

ROWAN COLLEGE
CURRICULUM COMMITTEE

(R)

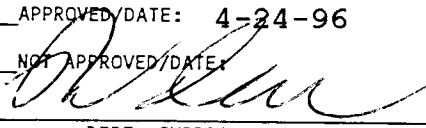

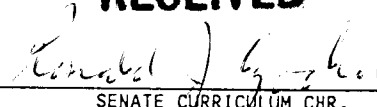
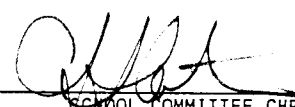
PROPOSAL TITLE: Civil Engineering Materials

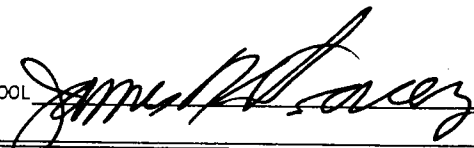
08-301

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

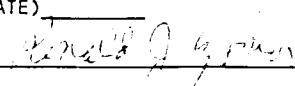
DEPARTMENT & TELEPHONE# Civil Engineering Program, School of Engineering

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

<p style="text-align: center;">STEP #1 (DEPARTMENT)</p> <p>APPROVED/DATE: <u>4-24-96</u> NOT APPROVED/DATE: _____  DEPT. CURRICULUM CHR.</p> <p>REVIEWED/DATE: <u>4-24-96</u>  DEPT. CHR.</p>	<p style="text-align: center;">STEP #2 (RECEIPT)</p> <p>SCC# <u>96-97-09</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: 2em; font-weight: bold;">RECEIVED</div>  SENATE CURRICULUM CHR.</p>	<p style="text-align: center;">STEP #3 (SCHOOL)</p> <p>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.</p>
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<p>STEP #4 (ACADEMIC DEAN)</p> <p><input checked="" type="checkbox"/> RECOMMEND <input type="checkbox"/> NOT RECOMMEND <input type="checkbox"/> CONDITIONALLY RECOMMEND (SEE COMMENTS) DATE & SIGNATURE, DEAN OF SCHOOL _____</p>	<p>COMMENTS:</p> <div style="text-align: center; font-size: 2em; font-weight: bold;">  </div> <p style="text-align: right; font-size: 1.5em; font-weight: bold;">5/14/96</p>
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<p>STEP #5 (SENATE CURRICULUM COMMITTEE)</p> <p>DATE OF OPEN HEARING <u>10-28-96</u> APPROVED BY SENATE CURRICULUM COMMITTEE (DATE) <u>10/28/96</u> RETURNED TO SPONSOR(S) FOR THE FOLLOWING REASONS: _____ _____</p>

<p>STEP #6 (SENATE)</p> <p>DATE PRESENTED TO SENATE <u>11-20-96</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></u> <u>11/27</u></p>

STEP #7 (EXECUTIVE VICE PRESIDENT/PROVOST)

DATE RECEIVED _____

APPROVED: ___ YES ___ NO

IF NO, REASONS ARE AS FOLLOWS:

STUDENT CREDIT HOURS _____

FACULTY LOAD HOURS _____

EQUALIZED CREDIT HOURS _____

OFFICIAL COPY & APPROVAL SHEET FILED (DATE) 1/31/97

SIGNATURE, EXECUTIVE VICE PRESIDENT/PROVOST C. M. Mason

REGISTRAR

DATE APPROVED COURSE DESCRIPTION RECEIVED 14 Mar 97

HEGIS TAXONOMY AND COURSE NUMBER ASSIGNED 0918.301

DATE/SIGNATURE OF REGISTRAR B. Kelly

NOTIFICATION FORWARD:

___ SENATE CURRICULUM COMMITTEE CHAIRPERSON

___ DEPARTMENT CHAIRPERSON(S)

___ ACADEMIC DEAN(S)

___ REGISTRAR

___ SPONSOR(S)

Course Proposal:

1. Details:

- a) Course Title: Civil Engineering Materials
- b) Sponsor: Dr. Ralph Alan Dusseau and School of Engineering Curriculum Committee
- c) Credit Hours: 2 credit hours
- d) Course Level: Junior (0908.301)
- e) Curricular Effect: Required course for all civil engineering majors
- f) Prerequisites: Engineering Materials I
- g) Suggested Time/
Scale of Implementation One section during fall semesters to be taught during the 2nd quarter
- h) Resources:

Faculty: Existing faculty can teach this course.

Library: Library acquisitions will be required.

Equipment: Laboratory space and appropriate experimental equipment for testing civil engineering materials (concrete and asphalt) will be required.

Computers: No computer resources will be required.

2. Rationale:

The proposed course is an additional required course that would supplement the Civil Engineering Program approved by the College Senate in June 1996. The proposed course is consistent with the establishment of the School of Engineering approved by the Board of Trustees in February 1995.

The two fundamental materials studied in this course are asphalt pavement which is a fundamental paving material and concrete which is a fundamental structural and paving material. The course deals with laboratory testing and mix design for asphalt pavement, concrete pavement, and structural concrete. The course is required for all civil engineering students.

3. Essence of the Course:

a) Objectives:

Upon completion of the course, civil engineering students will be able to perform the following tasks:

Laboratory tests of aggregates to evaluate the following:

Grain type

Grain size

Gradation

Specific gravity

Void ratio

Other properties

Design of concrete mixes including the following:

Choosing an appropriate cement type

Choosing appropriate aggregate types

Choosing appropriate admixtures

Choosing an appropriate water-cement ratio

Laboratory tests of concrete specimens including:

Consistency tests

Shear tests

Compression tests

Design of asphalt mixes including the following:

Choosing an appropriate asphalt binder

Choosing appropriate aggregate types

Choosing appropriate admixtures

Laboratory tests of asphalt specimens including:

Consistency tests

Shear tests

Compression tests

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 materials technology. The topics to be covered will include the following:

Aggregates:

Grain Type

Grain Size

Gradation

Specific Gravity

Void Ratio

Other Properties

Concrete:

Types of Cement and Admixtures

Testing of Cement and Admixtures

Design of Concrete Mixes

Testing of Concrete Mixes

Asphalt Pavement:

Types of Asphalt Binders

Testing of Asphalt Binders

Design of Asphalt Mixes

Testing of Asphalt Mixes

c) Evaluation and Grading Procedure of Students:

Student grades will be based on individual homework assignments, team lab reports, and individual 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 an additional course that will be part of the Civil Engineering Program approved by the College Senate in December 1994. Consultations were submitted with the original proposal as specified by the Curriculum Committee.

Catalog Description:

Civil Engineering Materials (0908.301)

(Prerequisites: Engineering Materials I)

The course deals with asphalt pavement, concrete pavement, and structural concrete including: the testing and analysis of aggregates, asphalt binders, cement, and admixtures; the design of asphalt pavement, concrete pavement, and structural concrete; and the testing and analysis of asphalt pavement specimens, concrete pavement specimens, and structural concrete specimens. The course includes appropriate laboratory experiments.