Graduate Council Report

October 6, 2011

<u>Course Change Requests:</u>

CPSY 626. Psychopathology

Prerequisite:

Remove Prerequisite: Cross-listing with PSYC 626 – Psychopathology

CVEN 606. Environmental Engineering Design I.

Title:

FROM: Environmental Engineering Design I.

TO: Environmental Engineering Design.

Course Hours:

FROM: (1-6). Credit 3.

TO: (3-0). Credit 3.

ESSM 685. Directed Studies

Course Credits:

FROM: Credit 1 to 4 each semester (4-0). Credit 4

TO: Credit 1 to 9 each semester (9-0). Credit 9

FINC 664. Portfolio Management

Prerequisite:

FROM: Graduate classification; classification 6 students may not enroll in this course; FINC 629 and FINC 632

TO: Graduate classification; classification 6 students may not enroll in this course; FINC 421 or FINC 632; FINC 434 or FINC 629

Title:

FROM: Portfolio Management

TO: Active Portfolio Management

FINC 664. Portfolio Management (continued)

Description:

FROM: Overview of the investment industry and the portfolio management process; includes portfolio structuring, stock vs. sector selection, performance measurement, and attribution analysis; investment products and distribution channels, legal and governance issues, operations, product development and marketing.

TO: Analysis of investment tactics designed to earn abnormal returns; identification and evaluation of active strategies that exploit capital market anomalies and market inefficiencies; portfolio structuring, stock and sector selection, performance measurement, attribution analysis and benchmarks in inefficient markets.

SCSC 657. Environmental Soil Science

Prerequisite: Stacked with SCSC 455.

Description:

FROM: Environmental aspects of soil receiving organic and inorganic materials involved with crop production and from wastes associated with agriculture, industry and municipalities; soil properties largely determine environmentally sound practices of applying these materials and the quantities that may be added without polluting air, soil and water resources.

TO: Discussion of physical, chemical, and biological properties of soil and water and the impact on productivity and sustainability of various ecosystems; application of the knowledge of properties and soil processes to develop and evaluate strategies for protecting and/or improving soil and water quality.

Title:

FROM: Environmental Soil Science

TO: Environmental Soil and Water Science

Texas A&M University
Departmental Request for a Change in Course
Undergraduate ♦ Graduate ♦ Professional

• Submit original form and attachments •

Cl619

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SEP 19 2011
GRADUATE STUDIES

Form Instructions

1. Request submitted by *(Department or Program Name)*: Department of Educational Psychology
2. Course prefix, number and complete title of course: CPSY 626

Attach a brief supporting statement for changes made to items 3a thru 3d and 6 below.

3. Change requested
   a. Prerequisite(s): From: _____ To: _____
   b. Withdrawal (reason): _____
   c. Cross-list with: Remove cross-lisitng with PSYC 626 -Psychopathology

   Cross-listed courses require the signature of both department heads.

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. **Attach a course syllabus.**
4. For informational purposes only, please indicate course number if this course will be stacked: _____
5. Complete current course title and current catalog course description:

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

7. a. As currently in course inventory:

Prefix	Course #	Title (excluding punctuation)
CPSY	626	PSYCHOPATHOLOGY

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	FICE Code	Level
03	00	03	4228030001	0920	003632	6

b. Change to:

Prefix	Course #	Title (excluding punctuation)

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	Acad. Year	FICE Code	Level
					-	003632	

Approval recommended by:

Dr. Victor Willson — Department Head or Program Chair *(Type Name & Sign)* — Date 8/11/11

Dr. Ludy Benjamin — Department Head or Program Chair *(Type Name & Sign)* (if cross-listed course) — Date 8/11/11

Chair, College Review Committee — Date 9-16-2011

Dr. Jim Kracht — Dean of College — Date OCT 06 2011

Chair, GC or UCC MARK J. ZORAN — Date

Submitted to Coordinating Board by:

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.

