

431

PROPOSAL NUMBER: 99- 431

### CURRICULUM PROPOSAL FORM

**\*DEADLINES:**

REGULAR COURSE PROPOSALS: OCTOBER 23, 1998 FOR FALL, 1999 AND FEBRUARY 19, 1999 FOR SPRING, 2000  
SHORT-TERM COURSE PROPOSALS: DECEMBER 11, 1998 FOR FALL, 1999 AND MARCH 26, 1998 FOR SPRING 2000

PROPOSAL TITLE: Senior Engineering Clinic I (0901.401)

SPONSOR/S: John Schmalzel

DEPARTMENT: ENGINEERING Cycl. 401

CHECK ALL THAT APPLY:

UNDERGRADUATE  GRADUATE

COLLEGE: ENGINEERING

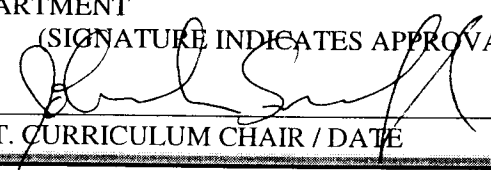
If LAS:  History/Humanities  
 Math/Sciences  
 Social/Behavioral Sciences

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TYPE OF PROPOSAL (Check ALL that Apply)

<input type="checkbox"/> General Education	<input checked="" type="checkbox"/> New Course (NOT Gen. Ed.)
<input type="checkbox"/> New Course in _____ Bank	<input type="checkbox"/> Name Change (Dept., School, Major)
<input type="checkbox"/> Existing course, Add To _____ Bank	<input type="checkbox"/> Changes in Degree Requirements
<input type="checkbox"/> Multicultural/Global Designation	<input type="checkbox"/> Changes Involve Gen. Ed. requirements
<input type="checkbox"/> Writing Intensive Designation	<input type="checkbox"/> Minor Changes to Existing Courses
<input type="checkbox"/> New Minor/Concentration/Specialization	<input type="checkbox"/> Course is NOT General Education
<input type="checkbox"/> New Major/Degree Program	<input type="checkbox"/> Course IS General Education
<input type="checkbox"/> Short Term Course Proposal	

DEPARTMENT (SIGNATURE INDICATES APPROVAL)

 Rajeev Kumar

DEPT. CURRICULUM CHAIR / DATE \_\_\_\_\_ DEPT. CHAIRPERSON / DATE \_\_\_\_\_

COLLEGE CURRICULUM COMMITTEE

DATE OF OPEN HEARING (if necessary) \_\_\_\_\_

APPROVED

----- NOT APPROVED

Comments:

Robert R. Hebert 2/19/99

SIGNATURE DATE

ACADEMIC DEAN (& GRADUATE DEAN, for New Graduate Programs Only)

APPROVED

----- NOT APPROVED

Comments:

[Signature] 10/23/98

SIGNATURE (Academic Dean) DATE

SIGNATURE (Graduate Dean) DATE

UNIVERSITY CURRICULUM COMMITTEE

DATE OF OPEN HEARING (if necessary) 2/9/99 (Comp. Level only)

APPROVED

NOT APPROVED

Comments:

Annexed Dec 2000 3/4/99

SIGNATURE DATE

SENATE

Date announced at Senate 2/25/99

Voted upon at Senate: \_\_\_\_\_ Approved \_\_\_\_\_ Not Approved \_\_\_\_\_ Date: \_\_\_\_\_

EXECUTIVE VICE PRESIDENT/PROVOST

APPROVED

NOT APPROVED If no, reasons are as follows:

STUDENT CREDIT HOURS \_\_\_\_\_ FACULTY LOAD HOURS \_\_\_\_\_ EQUALIZED CREDIT HOURS \_\_\_\_\_

OFFICIAL COPY & APPROVAL SHEET FILED (DATE): \_\_\_\_\_

DATE/SIGNATURE EXECUTIVE VICE PRESIDENT/PROVOST [Signature]

