



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: Hydraulic Design

2/15/02

SPONSOR(S): Joseph Orlins

DEPARTMENT: Civil & Environmental Engineering

COLLEGE: Engineering

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

Joseph Orlins *Joseph Orlins*

4/24/02

Dept. Chairperson / Date

ACADEMIC DEAN

Approved Not Approved

Comments:

Dean's Signature/Date

[Handwritten signature and date]

COLLEGE CURRICULUM COMMITTEE

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

Signature of College Chair/Date: [Signature]

UNIVERSITY CURRICULUM COMMITTEE

Date Received/Processed _____
Comments:

Curriculum Chair Signature [Signature] Date Announced At Senate 6/5/02

EXECUTIVE VICE PRESIDENT/PROVOST

Approved X 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 [Signature]

REGISTRAR

Date Approved Course Description Received _____ Hegis Taxonomy & Course Number Assigned 0703-599

Registrar Signature/Date [Signature]

NOTIFICATION FORWARD

Senate Curriculum Committee Chairperson

Academic Dean(s)

Department Chairpersons

Registrar

CAP
[Signature]
7m 11/22/02
____ Sponsor(s)

Course Proposal – New non-general education course.**1. Details:**

- a) Course Title: **Hydraulic Design (0908-544)**
- b) Sponsor: Dr. Joseph J. Orlins, x 5328
Civil and Environmental Engineering
- c) Credit Hours 3 credits
- d) Course Level: Graduate
- e) Prerequisites: Water Resources Engineering (0908.342), or permission of instructor
- f) Implementation The course will be offered in alternate years. The course will be implemented along with the other changes in the Civil and Environmental Engineering program.
- g) Curricular Effect: The proposed change, in conjunction with the addition of a new course, will offer undergraduate and graduate students in Civil and Environmental Engineering a greater variety in the courses they can take to complete their respective degrees.
- h) Resources: Existing resources are adequate.
- i) Library No new purchases required.

2. Rationale:

a) Need for change:

This proposal is essentially a name change of an existing course and a minor change in the course content. The existing course, “Advanced Water Resources Engineering,” (0908-543) is part of the graduate Civil and Environmental Engineering curriculum, and is offered every year. Currently, undergraduates who wish to pursue a Masters degree at Rowan in Civil Engineering must take the co-listed companion course, “Advanced Water Resources Engineering for Seniors” (0908-443) prior to this course, and risk repetition of course content.

The revised course will cover in greater depth some aspects of the original course, and add selected new topics. The course will be offered in even years, and a new, complementary course will be created to be offered in odd-numbered years. To prevent confusion regarding registration and transcripts, the course number of the existing elective will be changed as well.

b) Curricular effect:

The proposed changes, in conjunction with the addition of a new course, will offer undergraduate and graduate students in Civil and Environmental Engineering a greater variety in the courses they can take to complete their respective degrees.

3. Essence of the Course

a) Objectives:

Upon completion of the course, students will be able to design and analyze the following hydraulic structures by laboratory and/or field experimentation, computer modeling, and hand calculation:

- Open channel flows
- Dams and spillways
- Sanitary and storm sewers
- Pumping stations
- Hydraulic modeling

In addition, at the completion of the course, graduate students will be able to independently investigate additional areas related to the topic, conduct a seminar on their findings, and develop a design exercise of a quality suitable for use in an undergraduate course.

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 water resources engineering technology. The topics initially planned include the following:

- Open channel flows:
 - Optimizing hydraulic geometry
 - Culverts
 - Bank protection
 - Scour protection
- Dams and spillways
 - Types of dams
 - Spillway design
 - Hydraulic rating curves for spillways
 - Energy dissipation and stilling basin design
- Sanitary and storm sewers
 - Energy and hydraulic grade lines
 - Sizing of pipes and inlets
- Pumping stations
 - Design standards
 - Performance problems associated with flow patterns
 - Physical modeling
- Hydraulic modeling

Froude and Reynolds criterion similarity
Scaling limits
Practical aspects

c) Evaluation and Grading Procedure of Students:

Student grades will be based on individual and/or group examinations, individual homework, design projects, independent research, and presentations.

d) 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 the revised version of an existing course entitled "Advanced Water Resources Engineering" 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:

Hydraulic Design (0908.544)

Prerequisites: Water Resources Engineering (0908.342), or permission of instructor.