Curricular Services – 02/11

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SEP 13 2011
R. AUTENRIETH

Texas A&M University
Departmental Request for a Change in Course
Undergraduate ♦ Graduate ♦ Professional

• Submit original form and attachments •

1. Request submitted by *(Department or Program Name)*: Zachry Department of Civil Engineering
2. Course prefix, number and complete title of course: CVEN 606 Environmental Engineering Design I

Attach a brief supporting statement for changes made to items 3a thru 3d, and 6 below.

3. Change requested
   a. Prerequisite(s): From: _____ To: _____
   b. Withdrawal (reason): _____
   c. Cross-list with: _____

   Cross-listed courses require the signature of both department heads.

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. **Attach a course syllabus.**
4. For informational purposes only, please indicate course number if this course will be stacked: _____
5. Complete current course title and current catalog course description:
   Environmental Engineering Design I. (1-6). Credit 3.
6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):
   Environmental Engineering Design. (3-0). Credit 3.
7. a. As currently in course inventory:

Prefix	Course #	Title (excluding punctuation)
CVEN	606	ENVIRON ENGR DESIGN I

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	HCE Code	Level
01	06	03	1408010006	0630	003632	6

b. Change to:

Prefix	Course #	Title (excluding punctuation)
CVEN	606	ENVIRON ENGR DESIGN

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	Acad. Year	HCE Code	Level
03	00	03	1408010006	0630	12-13	003632	6

Approval recommended by:

John Niedzwecki 8/22/11
Department Head or Program Chair *(Type Name & Sign)* Date

Department Head or Program Chair *(Type Name & Sign)* Date
(if cross-listed course)

Submitted to Coordinating Board by:

Associate Director, Curricular Services

Robin Autenrieth 9-14-11
Chair, College Review Committee Date

Robin Autenrieth 9-14-11
Dean of College Date

Mark Zoran OCT 06 2011
Chair, GC or UCC Date

Date Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 02/11

CVEN 606
Environmental Engineering Design

COURSE OBJECTIVES

1. Improve your ability to apply knowledge of fundamental treatment processes to the design of water and wastewater treatment systems.
2. Improve your ability to work in teams to achieve professional goals.
3. Improve your ability to effectively communicate technical information.

CATALOG DESCRIPTION

Environmental Engineering Design (3-0). Credit 3. Design of engineered environmental systems for water or wastewater treatment in domestic or industrial applications. Prerequisite: CVEN 604 or approval of instructor.

PREREQUISITES

The published prerequisite for this course is "CVEN 604 or approval of instructor". Students should have an understanding of the fundamental physical, chemical and biological processes associated with treatment systems such as covered in CVEN 601, 619, 620, as well as an understanding of the analysis of treatment systems such as covered in CVEN 604. Students can obtain this knowledge in ways other than successfully completing the specified courses. For example, students could have taken similar classes elsewhere or have obtained this knowledge through independent study or engineering practice. Also, students can obtain some of this knowledge by independent study as needed during this class. Students who have questions about their preparation for this class should discuss their background with the instructor at the first meeting of the class.

INSTRUCTOR

Bill Batchelor
845-1304 (voice)
bill-batchelor@tamu.edu (email)

205H WERC
862-1542 (fax)
http://batchelor.tamu.edu/bill/ (website)

GRADING

Term Project	50%
Midterm test	15%
Final Exam	25%
Homework and in-class assignments	10%

ADA STATEMENT

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Disability Services, Division of Student Affairs (Cain Hall, Room B118; Phone/TTY 979-845-1637; disability@tamu.edu; http://disability.tamu.edu/)

COURSE WEBSITE

There will be a course website at http://batchelor.tamu.edu/cven606/. Homework assignments, homework answer keys, project information, and other relevant material will be posted to the site. Note that this site is not on the CEProfs website.