REGISTRAR

DATE APPROVED COURSE DESCRIPTION RECEIVED \_\_\_\_\_

HEGIS TAXONOMY & COURSE NUMBER ASSIGNED 070141

DATE/SIGNATURE OF REGISTRAR Robert C. Kelot 3/25/99

NOTIFICATION FORWARD:

SENATE CURRICULUM COMMITTEE CHAIRPERSON

DEPARTMENT CHAIRPERSONS

ACADEMIC DEAN(S)

REGISTRAR

SPONSOR(S)

TMM 3/31/99

## Course Proposal

### 1. Details:

a) Course Title:	Senior Engineering Clinic I (0901 401)
b) Sponsor:	College of Engineering: Chemical, Civil, Electrical, and Mechanical Engineering
c) Credit Hours:	2 credit hours
d) Course Level:	Senior
e) Prerequisites:	Junior Engineering Clinic II (0901 302), or permission of instructor
f) Time and Scale of Implementation	Offered every Fall; Project Teams
g) Curricular Effect:	Required course for all engineering majors
h) Resources	Existing faculty, and new faculty to be hired as planned, will teach this course
i) Library Resources	Library acquisitions may be required on a project-by-project basis
h) Short Term Evaluation	N/A

### 2. Rationale:

This course provides a culminating experience to the Engineering Clinic sequence. The goal of this sequence of courses is to give teams of undergraduate engineering students a meaningful, leading-edge, team-based project experience. The Clinic sequence of courses provides students in the four engineering programs (Chemical, Civil, Electrical, and Mechanical) with the necessary tools to succeed as an engineer of the future.

Each program will formulate guidelines for the projects sponsored by that program and for the participation of their students in projects sponsored by other programs. In this way, this sequence of courses will satisfy the requirements as specified by the Accreditation Board for Engineering and Technology (ABET) for the sponsoring program. The sequence of courses will also maintain sufficient flexibility for both inter-disciplinary and multi-disciplinary projects.

### **3. Essence of the Course:**

#### a) Objectives:

Upon completion of this sequence of courses, undergraduate engineering students working in research and design teams and guided by a faculty advisor will be able to do the following:

- Conduct a thorough literature search and review.
- Prepare a clear and concise problem statement.
- Consult with other faculty and professional experts.
- Develop and implement a detailed research and design plan.
- Prepare weekly oral and/or written progress reports.
- Derive publishable research and design results.
- Make a final written report and oral and written presentation.

#### b) Topical Outline:

The topics chosen by each undergraduate team will depend upon the mutual interests of the undergraduate students and their faculty advisor, and upon the requirements of the engineering department that is sponsoring the project. The sequence of courses will include the following basic components:

- A thorough literature search and review.
- A clear and concise problem statement.
- A record of consultations with other faculty and professional experts.
- A research and design plan developed and implemented in close collaboration with a faculty mentor.
- A record of project development and execution including weekly progress reports.
- A final set of publishable research results.
- A final written report and oral presentation.

#### c) Evaluation and Grading Procedure of Students:

Evaluation of team progress will be made on a regular basis by the faculty and by the chair of the sponsoring department. The appropriateness of the content for each project will be determined each semester by the appropriate collection of engineering clinic faculty.

#### d) Course Evaluation:

The proposed courses will be evaluated based on student evaluations and curriculum review conducted by each department.

#### **4. Results of Consultations:**

Senior Engineering Clinic I is required for all undergraduate students in the College of Engineering. This sequence is consistent with the engineering curricula that were approved by the University Senate in December 1994 and the revised curricula that were approved in June 1996. Consultations were submitted with the original proposals and the revised proposals as specified by the Senate Curriculum Committee.

**Catalog Description:**

Senior Engineering Clinic I (0901.401)

Prerequisite: Junior Engineering Clinic II, or permission of instructor  
(0901.302)

This course provides a culminating experience to the Engineering Clinic sequence. The goal of this sequence of courses is to give teams of undergraduate engineering students a meaningful, leading-edge, team-based, multidisciplinary project experience. The sequence will include a thorough literature search and review, the development of a clear and concise problem statement, consultations with other faculty and professional experts, and delivery of a final written report and oral presentation.