

Original



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.

0905430

PROPOSAL TITLE: Pollutant Fate and Transport Principles

SPONSOR(S): Kauser Jahan x5323

DEPARTMENT: Civil and 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: *Name change*

existing non-gen-ed course

non-gen-ed degree requirements

major

minor, specialization, concentration, track, certificate program

DEPARTMENT
(Signature indicates approval)

Dimple B. Ching *2/15/02*

Dept. Curriculum Chair / Date

Kauser Jahan *2/15/02*

Dept. Chairperson / Date

ACADEMIC DEAN

Approved Not Approved

Comments: *No additional resources in excess of base budget funding are anticipated!*

Dean's Signature/Date *Dionne Doherty* *4/22/02*

COLLEGE CURRICULUM COMMITTEE

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

Comments:

Signature of College Chair/Date: Kevin O'Sullivan

UNIVERSITY CURRICULUM COMMITTEE

Date Received/Processed _____

Comments:

Curriculum Chair Signature [Signature] 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 [Signature] 1/19/02

REGISTRAR

Date Approved Course Description Received _____ Hegis Taxonomy & Course Number

Assigned CYCS-432

Registrar Signature/Date [Signature] 10/10/02

NOTIFICATION FORWARD

Senate Curriculum Committee Chairperson

Department Chairpersons

Academic Dean(s) [Signature]

Registrar

CAD
10.16.02
Sponsor(s)
[Signature]

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Course Proposal:

418

1. Details:

- Course Title: **Pollutant Fate and Transport Principles (0908.432)**
- b) Sponsor: Dr. Kauser Jahan, Civil Engineering, x5323
- c) Credit Hours: 3 credit hours
- d) Course Level: Undergraduate, Senior-level (0908.432)
- e) Prerequisites: Senior standing or permission of instructor.
- f) Suggested Time: One section during fall semesters
- g) Curricular Effect: None – This proposal modifies an existing course (Groundwater and Soil Remediation for Seniors, 0908.432).
- h) Resources (No change from current course)
- Faculty: Existing faculty can teach this course.
 - Library: Library acquisitions will be required.
 - Equipment: Existing laboratory facilities and equipment are adequate for this course.
 - Computers: Computer laboratory access will be required.
- i) Library Resources: Library acquisitions will be required at same level as current course.

2. Rationale:

Minor modifications to an existing course (Groundwater and Soil Remediation for Seniors, 0908.432) are required because of proposed curriculum changes (see curriculum modification proposal). The course description will be modified, as the new curriculum requires a new sequence of environmental topics.

3. Essence of the Course

a) Objectives:

on completion of the course, students will be familiar with:

- Characteristics and Properties of Organic Pollutants
- Aquatic Chemistry
- Transport Mechanisms for Pollutants (Adsorption, Retardation, Attenuation, Volatilization, Biodegradation)
- Groundwater (Properties, Flow Equations, Transport in Porous Media)
- Modeling

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 environmental engineering technology. The topics initially planned include:

- Introduction to Organic Pollutants
 - Structure
 - Properties
- Aquatic Chemistry
 - pC-pH Relationships
 - Redox Reactions
- Groundwater/Soil
 - Properties
 - Darcy's Law
 - Well Hydraulics
- Transport Processes
 - Adsorption
 - Volatilization
 - Biodegradation
 - Natural Attenuation
- Transport in Porous Media
- Groundwater Modeling

c) Evaluation and Grading Procedure of Students:

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

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 a minor modification to an existing course entitled “Groundwater and Soil Remediation for Seniors” (0908.432) which is part of the current Engineering Curriculum approved by the University Senate. Consultations were submitted with the original proposal as specified by the Curriculum Committee.

Catalog Description:

Pollutant Fate and Transport Principles (0908.432)

Prerequisites: Senior standing or permission of instructor.

Offered every other fall semester. Topics include Characteristics and Properties of Organic Pollutants, Aquatic Chemistry, Transport Mechanisms for Pollutants (Adsorption, Retardation, Attenuation, Volatilization, Biodegradation), Groundwater (Properties, Flow Equations, Transport in Porous Media) and Mathematical Modeling .