COURSE OUTLINE

I. Introduction (1 hr)
II. Introduction to Design Project (2 hr)
III. Aspects of Design Project (10 hr, distributed throughout semester)
IV. Overview of Treatment Plant Design
    A. Design Process (2 hr)
    B. Laws and Regulations (2 hr)
    C. Cost Estimation (2 hr)
    D. Hydraulic Design (2 hr)
V. Wastewater Treatment Plant Design
    A. Lift Station (1 hr)
    B. Preliminary Treatment (1 hr)
    C. Primary Treatment (1 hr)
    D. Secondary Treatment (3 hr)
    E. Disinfection (1 hr)
    F. Residual Management (4 hr)
    G. Design Tools (1 hr)
VI. Water Treatment Plant Design
    A. Preliminary Treatment (1 hr)
    B. Rapid Mix (1 hr)
    C. Flocculation (1 hr)
    D. Sedimentation (1 hr)
    E. Filtration (1 hr)
    F. Disinfection (2 hr)
    G. Residual Management (1 hr)
VII. Midterm Test (1 hr)

Times devoted to each topic will be adjusted so that topics more closely related to that semester's design project will be covered in more depth.

COURSE METHODS

1. Philosophy
   - all learning is active
   - education (learning to learn) is long-term; training (learning specific skills) is short-term; engineering requires both
   - generic problem solving empowers (few tools, many problems; generic analysis, solution)
   - linking knowledge develops a web of understanding
2. Classroom Plans
   - Monday-Wednesday: presentation of material, class discussions
   - Friday: student-driven content, project discussions, plant visits, guest lecturers.
3. Student responsibilities for lectures
   - be an active learner in class by interacting with presentations and discussions
   - be prepared by reading material in text
   - help control pace of class by questions
   - review notes before class
   - be prepared to ask questions about homework assignments in class, or immediately after class
4. Homework ground rules
   - The purpose is to develop skills

- Discussion of problems among students is encouraged
- Copying another's work is scholastic dishonesty
- Answers with more than three significant figures will be counted wrong, unless specifically justified
- Homework can be turned in after time that it is due up until the last day of class; however, there is no assurance that it will be given full credit. Homework turned in after the set is graded or after an answer key is posted will be considered "late" and will normally be given 50% credit. Homework submitted late due to a University excused absence will not be penalized.

5. Consultation

- It is best before or after lecture in classroom.
- Email questions are welcome
- It is best to visit with me before or after class in the classroom. I will usually be in the classroom about 10 minutes before class starts and I will be able to stay after class as long as needed on most days. However, you should feel free to stop by my office if you have questions or want to discuss something, but it is possible that I will not be able to visit with you when you stop by. An open door means I am available to meet with you. A closed door means that either I am not in, or that I am working on a project that has high priority and is near deadline, so please do not disturb me unless it is an emergency. Most of the time, the door will be open, but I do close it in the 30-60 minutes before class, so that I can prepare. If you want to facilitate setting up a time to meet, I suggest that you send me an email suggesting a meeting time and I will confirm by email.

6. Copyright on Course Materials

The handouts used in this course are copyrighted. By "handouts," I mean all materials generated for this class, which include but at not limited to syllabi, notes, quizzes, exams, in-class materials, review sheets, and additional problem sets. Because these materials are copyrighted, you do not have the right to copy the handouts unless I expressly grant permission.

7. Audio Recording

Permission to record lectures must be obtained from the instructor. It will normally be granted, but only for the personal use of the student during the semester in which the class it taught.

8. Scholastic Honesty

The Aggie Honor Code states "An Aggie does not lie, cheat, or steal or tolerate those who do". Information on the Honor Council Rules and Procedures can be found at http://www.tamu.edu/aggiehonor.

No form of scholastic dishonesty (cheating, plagiarism, etc.) will be tolerated in this class. As commonly defined, plagiarism consists of passing off as one's own the ideas, word, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person and turn it in as your own, even if you should have permission of that person. This includes copying material from books, reports, journals, pamphlets, handouts, other publications, web sites, etc., without giving appropriate credit for those ideas or without identifying material as quotations when taken directly from another source. Plagiarism is one of the worst academic sins, for the plagiarist destroys the trust among colleagues without which research cannot be safely communicated.

