

(C)

ROWAN COLLEGE  
CURRICULUM COMMITTEE

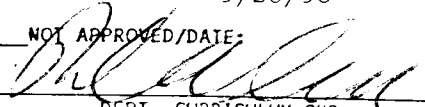
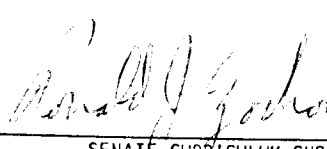
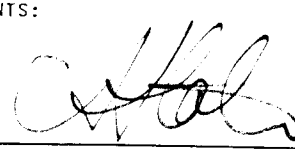
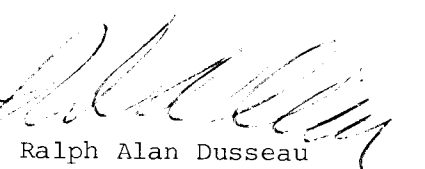
PROPOSAL TITLE: Earth Retaining Systems for Seniors C 465:455

UNDERGRADUATE       GRADUATE      3 CREDIT HOURS

SPONSOR(S): Ralph Alan Dusseau


DEPARTMENT & TELEPHONE# Civil Engineering, 4628

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

STEP #1 (DEPARTMENT)	STEP #2 (RECEIPT)	STEP #3 (SCHOOL)
<input checked="" type="checkbox"/> APPROVED/DATE: <u>9/20/96</u> <input type="checkbox"/> NOT APPROVED/DATE:  DEPT. CURRICULUM CHR. <u>Ralph Alan Dusseau</u>	SCC# <u>96-97-40</u> DATE RECEIVED:  SENATE CURRICULUM CHR.	REVIEWED DATE: <u>9/23/96</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.
<input checked="" type="checkbox"/> REVIEWED/DATE: <u>9/20/96</u>  DEPT. CHR.		

STEP #4 (ACADEMIC DEAN)      COMMENTS:

RECOMMEND  
 NOT RECOMMEND  
 CONDITIONALLY RECOMMEND (SEE COMMENTS)

DATE & SIGNATURE, DEAN OF SCHOOL:       9/23/96

STEP #5 (SENATE CURRICULUM COMMITTEE)

DATE OF OPEN HEARING \_\_\_\_\_

APPROVED BY SENATE CURRICULUM COMMITTEE (DATE) 1/29/97

RETURNED TO SPONSOR(S) FOR THE FOLLOWING REASONS:

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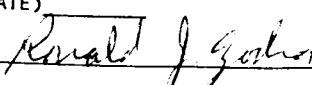
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#6 (SENATE)

DATE PRESENTED TO SENATE \_\_\_\_\_

APPROVED       NOT APPROVED

NOTIFICATION TO EXECUTIVE VICE PRESIDENT/PROVOST (DATE) \_\_\_\_\_

SENATE CURRICULUM COMMITTEE CHAIR SIGNATURE/DATE:  2/7/97

STEP #7 (EXECUTIVE VICE PRESIDENT/PROVOST)

DATE RECEIVED Feb 13 1997

APPROVED:  YES  NO

IF NO, REASONS ARE AS FOLLOWS:

STUDENT CREDIT HOURS 3

FACULTY LOAD HOURS 3

EQUALIZED CREDIT HOURS \_\_\_\_\_

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

SIGNATURE, EXECUTIVE VICE PRESIDENT/PROVOST [Signature]

REGISTRAR

DATE APPROVED COURSE DESCRIPTION RECEIVED 14 Mar 97

HEGIS TAXONOMY AND COURSE NUMBER ASSIGNED 0908-453

DATE/SIGNATURE OF REGISTRAR B L Kelvey

NOTIFICATION FORWARD:

\_\_\_ SENATE CURRICULUM COMMITTEE CHAIRPERSON

\_\_\_ DEPARTMENT CHAIRPERSON(S)

\_\_\_ ACADEMIC DEAN(S)

\_\_\_ REGISTRAR

\_\_\_ SPONSOR(S)

**Course Proposal:**

**1. Details:**

- a) **Course Title:** Earth Retaining Systems for Seniors
- b) **Sponsor:** Dr. Ralph Alan Dusseau and School of Engineering Curriculum Committee
- c) **Credit Hours:** 3 credit hours
- d) **Course Level:** Senior (0908.453)
- e) **Curricular Effect:** Elective course for civil engineering graduate students
- f) **Prerequisites:** Geotechnical Engineering or equivalent
- g) **Suggested Time/Scale of Implementation:** One section during fall semesters
- h) **Resources**

**Faculty:** A new civil engineering faculty member to be hired in the Fall of 1997 will teach this course.

**Library:** Library acquisitions will be required.

**Equipment:** Laboratory space and appropriate experimental equipment for advanced testing of soils and soil properties will be required.

**Computers:** Computer laboratory access will be required. Acquisition, training, and utilization of appropriate geotechnical engineering analysis software will be required.

**2. Rationale:**

The proposed course is the revised version of a course entitled "Geotechnical Engineering" which was part of the Engineering Curriculum 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.

The fundamental theme of the course is earth retaining systems which are methods for permanently keeping soil in a specified configuration. The purpose of the course is to give civil engineering students working knowledge of the analysis and design of earth retaining systems including retaining walls and other retaining systems, and soil embankments and slopes.

### 3. Essence of the Course

#### a) Objectives:

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

Apply the principles of soil mechanics and utilize appropriate advanced geotechnical laboratory equipment and geotechnical engineering software to perform the following tasks:

Analyze lateral earth pressures

Analyze the stability of soil slopes

Design soil slopes

Analyze the stability of soil embankments

Design soil embankments

Analysis of soil friction

Apply the principles of soil mechanics and utilize appropriate geotechnical engineering software to analyze and design the following types of retaining systems:

Gravity retaining walls

Cantilever retaining walls

Soil nail systems

Geotechnical fabric systems

#### 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 geotechnical engineering technology. The topics to be covered will include the following:

##### Advanced Soil Mechanics:

Analysis of Lateral Earth Pressures

Analysis of Soil Slope Stability

Design of Soil Slopes

Analysis of Soil Embankment Stability

Design of Soil Embankments

Analysis of Soil Friction

Retaining Wall:

Analysis and Design Gravity Retaining Walls

Analysis and Design Cantilever Retaining Walls

Other Earth Retaining Systems:

Analysis and Design Soil Nail Systems

Analysis and Design Geotechnical Fabric Systems

c) Evaluation and Grading Procedure of Students:

Student grades will be based on individual examinations, individual homework, and team lab reports.

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 "Geotechnical Engineering" which was part of the Engineering Curriculum approved by the College Senate in December 1994. Consultations were submitted with the original proposal as specified by the Curriculum Committee.

**Catalog Description:**

**Earth Retaining Systems for Seniors (0908.453)**

**(Prerequisites: Geotechnical Engineering or equivalent)**

The fundamental theme of the course is earth retaining systems including advanced principles of soil mechanics and analysis and design of earth retaining systems. The advanced principles of soil mechanics covered include lateral soil pressure and slope stability. The analysis and design of earth retaining systems includes slopes, embankments, retaining walls, and other systems. The course includes appropriate laboratory experiments and computer applications.