report and one end of semester report are required. May be repeated up to a limit of 12 credits.

Prerequisite: BME 212 and permission of undergraduate program director.

3-6 credits, S/U grading; 3 credits equals 9 hours of onsite work.

Specific Information:

ABET (BME) Program Outcomes

(d) an ability to function on multi-disciplinary teams

(g) an ability to communicate effectively

(h) the broad education necessary to understand the impact of biomedical engineering solutions in a global, economic, environmental, and societal context

(k) an ability to use the techniques, skills, and modern engineering tools necessary for addressing the problems associated with the interaction between living and/or non-living materials and systems

Outcome Measures:

Proposal

This brief report will contain the location, immediate supervisor, nature of the project, and hours per week for the project. The nature of the project may range from laboratory maintenance (i.e., equipment maintenance and calibration) to participation in engineering design, to project management or marketing. The report must be signed by the immediate supervisor and then approved by the undergraduate program director within 2 weeks of the start of the semester. This begins to address (g), but more importantly provides information for determining the appropriateness of the Internship.

Mid-term report

This report will be 5-7 pages in length, double spaced. It will include a description of the organizational structure of the team including the area of expertise of each team member (d), a description of the techniques, skills and tools the student is using (k), a description of the impact of this industry on specific biomedical engineering problems (h), and a short description of the actual project geared to a scientific audience (g). This report must be signed by the immediate supervisor and will be due to the undergraduate program director by October 15 for the Fall Semester, and by April 15 for the Spring Semester.

End of semester report

This report will be 5-7 pages in length, double spaced. It will include a detailed description of the project, including a background introduction to the problem (h), methodology or approach taken (k), the progress the student made independently and the progress of the total project (d,k), and a final summary statement of the student's perceived experience. Together, this report will also

address (g). This report must be signed by the immediate supervisor and will be due to the undergraduate program director by the last day of regular classes.

The undergraduate program director will grade the reports based on how well the reports meet the Program Outcomes. For each item, the instructor will assign a numerical score of 1 through 5 where 1 is unsatisfactory, 3 is satisfactory and 5 is excellent. A total of 40 points are possible for these items.

Letter from immediate supervisor

At the end of the semester, the immediate supervisor for the industry internship will write a letter evaluating the ability of the student to use techniques, skills and tools for the project (k), to function on a team (d), to communicate effectively (g), and to understand the broad impact of this project (h). Both a numerical score of 1 to 5 and comments by the supervisor will be expected. A score of 1 is unsatisfactory, 3 is satisfactory and 5 is excellent. A total of 20 points are possible for these items. The letter will include the overall performance of the student and whether the supervisor would hire a student with these skills and performance history. This letter will be due to the undergraduate program director by the last day of regular classes.

Grading:

S/U. Failure to submit the reports and/or final letter will result in assignment of and I, incomplete, grade. A total of 60 points are possible for this course. A grade of S will be given by the undergraduate program director for a total score of 30 or greater and a grade of U will be assigned for total scores of less than 30.