Cheating on quizzes and exams will not be tolerated. Cheating will be reported and handled in accordance with the University Regulations, Section 42. Some or all examinations will be closed book; retrieval of data, formulae, examples, definitions, etc. from a crib sheet, calculator, computer or other device during these examinations is a violation of Texas A&M University Student Rule 20.1.1 Acquiring Information, unless specifically allowed by the instructor.

Violation of a student rule can result in disciplinary action including a grade penalty, up to and including an F in the course, suspension, dismissal, and expulsion from Texas A&M University. If you have any questions regarding plagiarism or other forms of scholastic dishonesty, please consult the latest

issue of the Texas A&M University Student Rules, under the section 20 which can also be found at: <http://student-rules.tamu.edu/>.

9. Attendance Policy

Attendance will not be recorded. However, students are responsible for all material discussed in class and experience has shown that students who regularly miss class do poorly.

TERM PROJECT

The term project for Fall 2010 will be about upgrading the Dos Rios Water Recovery Center in San Antonio from a Class B to a Class A biosolids handling facility. This project has been selected for the student chapter design competition of the Water Environment Association of Texas (WEAT). Project teams will be established by the instructor and each team will work independently to produce the final project report. The requirements for the final report will closely follow the requirements of the design competition, but some differences may be established during the semester. Teams are encouraged, but not required, to enter the design competition. The final competition will be part of Texas Water 2011, which will be held in Fort Worth in April, 2011. All team members will be responsible for evaluating the work of other team members as well as themselves. These evaluations will be used to determine the grade each student receives for the project.

Date	Activity
September 6	Teams assigned
September 13	Project Organization and Work Plan submitted
October 13	Midterm Report submitted
November 24	Final Written Report submitted
December 3,6	Oral Presentations

REFERENCE LIST

Required Text:

Metcalf & Eddy Inc., Tchobanoglous, G., Burton, F.L., Stensel, H.D., Wastewater Engineering: Treatment and Reuse, 4th Ed., McGraw-Hill, New York, 2003. (TD645 .W293 2003)

Recommended Reference:

Crittenden, J.C., Trussell, R.R., Hand, D.W., Howe, K.J, Tchobanoglous, G., Water Treatment Principles and Design, 2nd Edition, John Wiley and Sons, Inc., 2005. (TAMU electronic resource: http://lib-ezproxy.tamu.edu:2048/login?url=http://www.knovel.com/knovel2/Toc.jsp?BookID=2435; a hyperlink is also at course website under "Links".)

Other Materials:

American Water Works Association, American Society of Civil Engineers, *Water Treatment Plant Design,* 4th Edition, McGraw-Hill, New York, 2004. (http://www.knovel.com/web/portal/basic_search/display?_EXT_KNOVEL_DISPLAY_bookid=1651)

American Water Works Association, Water Quality and Treatment, 5th Edition, McGraw-Hill, New York, 1999.

Benefield, L.D., Judkins, J.F., Parr, A.D., Treatment Plant Hydraulics for Environmental Engineers, Prentice-Hall, Inc., Englewood Cliffs, NJ, 1984. TAMU Library: TD756 .B46 1984

McGivney, W.T, Kawamura, S., *Cost Estimating Manual for Water Treatment Facilities*, John Wiley & Sons, 2008.

U.S. Environmental Protection Agency, *Construction Costs for Municipal Wastewater Treatment Plants: 1973-1978*, EPA/430/9-81-004, 1981.

U.S. Environmental Protection Agency, *Operation and Maintenance Costs for Municipal Wastewater Facilities*, EPA/430/9-80-003, FRD-11, 1980.

