

Mechanical Engineering Expectations for Capstone Projects

These are the expectations of the ME faculty for all mechanical engineering students.

Mechanical engineering students may take the two-semester ME capstone sequence (ME481/482 soon to be renumbered ME483/484) or the Multi-disciplinary capstone sequence (EGR483/484). By definition, if ME students choose to work with non-ME engineering or computer science students, then they should enroll in EGR483/484, otherwise, they should enroll in the ME sequence. Regardless, the project expectations remain the same:

- The capstone sequence should consist of one single project that spans the two semesters.
- Teams of three or four students are generally the ideal; however smaller or larger teams are permitted based on the projects scope.
- Students can benefit greatly by designing, building and testing. However, construction is not required. “Paper” designs are permitted, but the design work needs to be more detailed. Some form of “concept” or “prototype” testing is required first semester in ME481 – details will vary from project to project.
- Some funds (typically a few hundred dollars) will be provided to all teams in need, but beyond that, students are responsible for funding their project. Before fund raising, students MUST talk to the faculty instructor for protocol and advice. Some funds are also available through the School, especially for competitions or “entrepreneurial” projects.
- Each mechanical engineering student’s work shall involve the design process to solve mechanical engineering problems. Research, testing and analysis are design tools, but by themselves they do not constitute design. “Testing-based” projects that require designing of test fixtures and test procedures may be suitable. Mechanical engineering faculty will evaluate projects on a case-by-case basis to ensure there is sufficient design work.
- As part of *EGR300-Introduction to Capstone Project* students are to submit a capstone project plan. This assignment should be taken seriously by ME students as the ME faculty will use these plans to help determine projects and teams for the upcoming year. Ultimately, the Mechanical Engineering faculty will determine team composition (who’s on what team) and what the projects will be. There may be some re-assignments of individuals and/or projects that occur in the summer between junior and senior year. Students will be contacted via email of changes – so all students should regularly check their UP email during the summer.
- Regarding MECOP students: due to the internship requirements of MECOP, MECOP students will take both of their capstone courses in the spring semesters, and therefore, they will be out of sequence with other students. It is *strongly* advised that in EGR300 all MECOP students work together to define one or more teams (depending upon how many MECOP students there are). These teams may be purely ME students, or they may be multidisciplinary teams (CS and EE students may also be participating in MECOP), but they should be composed only of MECOP students. If there is only a single ME in MECOP, then the faculty and that student will need to discuss options.