

UPPER DIVISION HONORS REQUIREMENTS

MECHANICAL ENGINEERING

The Department of Mechanical Engineering requires honors students to complete four courses for a total of 16 credit hours. These four courses are integrated into the requirements for the bachelor's degree and do not increase the total number of hours beyond the regular curriculum. The objective of the upper division requirements is to expose the student to an advanced level and broader base of engineering design and problem solving. The one course at the junior level is a contract course and introduces problem solving in a more realistic setting than most design problems at this level. The student must accommodate the myriad of constraints encountered by projects in industry. The two courses at the graduate level introduce the student to advanced design and analysis methods. The final course is the honors thesis and exposes the student to the process of research, analysis, and documentation so crucial to future success in all career fields. Each of these courses are four credit hours.

1. One (1) junior level honors contract course chosen from:
 - MCE 305HC Honors Kinematics & Dynamics of Machines.
 - MCE 324HC Honors Introduction to Heat Transfer.
 - MCE 367HC Honors Machine Design I.
 - MCE 371HC Honors Vibrations.
2. Two (2) graduate level courses chosen from:
 - MCE 521 Applied Thermodynamics.
 - MCE 541 Introduction to Linear Controls.
 - MCE 5XX (Any departmental 500 level course will also substitute for a senior technical elective).
3. One (1) honors thesis course:
 - MCE 499H Honors Thesis (This course substitutes for the second senior technical elective).

All engineering honors students are also required to take MTH 281 Multivariable Calculus. in place of MTH 283. Honors students will be graded in the graduate courses according to graduate level standards and on the graduate grading scale (no "D" grade). Honors students are encouraged to enroll in the M.E. 4+1 accelerated masters program during their junior year. In this program, the graduate coursework will apply towards the student's undergraduate degree as well as the masters degree. Note however, while grades of "C" in graduate coursework will apply towards the undergraduate degree, they will not be accepted for graduate credit in the 4+1 program.