Water Environment Federation, *Design of Municipal Wastewater Treatment Plants*, 5th Ed., WEF Manual of Practice No. 8, Water Environment Federation, Alexandria, Virginia, and ASCE Manuals and Reports on Engineering Practice No. 76, American Society of Civil Engineers, Reston, Virginia, 2009. (TAMU library, 4th Edition, 1998: TD201 .W337 no. 8)
Volume I Planning and Configuration of Wastewater Treatment Plants, Chapters 1-10
Volume II Liquid Treatment Processes, Chapters 11-19
Volume III Solids Processing and Disposal, Chapters 20-27

Supporting Statement
Catalog Changes for CVEN 606

Two specific changes are requested in the catalog description of CVEN 606: 1) drop the "I" from the title, 2) change from 1 hour lecture/6 hour lab to 3 hour lecture.

CVEN 606 has been offered as a design course in environmental engineering for several decades. At one time its focus was on design of wastewater treatment plants and another course (CVEN 611) focused on design of water treatment plants. Then the description of CVEN 606 was modified so that design of either water or wastewater treatment plants could be covered and the description of CVEN 611 was modified to include design of any environmental system. The names were changed to "Environmental Engineering Design I" for CVEN 606 and "Environmental Engineering Design II" for CVEN 611. CVEN 611 has not been taught for many years and is no longer listed in the catalog. Therefore, the "I" in the title of CVEN 606 is superfluous and has caused some confusion among students about what other design courses are available.

In the 1970s, design of industrial wastewater treatment plants was a major challenge in environmental engineering. Design of such systems normally required that laboratory experiments be conducted to evaluate different treatment options, because of the wide differences in characteristics of various industrial wastewaters. The relative importance of industrial wastewater treatment has declined and with it the need for a laboratory component to the design course. It is believed that many years have passed since a full laboratory has been part of CVEN 606. Therefore, the request to change the catalog description from 1 hour of lecture/ 6 hours of laboratory to 3 hours of lecture is justified based on student needs and recent practice.

C621

Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional

• Submit original form and attachments •

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SEP 23 2011
GRADUATE STUDIES

1. Request submitted by *(Department or Program Name)*: Department of Ecosystem Science and Management

2. Course prefix, number and complete title of course: ESSM 685 Directed Studies

Attach a brief supporting statement for changes made to items 3a thru 3d. and 6 below.

3. Change requested

   a. Prerequisite(s): From: _____ To: _____

   b. Withdrawal (reason): _____

   c. Cross-list with: _____

   Cross-listed courses require the signature of both department heads.

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.

   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. **Attach a course syllabus.**

4. For informational purposes only, please indicate course number if this course will be stacked: _____

5. Complete current course title and current catalog course description:
   ESSM 685. Directed Studies. Credit 1 to 4 each semester.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):
   ESSM 685. Directed Studies. Credit 1 to 9 each semester.

7. a. As currently in course inventory:

Prefix	Course #	Title (excluding punctuation)
ESSM	685	DIRECTED STUDIES

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	FICE Code	Level
04	00	04	0111060005	0841	003632	6

b. Change to:

Prefix	Course #	Title (excluding punctuation)
ESSM	685	DIRECTED STUDIES

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	Acad. Year	FICE Code	Level
09	00	09	0111060005	0841	12-13	003632	6

Approval recommended by:

Tom Boutton — Thomas W. Boutton — 8/29/11
Department Head or Program Chair *(Type Name & Sign)* — Date

Department Head or Program Chair *(Type Name & Sign)* (if cross-listed course) — Date

Dave Reed — David W. Reed — 9/21/11
Chair, College Review Committee — Date

Dave Reed — David W. Reed — 9/21/11
Dean of College — Date

Mark Zoran — OCT 06 2011
Chair, GC or UCC — Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services — Date — Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 02/11

Reason for Change

ESSM 685 from 4 to 9 credit hours

The ESSM department needs to change the limit for credit hours on ESSM 685 because we have found that when working with many graduate students there is a need for more than 4 hours in one semester.

A678

Texas A&M University
Departmental Request for a Change in Course
Undergraduate ♦ Graduate ♦ Professional

• Submit original form and attachments •

1. Request submitted by *(Department or Program Name)*: Department of Finance
2. Course prefix, number and complete title of course: FINC 664 Portfolio Management

Attach a brief supporting statement for changes made to items 3a thru 3d, and 6 below.

