Industrial and Systems Engineering
Undergraduate Manufacturing Track

Full completion of the Manufacturing Track requires the following ISE & Non-ISE coursework:

As part of the Core Courses required of all ISE undergraduates, students must complete the following courses relevant to this track (as well as all other ISE Core Courses):

- ISE 2400 (Design of Work)
- ISE 2500 (Introduction to Manufacturing Engineering)
- ISE 3400 (Production Planning & Facilities Planning)
- ISE 3600 (Workplace Ergonomics)
- ISE 4120 (Quality and Reliability Engineering)
- ME 2040 (Statics and Introduction to Mechanics of Materials)

Specific Manufacturing Track Coursework:

Students must complete both of the following Manufacturing courses for a total of 6 hours:

- ISE 3500 (Process Engineering for Machining Operations) (3) (offered Au&SP)
- ISE 5682 (Fundamentals of Product Design Engineering) (3) (offered Au&SP)

Students must pick 1 of the following 3-credit hour Manufacturing courses, or two 1.5-credit hour Manufacturing courses:

- ISE 5463 (Manufacturing of Energy Systems) (3) (ask ISE Advisor)
- ISE 5530 (Tool Engineering) (3) (ask ISE Advisor)
- ISE 5501 (Fundamentals of Solid State Processing) (3) (offered SP odd years)
- ISE 5502 (Molten Metal Processing) (3) (ask ISE Advisor)
- ISE 5540 (Polymer Processing Fundamentals) (3) (offered SP)
- ISE XXXX (Industrial Automation) (1.5) (7 wks, session 1) (SP’16) (Ask Advisor for course number)
- ISE XXXX (Forming) (1.5) (7 wks, session 2) (SP’16) (Ask Advisor for course number)

A total of 15 hours of technical electives are required for the ISE Degree. After completing 9 hours from the above lists, students may complete the remaining 6 hours a number of ways. These 6 hours can be fulfilled with ISE technical electives in the student’s current track of choice, or from any of the other ISE tracks (excluding Supply Chain & Logistics or Data Analytics). Additionally, these 6 hours can be fulfilled using the approved list of “outside” electives offered toward the back of this packet. ISE 5460 Occupational Safety: Analysis and Design of Work Environments and ISE 5810 Integrated Lean Sigma Foundations are two other courses on the list of approved technical electives that are particularly relevant to students interested in the Manufacturing track.