

All BME 499 credits taken with a Non-BME faculty member must be approved by the Undergraduate Program Director, Dr. Frame. To get this approval:

1. The BME undergraduate student must find a suitable laboratory and faculty mentor.
2. The BME undergraduate student must write a paragraph describing the project. That paragraph is emailed to Dr. Frame (mframe@notes.cc.sunysb.edu), Jessica Kuhn (UG Program Coordinator, Jessica.Kuhn@stonybrook.edu) and the lab mentor. The lab mentor must confirm by email to Dr. Frame that they agree to this project.
3. Dr. Frame will evaluate the engineering content of the project; this is necessary for ABET. If sufficient, permission will be given.
4. The lab mentor must agree to the BME 499 grading policy, per the BME 499 syllabus below, and must tell Dr. Frame how many credits to assign to the student.
5. Jessica Kuhn then permits the BME student to enroll in BME 499 with Dr. Frame (Instructor McMahon).
6. At the end of the semester, the lab mentor assigns a grade for the student, informing Dr. Frame by email.
7. Note that part of the grade is a mandatory paper. This is NOT necessarily a scientific paper because it includes the student's perceived experiences (see below). That paper must be emailed to Jessica Kuhn and Dr. Frame by the last day of regular classes. Failure to submit this paper will result in an Incomplete grade.
8. After Dr. Frame gets the grade and the paper, the grade is entered to SOLAR.

Course Title: BME 499 Independent Research

Course Description: An independent research project with faculty supervision.

Prerequisites: B average in all science courses; permission of instructor and department.

0-3 credits. [1 credit hour per 3 hours in the lab.]

Specific Information:

ABET (BME) Program Outcomes

(a) an ability to apply knowledge of advanced mathematics, science, biology, physiology, biotechnology, and engineering

(b) an ability to design and conduct experiments from living and non-living systems, as well as to analyze and interpret data

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

Outcome Measures:

Laboratory Notebook. Each student must maintain a laboratory notebook that follows the standards for that laboratory. With Research Supervisor approval, that book may be copied by

the student, however, the book is retained by the laboratory. This addresses (a) and (b). Item (d) will be addressed by overall laboratory performance.

End of semester report. This report will be 5 pages in length for each credit hour enrolled. The end of semester report will include a detailed description of the project, including an summary, background introduction to the problem, methodology or approach taken (a,b), the progress the student made independently and the progress of the total project (d), and a final summary statement of the student's perceived experience. This report will be due by the last day of regular classes, otherwise a grade of I, incomplete, will be assigned. A copy of this report will be sent to the undergraduate program director. Note that this report is not intended to be a finished summary of the science, but instead a documentation of work done in the lab and research experience gained by the student.

Grading. At the end of the semester, the faculty supervisor for the independent research will grade both the laboratory notebook and laboratory performance, and the written report based on how well these measures meet the Program Outcomes. For each item, the instructor will assign a numerical score of 1 through 10 where 1 is unsatisfactory, 5 is satisfactory and 10 is excellent. Thus a total of 30 points are possible. The grading cut off will be $\geq 25 = A$; $15 = C$; $< 10 = D$; instructor discretion will be used to assign B+, B, B-, C+ grades.