3. Change requested
   a. Prerequisite(s): From: Graduate classification; classification 6 students may not enroll in this course; FINC 629 and FINC 632. To: Graduate classification; classification 6 students may not enroll in this course; FINC 421 or FINC 632; FINC 434 or FINC 629.
   b. Withdrawal (reason): _____
   c. Cross-list with: _____

   Cross-listed courses require the signature of both department heads.

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. **Attach a course syllabus.**
4. For informational purposes only, please indicate course number if this course will be stacked: _____
5. Complete current course title and current catalog course description:
   Portfolio Management. Overview of the investment industry and the portfolio management process; includes portfolio structuring, stock vs. sector selection, performance measurement, and attribution analysis; investment products and distribution channels, legal and governance issues, operations, product development and marketing.
6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):
   Active Portfolio Management. Analysis of investment tactics designed to earn abnormal returns; identification and evaluation of active strategies that exploit capital market anomalies and market inefficiencies; portfolio structuring, stock and sector selection, performance measurement, attribution analysis and benchmarks in inefficient markets.
7. a. As currently in course inventory:

Prefix	Course #	Title (excluding punctuation)
FINC	664	PORTFOLIO MANAGEMENT

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	FICE Code	Level
03	00	03	52080400 16	1110	003632	6

b. Change to:

Prefix	Course #	Title (excluding punctuation)
FINC	664	ACTIVE PORTFOLIO MGMT

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	Acad. Year	FICE Code	Level
03	00	03	52080400 16	1110	12-13	003632	6

Approval recommended by:

R. T. Dye — 9/9/11
Department Head or Program Chair *(Type Name & Sign)* — Date

Chair, College Review Committee — 9/12/11 — Date

Department Head or Program Chair *(Type Name & Sign)* (if cross-listed course) — Date

Dean of College — 9/12/11 — Date

Submitted to Coordinating Board by:

Chair, GC or UCC — MARK J. ZORAN — OCT 06 2011 — Date

Associate Director, Curricular Services — Date — Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 02/11

FINC 664 was planned to be an elective in the finance curriculum covering the general process of portfolio management. After FINC 664 was created, in response to a donor's gift, the finance department launched a portfolio management class in which students invest real money in a *passively*-managed portfolio (FINC 668). We seek to modify FINC 664 to focus on simulated *active* investment management techniques. If the changes are approved, FINC 668 and FINC 664 together will give students hands-on experience with both passive and active strategies, providing a much more complete treatment of the portfolio management process.

Ch22

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SEP 23 2011
GRADUATE STUDIES

Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional

• Submit original form and attachments •

1. Request submitted by *(Department or Program Name)*: Department of Soil and Crop Sciences
2. Course prefix, number and complete title of course: SCSC 657 Environmental Soil Science

Attach a brief supporting statement for changes made to items 3a thru 3d, and 6 below.

3. Change requested
   a. Prerequisite(s): From: _____ To: _____
   b. Withdrawal (reason): _____
   c. Cross-list with: _____

   Cross-listed courses require the signature of both department heads.

   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. **Attach a course syllabus.**
4. For informational purposes only, please indicate course number if this course will be stacked: SCSC 455
5. Complete current course title and current catalog course description:
   Environmental Soil Science.

   Environmental aspects of soil receiving organic and inorganic materials involved with crop production and from wastes associated with agriculture, industry and municipalities; soil properties largely determine environmentally sound practices of applying these materials and the quantities that may be added without polluting air, soil and water resources.
6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):
   Environmental Soil and Water Science.

