

ROWAN COLLEGE
CURRICULUM COMMITTEE

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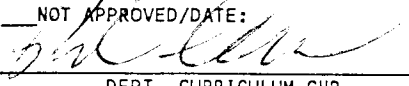

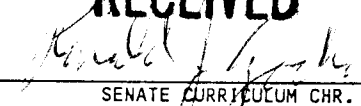

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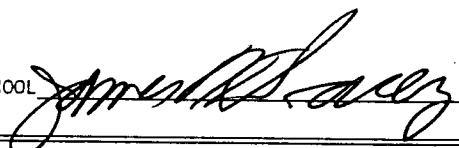
PROPOSAL TITLE: Solid Mechanics 0901-272

UNDERGRADUATE GRADUATE 2 CREDIT HOURS
 SPONSOR(S): Ralph Alan Dusseau and School of Engineering Curriculum Committee

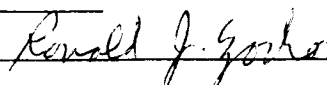
DEPARTMENT & TELEPHONE# Civil Engineering Program, School of Engineering

CHECK ONE: COURSE MINOR PROGRAM CONCENTRATION SPECIALIZATION
 ACHIEVEMENT CERTIFICATE CERTIFICATION PROGRAM MAJOR PROGRAM

STEP #1 (DEPARTMENT)	STEP #2 (RECEIPT)	STEP #3 (SCHOOL)
APPROVED/DATE: <u>4-24-96</u> NOT APPROVED/DATE:  DEPT. CURRICULUM CHR. REVIEWED/DATE: <u>4-24-96</u>  DEPT. CHR.	SCC# <u>96-97-03</u> DATE RECEIVED: <div style="text-align: center; font-size: 2em; font-weight: bold;">SENATE</div> <div style="text-align: center; font-size: 1.5em; font-weight: bold;">JUL 9</div> <div style="text-align: center; font-size: 1.5em; font-weight: bold;">RECEIVED</div>  SENATE CURRICULUM CHR.	REVIEWED DATE: <u>4-18-96</u> <input checked="" type="checkbox"/> RECOMMEND TO APPROVE <input type="checkbox"/> RECOMMEND NOT TO APPROVE FORWARD FOR OPEN HEARING <input checked="" type="checkbox"/> WITHOUT RESERVATIONS <input type="checkbox"/> WITH RESERVATIONS COMMENTS:  SCHOOL COMMITTEE CHR.

STEP #4 (ACADEMIC DEAN)	COMMENTS:
<input checked="" type="checkbox"/> RECOMMEND <input type="checkbox"/> NOT RECOMMEND <input type="checkbox"/> CONDITIONALLY RECOMMEND (SEE COMMENTS) DATE & SIGNATURE, DEAN OF SCHOOL <u></u> <u>5/14/96</u>	

STEP #5 (SENATE CURRICULUM COMMITTEE)
DATE OF OPEN HEARING <u>10-28-96</u> APPROVED BY SENATE CURRICULUM COMMITTEE (DATE) <u>11-20-96</u> <input type="checkbox"/> RETURNED TO SPONSOR(S) FOR THE FOLLOWING REASONS: <hr/> <hr/>

STEP #6 (SENATE)
DATE PRESENTED TO SENATE <u>12-18-96</u> <input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> NOT APPROVED NOTIFICATION TO EXECUTIVE VICE PRESIDENT/PROVOST (DATE) _____ SENATE CURRICULUM COMMITTEE CHAIR SIGNATURE/DATE <u> 12/18/96</u>

STEP #7 (EXECUTIVE VICE PRESIDENT/PROVOST)

DATE RECEIVED _____

APPROVED: YES NO

IF NO, REASONS ARE AS FOLLOWS:

STUDENT CREDIT HOURS 2

FACULTY LOAD HOURS 2

EQUALIZED CREDIT HOURS _____

OFFICIAL COPY & APPROVAL SHEET FILED (DATE) 1/22/97

SIGNATURE, EXECUTIVE VICE PRESIDENT/PROVOST [Signature]

REGISTRAR

DATE APPROVED COURSE DESCRIPTION RECEIVED 14 Mar 97

HEGIS TAXONOMY AND COURSE NUMBER ASSIGNED 6901-272-

DATE/SIGNATURE OF REGISTRAR B. J. Keenan

NOTIFICATION FORWARD:

SENATE CURRICULUM COMMITTEE CHAIRPERSON

DEPARTMENT CHAIRPERSON(S)

ACADEMIC DEAN(S)

REGISTRAR

SPONSOR(S)

Course Proposal

1. Details:

- a) Course Title: Solid Mechanics
- b) Sponsor: Dr. Ralph Alan Dusseau and School of Engineering Curriculum Committee
- c) Credit Hours: 2 credit hours
- d) Course Level: Sophomore (0901.272)
- e) Curricular Effect: Required course for civil and mechanical engineering majors
- f) Prerequisites: Statics
- g) Suggested Time/
Scale of Implementation: two sections during fall semesters to be taught during the 2nd quarter
- h) Resources: Existing faculty will teach this course. Library acquisitions will be required.

2. Rationale:

The proposed course is the revised version of a course entitled "Solid Mechanics" which was part of the Engineering Curriculum Proposal that was approved by the College Senate in December 1994. The proposed course is consistent with the establishment of the School of Engineering approved by the Board of Trustees in February 1995.

Solid mechanics is an essential course that introduces students to the internal stresses and strains that are present in all structural systems. These structural systems can include buildings, bridges, automobiles, airplanes, and other structures.

3. Essence of the Course:

a) Objectives:

Upon completion of the course, engineering students will be able to do the following:

1. Analyze stress and strain in deformable bodies.

2. Analyze the mechanical properties of materials.
3. Analyze beams and bars including torsion analysis, bending analysis, shear analysis, analysis under combined loads, and buckling analysis.

b) Topical Outline:

The topical outline of the course may vary to some extent depending on the interests of the instructor and the students, and on advances in engineering technology. The topics to be covered will include the following:

Introduction:

- Stress and Strain
- Mechanical Properties of Materials

Beam and Bar Analysis:

- Axial Loading
- Torsion
- Bending
- Shear
- Combined Loading
- Beam Design
- Buckling

c) Evaluation and Grading Procedure of Students:

Student grades will be determined based on homework assignments and examinations.

d) Course Evaluation:

The proposed course will be evaluated based on student evaluations and curriculum review by engineering faculty.

4. Results of Consultations:

The proposed course is the revised version of a course entitled "Solid Mechanics" which was part of the Engineering Curriculum Proposal that was approved by the College Senate in December 1994. Consultations were submitted with the original proposal as specified by the Curriculum Committee.

Catalog Description:

Solid Mechanics (0901.272)

(Prerequisites: Statics)

The course deals with the study of solid mechanics including stress and strain, mechanical properties of materials, and beam and bar analysis. The study of beam and bars includes axial forces, torsion, bending, shear, combined loading, buckling, and design.