

BME 399 and 499 Guidelines for Students

Last update: October, 2023

BME 399 vs BME 499: BME 399 projects are only graded P/N (pass/no-pass). A student's first research experience in a new lab should be taken as a BME 399. Subsequent research in the same lab may be taken as a BME 499 and will be numerically grade-bearing with more rigorous requirements. The department does not permit BME 399 to be counted as a technical elective.

1. **Project Scope.** Have a conversation with your potential research advisor to determine whether she thinks the work you will be doing is sufficient to qualify for research credit. Something like washing glassware for a molecular biology lab or doing very repetitive biomechanical measurements that don't require any thinking, cannot count as research credit. The work should involve some thought and creativity.
2. **Time Expectations.** You should expect to commit 10–12 hours per week (equivalent to what you would be spending on other full-credit Engineering Classes) to your research. Specific expectations, such as any fixed hours, should be discussed with your advisor.
3. **Grading Criteria.** If your proposed research advisor agrees that the work should qualify for research credit, then you and your advisor together should come up with grading criteria, so that you can easily (and fairly) be given a grade at the end of the term. Come up with a list something like:
 - a. If (your name) finishes goals X, Y, and Z, she gets a grade of an A.
 - b. If (your name) finishes goals X, Y, and part of Z, she gets a grade of an A minus
 - c. If (your name) finishes goals X, Y, she gets a grade of a B, etc...
4. **Report Required.** Students must submit a written report (or, if the project is programming, a big piece of well-commented code) at the end of the project. The format and length should be discussed with your research advisor.
5. **Logistics.** To sign up for a BME 399 or BME 499, email jaimie.harris@northwestern.edu in the BME department office (E310). In your email, you will request a permission number for BME 399 or 499; you must copy your research advisor on that message. If your proposed research advisor is a BME faculty member, you will receive a permission number to sign up for a BME 399/499 with that faculty member. If your proposed research advisor is not a BME faculty member, you have two options*: 1) sign up for 399/499 credit within the research advisor's department or 2) sign up for a BME 399/499 under Prof. O'Neill. If you follow path 2, see the additional info below.
*If you plan to do research for BME Honors, you should sign up for a BME 399/499, even if your research is with a faculty member who is not within the BME Department.

BME 399/499 under the research supervision of a non-BME faculty member.
Before undertaking this, you should do the following:

1. Let your academic advisor know that you will be doing BME 399/499 research with your proposed research advisor.
2. Request a permission number for BME 399/499 under Prof. David O'Neill from the departmental program assistant (Jaime Harris, jaime.harris@northwestern.edu). On this message, you need to copy your research advisor, your academic advisor, and Prof. O'Neill.
3. Connect your research advisor and Prof. O'Neill via an email message. Include something to the effect of:

I will be doing such-and-such research in the lab of Prof. X in the Fall of 2020. Because Prof. X is outside the BME department (ex: in the Feinberg School of Medicine), I have signed up for a BME 399/499 under Prof. O'Neill. I understand that Prof. O'Neill will be communicating with Prof. X about my progress and about my grade, so I just wanted to connect the two of you by email.

4. Make sure that your research advisor sends Prof. O'Neill your grade sometime during finals week. This is your responsibility. Don't make Prof. O'Neill chase down your grade.