   Discussion of physical, chemical, and biological properties of soil and water and the impact on productivity and sustainability of various ecosystems; application of the knowledge of properties and soil processes to develop and evaluate strategies for protecting and/or improving soil and water quality.
7. a. As currently in course inventory:

Prefix	Course #	Title (excluding punctuation)
SCSC	455	ENVIRON SOIL SCIENCE

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	FICE Code	Level
03	00	03	0112010005	2620	003632	4

b. Change to:

Prefix	Course #	Title (excluding punctuation)
SCSC	455	ENVIRON SOIL & WATER SCI

Lect.	Lab	SCH	CIP and Fund Code	Admin. Unit	Acad. Year	FICE Code	Level
03	00	03	0112010005	2620	12-13	003632	4

Approval recommended by:

David D. Baltensperger — 9/19/11
Department Head or Program Chair *(Type Name & Sign)* Date

David Reed — 9/15/11
Chair, College Review Committee Date

Department Head or Program Chair *(Type Name & Sign)* Date
(if cross-listed course)

Alan Sams — 9/15/11
Dean of College Date

Mark Zoran — OCT 06 2011
Chair, GC or UCC Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services — Date — Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra-williams@tamu.edu.
Curricular Services – 02/11

Reason for Change

The revised course title and course description better reflect the course content.

TEXAS A&M UNIVERSITY

Environmental Soil and Water Science

Course prefix and number	SCSC 455/657
Term	Spring
Meeting times and location	Heep 124 TR 2:20 - 3:35
Course Credit	(3-0) Credit 3

Course Description and Prerequisites

Course Description: This is a writing intensive course. In this course we will discuss the physical, chemical, and biological properties of soil and how they impact the productivity and sustainability of various ecosystems. In addition, we will use knowledge of these properties and various soil processes to develop and evaluate strategies for protecting and/or improving soil and water quality.

Students will describe and quantify physical, chemical and biological properties of soil, and explain how they vary in time and in space; explain how physical, chemical and biological properties and processes in soil affect sustainability and productivity of managed and natural ecosystems, and environmental quality; apply principles of soil science to management, reclamation and remediation of agricultural, natural, urban, and disturbed landscapes and as part of a team, design and defend a site-specific plan for reclaiming or remediating disturbed and/or contaminated soil and/or water.

Prerequisites: SCSC 301, junior or senior classification, or approval of instructor

Learning Outcomes

Demonstrate comprehensive knowledge of physical, chemical and biological properties of soil.

- Describe and quantify physical, chemical and biological properties of soil, and explain how they vary in time and in space.
- Describe soil-forming processes and principles of soil classification and soil mapping.
- Describe and explain cycling of nutrients, carbon, and other elements in soil, plants and the atmosphere and the relationship of these processes to climate change.
- Explain the roles of soil microorganisms in soil and plant processes, and water quality.
- Describe and explain interactions among plants, water, soil and the atmosphere.

Demonstrate comprehensive knowledge of water movement in soils and plants and the resulting impacts on water yield and quality.

- Explain principles and processes of water movement, water retention, and nutrient and chemical transport in soils.

Apply knowledge of science and technology for precision management of sustainable agricultural, natural, urban, and engineered ecosystems.

- Describe how soils contribute to environmental quality.

- Explain how physical, chemical and biological properties and processes in soil affect sustainability and productivity of managed and natural ecosystems, and water quality.
- Apply principles of soil science to management, reclamation and remediation of agricultural, natural, urban, and disturbed landscapes.
- Identify and explain spatial methods and analyses needed for precision management of soil and water.

Communicate effectively in speaking and writing.

- Deliver a convincing presentation and/or paper, with critical analysis and develop the ability to accept and positively respond to criticism.

Work collaboratively.

- Apply knowledge to real world applications through team collaboration.

Solve problems using scientific reasoning and critical thinking.

- Access, utilize and apply data on soils and water to problem solving.

Instructor Information

Name	Dr. Terry Gentry
Telephone number	979-845-5323
Email address	tgentry@ag.tamu.edu
Office hours	By appointment
Office location	Heep 550A

Textbook and/or Resource Material

Pepper, I.L., C.P. Gerba, and M.L. Brusseau. 2006. Environmental and Pollution Science. Academic Press, San Diego.

Grading Policies

SCSC 455 Evaluation Criteria:

Exams: We will have quizzes at the beginning (pre-quiz, 5 @ 10 points each, 50 points total) and end (post-quiz, 5 @ 50 points each, 250 points total) of each major section.

