Course Changes
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 624 Physical Chemistry of Soils

3. Change requested
   Attach a brief supporting statement for changes made to items A through G, and h below.
   a. Prerequisite(s): From: AGRO 626; CHEM 324 or approval of instructor
      To: SCSC 301 or approval of instructor
   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:
   SCSC 624. Physical Chemistry of Soils. (3-3). Credit 4.
   Physical chemistry of clay minerals and inorganic and organic soil colloids; specific and non-specific absorption; kinetic processes and chemical equilibria in soils.

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):
   SCSC 624. Soil Chemistry. (3-3). Credit 3.

7. a. As currently in course inventory:
   Primary Course Title (excluding punctuation):
   SCSC 624 Physical Chemistry of Soils
   Lec Lab SCH CP and Fund Code Admin Unit HRI Code Level
   0 3 0 3 1 1 2 0 1 0 0 0 0 0 0 0 0 3 6 3 2 6
   b. Change to:
   Primary Course Title (excluding punctuation):
   SCSC 624 Soil Chemistry
   Lec Lab SCH CP and Fund Code Admin Unit Acad Year HRI Code Level
   0 3 0 0 1 1 2 0 1 0 0 0 5 0 0 0 0 1 3 1 4 0 0 3 6 3 2 6
   Approval recommended by:
   [Signature]
   [Date]

   Department Head or Program Chair (Type Name & Sign) Date
   Chair, College/Department Committee Date
   (if cross-listed course)
   Submitted to Coordinating Board by:
   [Signature]
   [Date]
   Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu
Curricular Services – 08/11
SOIL CHEMISTRY
SCSC 624
FALL 2013
MWF 10:20-11:10; HPCT 124

Instructor: Paul Schwab (Heep Center 618A, 845-3663, pschwab@tamu.edu)
Office Hours: By appointment
Prerequisites: SCSC 301 or approval of instructor
Class Schedule:

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Topic</th>
<th>Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>The Chemical Composition of Soils</td>
<td>1</td>
</tr>
<tr>
<td>4-9</td>
<td>Soil Minerals</td>
<td>2</td>
</tr>
<tr>
<td>10-11</td>
<td>Soil Humus</td>
<td>3</td>
</tr>
<tr>
<td>12-15</td>
<td>The Soil Solution</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>Exam 1</td>
<td></td>
</tr>
<tr>
<td>17-20</td>
<td>Mineral Stability and Weathering</td>
<td>5</td>
</tr>
<tr>
<td>21-24</td>
<td>Oxidation/Reduction Reactions</td>
<td>6</td>
</tr>
<tr>
<td>25-27</td>
<td>Geochemical Modeling</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Exam 2</td>
<td>7</td>
</tr>
<tr>
<td>29-32</td>
<td>Surface Charge</td>
<td></td>
</tr>
<tr>
<td>33-36</td>
<td>Adsorption Phenomena</td>
<td>8</td>
</tr>
<tr>
<td>37-40</td>
<td>Salinity</td>
<td>12</td>
</tr>
<tr>
<td>41-44</td>
<td>Soil Acidity</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Review</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Final Exam</td>
<td></td>
</tr>
</tbody>
</table>

Learning Objectives:
After completing the course, each student will:
1) Be able to identify mineral soils.
2) Be able to describe the chemical reactions of the important species in soil solutions
   Know the critical oxidation/reduction reactions in soils and when they are important
   Understand adsorption/desorption of chemical species in soils, including the difference between inner
   shell and outer sphere complexes

SCSC 624 EVALUATION CRITERIA:

I. Exams (300 points, 2 @ 150 pts each)
II. Quizzes (100 points, 10 @ 10 pts each)
III. Homework (200 points)
    TOTAL = 600 points

GRADING SCALE:

<table>
<thead>
<tr>
<th>Points Range</th>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥720 points</td>
<td>(≥90%)</td>
<td>A</td>
</tr>
<tr>
<td>640-719 points</td>
<td>(80 - 89%)</td>
<td>B</td>
</tr>
<tr>
<td>560-639 points</td>
<td>(70 - 79%)</td>
<td>C</td>
</tr>
<tr>
<td>480-559 points</td>
<td>(60 - 69%)</td>
<td>D</td>
</tr>
<tr>
<td>&lt;479 points</td>
<td>(&lt;60%)</td>
<td>F</td>
</tr>
</tbody>
</table>
MAKE-UP POLICY
Completion of assignments and participation in all activities of the class are the responsibility of the student. Therefore, it is the responsibility of the student to present a valid reason, such as a signed medical excuse from a doctor, to be given consideration in the assessment of timeliness and submission of assignments. Assignments not returned will be given a grade of zero. Consideration in the assessment of timeliness and submission of assignments is subject to University Rules for Excused Absences."

AMERICANS WITH DISABILITIES ACT (ADA) POLICY STATEMENT
The following ADA Policy Statement (part of the Policy on Individual Disabling Conditions) was submitted to the University Curriculum Committee by the Department of Student Life. The policy statement was forwarded to the Faculty Senate for information. The Americans with Disabilities Act (ADA) is a federal antidiscrimination 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 Student Life, Services for Students with Disabilities in Cain Hall, Room B118, call 845-1637 or visit: http://disability.tamu.edu

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

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the Texas A&M University community from the duties and responsibilities of the Honor System. For additional information please visit: http://www.tamu.edu/aggiehonor

On all course work, assignments, and examinations at Texas A&M University, the following Honor Pledge shall be preprinted and signed by the student: "On honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work."

EXCUSED ABSENCES
7.1 The student is responsible for providing satisfactory evidence to the instructor to substantiate the reason for absence. Among the reasons absences are considered excused by the university are the following:

7.1.6 Injury or illness that is too severe or continues for the student not attend class.

7.1.6.1 Injury or illness that is three or more days. For injury or illness that requires a student to be absent from classes for three or more university business days (to include classes on Saturday), the student should obtain a medical confirmation note from his or her medical provider. The Student Health Center or an off-campus medical professional can provide a medical confirmation note only if the medical professional is involved in the medical care of the student. The medical confirmation note must contain the date, duration of the illness, and medical professional's confirmation of needed absence.

7.1.6.2 Injury or illness less than three days. Faculty members may require confirmation of student injury or illness that is serious enough for a student to be absent from class for a period less than three university business days (to include classes on Saturday). At the discretion of the faculty member and/or academic department standard, as outlined in the course syllabus, illness confirmation may be obtained by one or both of the following methods:

a. Texas A&M University Explanatory Statement for Absence from Class form available at http://attendance.tamu.edu
b. Confirmation of visit to a healthcare professional affirming date and time of visit.

7.1.6.3 An absence for a nonacute medical service does not constitute an excused absence.

To view all Student Rules, please go to: http://student-rules.tamu.edu/
To view Rule 7 of the Student Rules please go to: http://student-rules.tamu.edu/rule7.htm