100 Introduction to Engineering Design
Fall, Spring. 2(1-2) P: (MTH 116 or concurrently) or (MTH 152H or concurrently) or (MTH 132 or concurrently) or (MTH 128H or concurrently) R: Open to freshmen or sophomores in the College of Engineering and open to students in the Lyman Briggs School.

Engineering design process as modeled by team-based, interdisciplinary design projects. Roles of engineers and the contributions of engineering in society. Project management, and design of products and processes to specified outcomes under specified constraints. Introduction to computing tools and physical equipment in support of engineering design. Engineering ethics.

102 Introduction to Engineering Modeling
Fall, Spring. 2(1-3) P: (EGR 100 or concurrently) and (MTH 132 or concurrently) or (MTH 152H or concurrently) or (MTH 130H or concurrently) R: Open to students in the College of Engineering or in the Lyman Briggs School. Not open to students with credit in CSE 131.

Application of systematic approaches to engineering problems. Problem decomposition and identification of a solution approach. Solution using tools such as advanced spreadsheet features and MATLAB. Data representation, curve fitting and analysis. Mathematical modeling of engineering systems. Application of principles through team-based engineering projects.

110 ROSES Engineering Seminar
Fall. 1(2-0) R: Open to freshmen in Residential Option for Science and Engineering. Seminar for ROSES students. Transition issues, success issues, and the exploration of engineering as a major and profession.

150 Engineers and the Engineering Profession
Spring. 2(2-0) P: (MTH 116 or concurrently) or (MTH 132 or concurrently) or (MTH 128H or concurrently) or (LB 118 or concurrently) R: Open to freshmen or sophomores.


160 Diversity and Engineering
Fall, Spring. 2(2-0) P: (MTH 116 or concurrently) or (MTH 132 or concurrently) or (MTH 128H or concurrently) R: Open to freshmen or sophomores in the College of Engineering.


192 Environmental Issues Seminar
Fall, Spring. 1 credit. A student may earn a maximum of 4 credits in all enrollments for this course. Interdepartmental with Agriculture and Natural Resources and Communication Arts and Sciences and Natural Science and Social Science. Administered by Natural Science. R: Open only to students in the College of Agriculture and Natural Resources or College of Engineering or College of Natural Science or College of Communication Arts and Sciences or College of Social Science. Approval of college.

Environmental issues and problems explored from a variety of perspectives, including legal, scientific, historical, political, socio-economic, and technical points of view.

200 Independent Study
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to students in the College of Engineering, approval of college.

Independent undergraduate research in engineering.

201 Selected Topics
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to freshmen or sophomores.

Experimental course development or special topics appropriate for freshmen and sophomores.

290 Independent Study (W)
Fall, Spring. 1(1-0) A student may earn a maximum of 4 credits in all enrollments for this course. R: Open only to freshmen or sophomores in the College of Engineering. Approval of college.

Individualized reading, research, and/or project.

410 System Methodology
Spring. 2(1-3) P: (EGR 300 and STT 351) and ((ECE 201 or concurrently) or (ECE 230 or concurrently) or (ECE 345 or concurrently) and (ME 222 or concurrently) and completion of Tier I writing requirement) R: Open to students in the Applied Engineering Sciences major. SA: EGR 200, MSM 300, SY 410

System analysis and design. Needs analysis, system identification, and graphical models. Team project required.

475 Special Topics in International Engineering
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to juniors or seniors or graduate students in the College of Engineering.

Topics selected to supplement regular courses. Given at various international universities and institutes.

490 Independent Study (W)
Fall, Spring. 1 to 4 credits. R: Open only to juniors or seniors or graduate students in the College of Engineering. Approval of college.

Individualized reading, research, and/or project.