Writing Assignments: Writing projects will constitute 50% of your total grade. This will include individual writing assignments on case studies (2 @ 50 points each, 100 points total) and group projects on applied topics (2 @ 100 points each, 200 points total). You will have the opportunity to make changes to each paper per editorial comments, and return the revised paper for grading. Your final grade on each writing assignment will be the average of grades for your first draft and final draft.

SCSC 657 Evaluation Criteria:*

Exams: We will have quizzes at the beginning (pre-quiz, 5 @ 15 points each, 75 points total) and end (post-quiz, 5 @ 65 points each, 325 points total) of each major section.

Writing Assignments: Writing projects will constitute 50% of your total grade. This will include individual writing assignments on case studies (2 @ 50 points each, 100 points total), a review paper (1 @ 100 points), and group projects on applied topics (2 @ 100 points each, 200 points total). You

will have the opportunity to make changes to each paper per editorial comments, and return the revised paper for grading. Your final grade on each writing assignment will be the average of grades for your first draft and final draft.

Grading Scale:

≥ 90%	A
80 - 89%	B
70 - 79%	C
60 - 69%	D
<60%	F

*Additional requirements for SCSC 657 include extra question(s) on the quizzes and writing a review paper on a topic (to be chosen in consultation with the instructor) related to environmental soil and water science.

No late work is accepted except in the case of a University Excused Absence. Missed exams, homework, and assignments can only be made up in the case of a University Excused Absence.

Attendance Policy

"The University views class attendance as the responsibility of an individual student. Attendance is essential to complete the course successfully. University rules related to excused and unexcused absences are located on-line at http://student-rules.tamu.edu/rule07."

Course Topics, Calendar of Activities, Major Assignment Dates

Week	Class	Project
1	Introduction Soil chemistry and mineralogy • Basic concepts of soil chemistry	
2	• Soil phase • Mineral weathering • Solid/solution equilibria • Ion exchange	Project 1 - Surface mine reclamation
3	• Sorption and precipitation reactions • Acidity • Oxidation-reduction reactions • Salt affected soils	Project 1 - Surface mine reclamation
4	Soil Fertility • Roles of nutrients in plants and their availability in soils • pH • Acidifying and liming of soils	Project 1 - Surface mine reclamation
5	• Nutrient sources • Soil fertility sampling • Soil and plant analyses and interpretations • Nutrient management	Project 1 - Surface mine reclamation
6	Soil Genesis, Morphology, and Classification	Project 1 - Surface mine

	• Soil forming factors • Horizon forming processes • Soil profile descriptions • Soil interpretations and land use management	reclamation
7	• Soil classification concepts • Soil mapping • Geomorphology • Soils in landscapes	Project 1 - Surface mine reclamation
8	Presentations & discussion of Project 1	Project 1 - Surface mine reclamation
9	Soil Physics • Physical properties • Soil-water relationships • Water movement and transport processes	Project 2 – Bioremediation or land application of biosolids/animal manure
10	• Soil temperature • Soil gases • Engineering properties	Project 2 – Bioremediation or land application of biosolids/animal manure
11	Soil Biology and Biochemistry • Living soil constituents • Soil ecology	Project 2 – Bioremediation or land application of biosolids/animal manure
12	• Biological and biochemical activities • Environmental and agricultural applications	Project 2 – Bioremediation or land application of biosolids/animal manure
13	Land Use Management • Erosion and sediment control • Wetlands and hydric soils • Soil quality and management • Waste management • Cropland and field management • Water quality and management • Regulatory and resource agencies • Urban soils • Forest soils	Project 2 – Bioremediation or land application of biosolids/animal manure
14	Presentations & discussion of Project 2	Project 2 – Bioremediation or land application of biosolids/animal manure

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu

Academic Integrity

For additional information please visit: http://aggiehonor.tamu.edu

"An Aggie does not lie, cheat, or steal, or tolerate those who do."