ENGINEERING EGR

College of Engineering

1255. *Orientation to Engineering Careers*

Winter. 2(2-0) Credits earned in this course are included in computation of GPA and MAPS but are not included in the 180 credits required for graduation.

Engineering careers, history and philosophy of engineering profession, present and future challenges, industrial job functions, employment trends.

160. *Engineering Communications*

Fall, Winter, Spring. 4(3-4) MTH 108 or MTH 111 or concurrently.

Engineering graphics, descriptive geometry, freehand sketching, graphical, numerical and computer problem solutions. Written technical reports and oral technical presentations.

161. *Mechanical Drawing*

Fall, Winter, Spring. 2(1-3)

Sketching and instrument drawing. Theory of orthographic projection: multiviews, pictorials, sections, dimensioning. Pattern, assembly and production drawing.

162. *Mechanical Drawing*

Fall, Winter, Spring. 2(0-4) EGR 160 or EGR 161.

Continuation of EGR 161 with emphasis on freehand lettering and sketching, advanced working drawings.

200. *Technology, Society and Public Policy*

Winter. 3(3-0) Twelve credits from natural science or engineering. Interdepartmental with the Department of Natural Science.

Description and analysis of certain current technologies and their consequences; exploration of avenues for assessing such consequences as an aid to formulation of public policy.

201. *Introduction to Engineering Mechanics*

Winter. 4(4-0) PHY 237. Interdepartmental with and administered by the Department of Metallurgy, Mechanics and Materials Science.

Laws of mechanics governing the behavior of rigid and deformable bodies emphasizing how these laws influence engineering design. Extensive use of demonstrations.

267. *Architectural Drafting I*

Fall, Winter, Spring. 3(1-4) Students may not receive credit in both EGR 267 and EGR 365.

House contruction detailing. Analysis and drawing of typical standard details.

270. *Computer Graphics*

Spring. 3(3-0) EGR 160 or EGR 161; CPS 110 or CPS 120; or approval of department.

Use of computer controlled display systems for the solution of multidimensional problems.

300. *Technology and Utilization of Energy*

Winter. 3(3-0) Initial course in any sequence of courses in the Department of Natural Science. Interdepartmental with and administered by the Department of Mechanical Engineering.

Problems of energy technology and its impact: energy sources, conversions, waste and environmental effects, future outlook for mankind.

344. *Engineering Cooperative Education*

Fall, Winter, Spring, Summer. Zero credits. [3 credits-See page A-1, item 3.] *May reenroll for a maximum of six terms. Employment assignment approved by College of Engineering.*

Pre-professional employment in industry and government related to student's major.

364. *Architectural Drafting II*

Winter. 3(1-4) EGR 267 or approval of department.

Functional and standard procedure in the layout of floor plans in traditional and modern houses. Rendered plot plan and required details.

365. *House Planning*

Fall. 3(1-4) Students may not receive credit in both EGR 267 and EGR 365.

Elementary house architecture. Drawing plans from sketches. Kitchen planning, house styles, elements of design, financing, heating, lighting.

366. *Architectural Perspective Drawing*

Fall. 3(0-6) Any engineering graphics course.

One-point and two-point perspective, revolved plan and measuring line methods. Pencil rendering, problems in shade and shadows. House model to scale, optional.

390. *Value Engineering*

Fall, Winter, Spring. 4(4-0) MMM 280 or approval of department.

The basis of value engineering is function, value, and a group of special techniques developed to aid in isolating and identifying problems created by our complex society and technology.

401. *Engineering and Public Policy*

Spring. 3(3-0) Seniors or approval of department. Interdepartmental with the Department of Natural Science.

Sociotechnical assessment of impact of technology on society, with analysis of the role of engineering and natural science in contributing to public policy formulation.

410. *Systems Methodology*

Winter. 3(3-0) MTH 113, CPS 110 or CPS 120. Interdepartmental with and administered by Systems Science.

The systems approach in multidisciplinary large scale problem solving. The development of useful systems analysis tools; systems design; feasibility study; computer simulation for feasibility evaluation.

411. *Systems Project*

Spring. 2(3-0) SYS 410. Interdepartmental with and administered by Systems Science.

Completion of a system study initiated in SYS 410. The project may involve the design of hardware, simulation of a solution to an interdisciplinary problem, or development of a solution concept.

463. *Architectural Drafting III*

Spring. 3(1-4) EGR 364.

Traditional and modern elevations. One- and two-point rendered perspective. Functional plans drawn in EGR 364 required.

480. *Special Problems*

Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 8 credits. Approval of department.

ENGLISH ENG

College of Arts and Letters

091. *English for Foreign Students--Structures*

Fall, Winter, Spring, Summer. Zero credits. [3(5-0) See page A-1 item 3.] *English language proficiency examination.*

Explanation and intensive practice of basic grammatical structures of English. Students are tested and then placed in small groups, from beginning to advanced, depending on their need.

092. *English for Foreign Students--Speaking and Listening*

Fall, Winter, Spring, Summer. Zero credits. [3(5-0) See page A-1 item 3.] *English language proficiency examination.*

Intensive speaking and listening practice of spoken English in small groups (determined by proficiency). For beginners, practice is largely drill. Advanced groups use drill, films, discussion, and practical conversations.

093. *English for Foreign Students--Language Laboratory*

Fall, Winter, Spring, Summer. Zero credits. [3(5-0) See page A-1 item 3.] *English language proficiency examination.*

Language laboratory practice in small groups (determined by proficiency). Beginnings review and supplement ENG 091, ENG 092. Advanced groups use carefully prepared lectures, speeches, and presentations to practice structures and vocabulary.

094. *English for Foreign Students--Reading*

Fall, Winter, Spring, Summer. Zero credits. [3(5-0) See page A-1 item 3.] *English language proficiency examination.*

Intensive and extensive reading in small groups (determined by proficiency). Beginners emphasize vocabulary development and practice in basic structures. Advanced classes include reading skills, wider reading, and specialized vocabulary.

095. *English for Foreign Students--Writing*

Fall, Winter, Spring, Summer. Zero credits. [3(5-0) See page A-1 item 3.] *English language proficiency examination.*

Frequent controlled and free writing in small groups to reduce errors and practice using structures and vocabulary to express ideas. Advanced classes include writing styles used in academic course work.

101. *Responses Through Writing*

Fall. 4(4-0) Arts and Letters Freshmen only. Students must enroll in and complete ENG 102 satisfactorily to make a substitution for the American Thought and Language requirement.

A writing workshop that concentrates on the student's personal writing voice and on his responses to the things, people, and institutions central to his experience.

102. *Writing and Composing*

Winter. 5(5-0) ENG 101; Arts and Letters Freshmen only.

A continuation of ENG 101 that develops the emphases of ENG 101 and encourages students to write in more public and objective forms—narrative, critical analysis, and issue-oriented essays.