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CURRICULUM PROPOSAL FORM 2001-2002

NON-GENERAL EDUCATION PROCESS A

***DEADLINES:** Deadline dates for 2001/2002 submissions: Regular proposals: October 19, 2001 to be implemented in Fall 2002; Short-Term proposals: December 7, 2001 to be implemented in Fall, 2002; Regular proposals February 15, 2002 to be implemented in Spring, 2003; March 22, 2002 for short-term courses to be implemented in Spring 2003.

PROPOSAL TITLE: Surveying and Engineering Graphics 2001-2002

SPONSOR(S): Yusuf Mehta, x 5327

DEPARTMENT: Civil and Environmental Engineering

COLLEGE:

IF LAS CHECK ONE: History/Humanities Math/Sciences Social/Behavioral Sciences

Check one: Undergraduate Graduate

THE ATTACHED **NON-GEN-ED** PROPOSAL IS BEST DESCRIBED BY THE ITEM(S) CHECKED.

New non-gen-ed course

Short-term non-gen-ed course

Minor curricular changes (fewer than three) to:

existing non-gen-ed course

non-gen-ed degree requirements

major

minor, specialization, concentration, track, certificate program

DEPARTMENT
(Signature indicates approval)

Dept. Curriculum Chair / Date Daryl B. Arny 2/15/02

Dept. Chairperson / Date Kausar Zabeen 2/15/02

CADEMIC DEAN

Approved Not Approved Comments: There are no resource issues.

Dean's Signature/Date Dianne Doherty 4/22/02

COLLEGE CURRICULUM COMMITTEE

Date of open hearing (if necessary) 4/26/02 Approved Not Approved _____

Comments:

Signature of College Chair/Date: Kevin D. Oahn

UNIVERSITY CURRICULUM COMMITTEE

Date Received/Processed _____

Comments:

Curriculum Chair Signature Philip A. Lewis 7/25/02 Date Announced At Senate 7/17/02

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): _____ Executive VP/Provost Signature/Date William G. ...
11/7/02

REGISTRAR

Date Approved Course Description Received _____ Hegis Taxonomy & Course Number Assigned CRS 205

Registrar Signature/Date S. ... 11/20/02

NOTIFICATION FORWARD

Senate Curriculum Committee Chairperson Academic Dean(s) Cap
 Department Chairpersons Registrar Inst. Reck
Im 11/22/02 _____ Sponsor(s)

Course Proposal – New Course (non-Gen Ed)

1. Details

- a. Title: Surveying and Engineering Graphics (0908-203)
- b. Sponsor: Dr. Yusuf A. Mehta, x 5327
Civil and Environmental Engineering
- c. Credit Hours: 3 hours
- d. Course Level: Sophomore (200)
- e. Prerequisites: Calculus I (1701.130), or permission of instructor.
- f. Implementation: The course will be implemented once approved. The course will be offered once per year.
- g. Curricular Effect: Surveying (0908.202) and Surveying and Planning (0908.402) will be removed once this is implemented.
- h. Resources: No new resources are required.
- i. Library: No new resources are required.

2. Rationale

a) Need for change

This new course replaces an existing course in surveying. The existing course, Surveying (0908.202) is part of the undergraduate Civil and Environmental Engineering curriculum.

The new course will add selected new topics like engineering graphics. The proposed change will expose students to engineering design and graphics that will be useful for subsequent coursework and applications in civil engineering. Some employers are also now looking for engineering graphics skills in interns and entry-level hires.

3. Essence of the Course

a) 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 geomatics. The topics initially planned include the following:

Introduction

Engineering Graphics

Interpretation of engineering plans

Software for creating engineering graphics (*e.g.* AutoCAD, surface modeling, GIS)

Surveying

Surveying instruments (level, theodolite, total station, GPS, *etc.*)

Theory of errors

Leveling

Distance measurements

Leveling and horizontal taping

Angle Measurement

Traversing

Horizontal and Vertical Curves

Coordinate Geometry

Areas/Volumes

Integration of Survey Data with Graphics Programs

Introduction to mapping

b) Evaluation and Grading Procedure of Students

Student grades will be based on individual and/or group examinations, individual homework, design projects, and lab reports.

c) Course Evaluation

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

4. Results of Consultations

The proposed course is a revised version of an existing course entitled “Surveying,” which is part of the current Civil and Environmental Engineering Curriculum approved by the University Senate. Consultations were submitted with the original proposal as specified by the Curriculum Committee.

Catalog Description

Surveying and Engineering Graphics (0908.203)

Prerequisites: Calculus I (1701.130), or permission of instructor.

(Offered every year) The course deals the measurement of existing and man-made land profiles (surveying), and the creation and interpretation of engineering drawings, maps, and plans (engineering graphics). The tasks performed include the measurements of drainage areas, distances, angles, and elevations; closing traverses; topographic surveys; and highway alignments. Additional tasks include creation and interpretation of engineering plans, drawings, and maps using appropriate engineering software programs.



Department of Geography and Anthropology

October 29, 2002

Dr. Ralph Dusseau
DRBA Professor and Chair
Department of Civil and Environmental Engineering
Rowan University
Glassboro, NJ 08028

Dear Dr. Dusseau:

As you requested, I am writing to offer my support for five course proposals written by professor Mehta of your department. I have carefully reviewed the proposals for the following courses:

1. Transportation Engineering [0908-361]
2. Design Elements of Transportation Engineering [0908-564]
3. Pavement Analysis and Evaluation
4. Advanced Pavement Analysis and Evaluation
5. Surveying and Engineering Graphics [0908-203]

Considered individually, each of the course proposals is complete, logical, and well thought out. Taken together, the proposals would seem to provide undergraduate and graduate students with a comprehensive overview of many of the issues relevant to transportation systems. I am especially impressed by the way in which the proposals dovetail with one another, thereby providing students with a complete tapestry of related material relevant to the topics covered.

A frequent concern of curriculum committees is the question of whether or not proposals for new courses in one department overlap inappropriately with those offered by another department. In this set of courses, I see no significant overlap with courses offered by our department. Even though we do offer a course in transportation geography, that course has very little in common with those proposed here. Specifically, the only area in which there might be overlap is with the course, Design of Elements of Transportation Engineering, where there is some treatment of traffic generation and demand forecasting, a topic treated, to some degree, in our geography of transportation course. Inasmuch as this course is at the graduate level, this overlap in material treated is no concern to me. Moreover, I am very strongly opposed to the notion that there can be no overlap among or between disciplines.

Additionally, I believe that some of the courses might be of interest to students in departments other than yours. For instance, majors in our department who have an interest in planning could certainly benefit from Transportation Engineering [0908-361] and Surveying and Engineering Graphics [0908-203].

After careful review of these proposals, I can give my strong support to all of them and urge the curriculum committee to vote their approval.

Sincerely yours,

A handwritten signature in cursive script that reads "Richard A. Scott".

RICHARD A. SCOTT, Ph.D.

Professor of Geography