

## Department of Industrial Engineering

**Senior Design Capstone Course Requirements** - For students completing their senior design capstone requirement in courses other than IE 1090 Senior Projects

### Requirements:

1. The project must be done as part of a minimum 3 credit course housed within the Swanson School of Engineering or as part of an approved study abroad program. Students should note that IE 1090 is a 4 credit course and a minimum of 126 credits is required to graduate with your BSIE.
2. The project should include analytical investigation (both quantitative and qualitative) techniques. The project should involve solving a significant problem at a client site, product or process development for a societal need, or can be part of a research effort but *must contain significant design content* (thus it cannot be basic research).
3. The project must allow the student to apply specific industrial engineering skills learned in required courses in the BSIE curriculum.
4. The project must prepare the student for engineering practice by incorporating engineering standards and realistic constraints that include most of the following considerations: Economic, Sustainability, Ethical, Social, Environmental, Manufacturability, Health and Safety, Political. These factors should be addressed and documented (as appropriate) in any required project communication.
5. The project should be done with a team of students although exceptions can be made to this requirement.
6. The project must result in specific deliverables to a client or other project sponsor (may be a course instructor).
7. The project must require formal communication of results through both a written report as well as some type of presentation to stakeholders (formal presentation, poster, video, etc.)

### Process for Approval:

The student must submit a brief project description to the undergraduate coordinator who will then seek approval from the undergraduate committee. Once approved, the student may use the experience to satisfy the IE curriculum's senior design capstone course requirement (IE 1090). The project description must include:

- a. Details about the course in which the project is being done.
- b. A complete description of the project.
- c. Details describing the application of specific industrial engineering skills.
- d. Expected project deliverables.
- e. Details regarding formal reports, presentations, or other requirements for communicating the project results.