(Offered even-numbered years) The fundamental theme of the course is the design and analysis of structures for controlling and conveying water in both the built and natural environment. Topics covered vary from year to year based upon instructor and student interests. Past topics have included open channel flow design, dams and spillways, sanitary and storm sewers, culverts, pumping stations, turbomachinery, and hydraulic similitude and modeling.

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 "Advanced Hydraulics and Hydrology" 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.



Department of Mechanical Engineering

Professor Phillip Lewis
Chair, Rowan University Senate Curriculum Committee
University Senate Office
Campbell Library

re: Curriculum Proposals for:

Principles of Hydraulic Design SCC#01-02-403

Hydraulic Design SCC#01-02-404 ✓

Principles of Environmental Fluid Mechanics SCC#01-02-405

Environmental Fluid Mechanics SCC#01-02-406

Dear Dr. Lewis:

The Mechanical Engineering program has reviewed the above-referenced course proposals, has no conflicts with the proposals, and supports their full implementation.

Sincerely,

John Chen, Ph.D.
Mechanical Engineering
Rowan University

Cleary, Douglas B.

From: Orlins, Joseph J.
Sent: Wednesday, October 09, 2002 1:18 PM
To: Cleary, Douglas B.
Cc: Everett, Jess W.
Subject: FW: Letters of Consultation - Course Proposals

Doug -

I had forgotten that we had already obtained a consultation on Environmental Fluid Mechanics from Pat Mosto (see attached).

Do we need something more formal?

- JJO

-----Original Message-----

From: Orlins, Joseph J. [mailto:orlins@rowan.edu]
Sent: Tuesday, October 30, 2001 4:55 PM
To: Mosto, Patricia
Cc: 'cleary@rowan.edu'; Chin, Steven; 'orlins@rowan.edu'; Dahm, Kevin D.
Subject: RE: Letters of Consultation - Course Proposals

Pat,

The email 'letter of consultation' should be fine. Thanks for you help!

- Joe

-----Original Message-----

From: Mosto, Patricia
Sent: Tuesday, October 30, 2001 4:46 PM
To: Orlins, Joseph J.
Subject: Re: Letters of Consultation - Course Proposals

Joe, my department met today. Nobody saw any problem with your course proposals, and was unanimously voted for me to write you with our full support. If you need anything more than this e-mail, please just let me know.

Pat

>>> Orlins, Joseph J. - 10/23/01 2:23 PM >>>

Pat -

Attached are proposals for a new course that I'd like to offer in Civil & Environmental Engineering.

The course is called "Principles of Environmental Fluid Mechanics" at the undergraduate level, and "Environmental Fluid Mechanics" at the grad level.

I don't think there is overlap with other courses on campus outside of engineering, but I'd like to make sure.

Could you take a look, and provide an "email of consultation" with your thoughts?

Thanks a bunch,

Joe Orlins

Dr. Patricia Mosto
Associate Professor
Biological Sciences
Rowan University
Glassboro, NJ 08028
(856) 256-4500 ex. 3590
mosto@rowan.edu

"a bird does not sing because it has an answer; it sings because it has
a
song"

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PROPOSAL TITLE: Principles of Hydraulic Design 2908-4000

SPONSOR(S): Joseph Orlins, x 5328

DEPARTMENT: Civil and Environmental Engineering

COLLEGE:

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

Check one: Undergraduate Graduate

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DEPARTMENT
(Signature indicates approval)

Dept. Curriculum Chair / Date Joseph B. Orlins 10/19/01

Dept. Chairperson / Date JWC 10/19/01

ACADEMIC DEAN

Approved Not Approved Comments:

Dean's Signature/Date Steve Chew 11/2/01