Course Syllabus
Pedology

SOCR 440
Fall 2012

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Instructor and Teaching Assistant Contact Information

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Course Description

Pedology is the branch of soil science that addresses soils, their properties, origins, distribution and occurrence on the landscape, as well as their evolution through time. It is the study of soils as naturally occurring phenomena taking into account their composition, distribution and method of formation (Schaetzl & Anderson 2005). This course will focus on the process of soil formation, characterization, classification, and soil survey methods.

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General Course Objectives & Outcomes

Upon successful completion of this course students shall have insight into the complex relationships of the soil ecosystem by understanding pedological properties and processes.
Specifically, the students should be able to:

1. technically characterize and classify soil profiles
2. identify the morphological properties of soil profile development in the context of external factors and internal processes
3. distinguish soil-landscape patterns and geomorphology to make predictions about soil properties

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Course Requirements

To complete and submit the course assignments, you must have access to computer hardware and software that meets the standards for RamCT Blackboard usage.

- Assignments that require word processing must be submitted in Microsoft Word format. Documents created using Microsoft Works, or files that have .txt, .pdf, or .asci extensions will not meet course requirements. If you do not have proper software on your computer, you can use the Microsoft Word program on any of the "open lab" computers on campus or in public libraries.
- If you are using Microsoft Office 2007, make sure that you are able to upload assignments.
- Please virus check documents before sending them. Panda Software offers a free online virus check.

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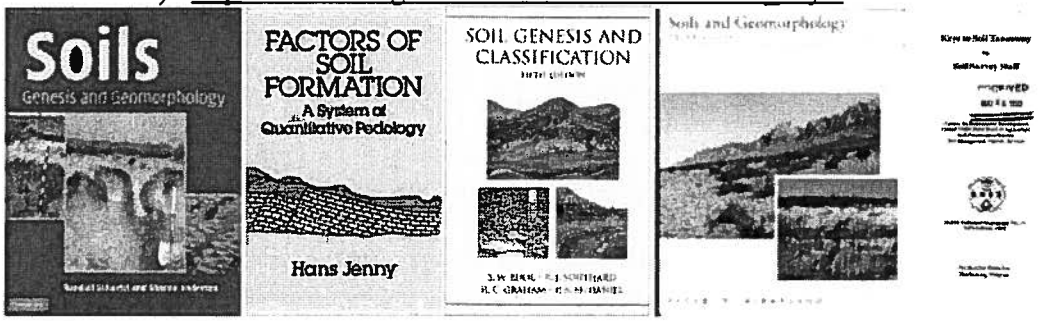
Course Materials

Required Texts:

1. Schaetzl R.J. and Anderson S. (2005) Soils: Genesis and Geomorphology. 1st edition. Cambridge University Press, 817p. (ISBN: 13 978-0-521-8120-6)
2. Jenny H. (1994) Factors of Soil Formation: A System of Quantitative Pedology. Dover Publ. Inc., New York 281p. (ISBN: 0-486-68128-9). http://www.soilcrop.colostate.edu/undergrad/pdf/440/Factors_of_Soil_Formation_2010.pdf

Reference Texts:

3. Buol S.W., Southard R.J., Graham R.C., and McDaniel P.A. (2008) Soil Genesis and Classification. 5th edition. Wiley, John & Son Inc. 483p. (ISBN: 0813828732)
4. Birkland P.W. (1999) Soils and Geomorphology. Oxford University Press. 430p. (ISBN: ISBN 0195078861)
5. United States. Soil Management Support Services, United States. Soil Conservation Service - Pocahontas Press (1992) Keys to Soil Taxonomy by Soil Survey Staff. 541 p. (ISBN 093601539X). http://soils.usda.gov/technical/classification/tax_keys/



6. Amundsen, R. and H. Jenny, 1991. The place of humans in the state factor theory of ecosystems and their soils. Soil Science, 151-1, p. 99-109.

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Methods of Instruction

This is a 4-credit hour course that will meet M, W, F. Two hours per week will be spent in class learning course material, three hours per week will be spent in the field for hands on learning, and 1 hour per week will be spent in recitation for more in-depth clarification. Tests are included

in the 6 hours/week dedicated to this class. However, chapter readings, course assignments, and final project are homework and require time spent outside of class.

Students are responsible for regularly reviewing the course schedule and completing all required assignments. There will be:

- 10 weekly quizzes
- 2 unit exams
- 10 laboratory assignments and 3 unit assignments
- 1 group project

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Course Attendance and Participation Policy

Regular, active, and meaningful participation in learning activities is a critically important component of this course and is essential to your success. Frequency and quality of participation may affect your grade.

- **Participation:** Active participation is expected of all students in this course.
- **Attendance Policy:** Please familiarize yourself with CSU's Attendance Policy.

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Course Schedule and Assignments

Quizzes – There will be 10 quizzes worth 10 points each and you will be allotted 15 minutes to complete each. Quizzes will be administered during the recitation hour of the selected weeks.
Exams – Exams will be conducted in class. There will be 2 unit exams worth 100 points each. They may be formatted as multiple choice, short answer, fill in the blank, labeling diagrams and essay. Exams may allow 50 minutes to complete.
Assignments – Access assignments using the assignments tool on RamCT Blackboard and submit assignments using the assignment dropbox. Instructions and grading of assignments will be provided per assignment. There will be 10 laboratory assignments worth 30 points each and 3 unit assignments worth 50 points each. These assignments and all other material will be due on the given due dates shown below.
Final Project – The final course project is to analyze datasets from one of 13 national parks given a chosen question/hypothesis. Presentation of work will be in the form of a powerpoint presentation given to the class during the final weeks of class and during exam week. This is a group (groups of 4) exercise worth 250 points. Details will be provided throughout the semester.

Assessment	Graded Points	Percent of Final Grade
Unit Exams (2)	200	20
Laboratory Assignments (10)	300	30
Group Project (1)	250	25
Unit Assignments (3)	150	15
Weekly Quizzes (10)	100	10
Total	**1000**	**100%**

Read and refer to this document regularly. It will tell you what assignments you should complete, and how and when you will be assessed.

Week/ Unit____	Lecture Topics	Laboratory & Field Trips	Assignments & Assessments
Week 1: Aug 20th-26th Unit 1	• Introduction • Soil morphology & characterization	Morphology lab (#1)	*Due by Aug.26th* 1. Read 1: chapters 1-3 2. Lab. Assignment #1
Week 2: Aug 27th-Sept.2nd Unit 1	• Soil classification	Ardec & Carr (#2)	*Due by Sept.2nd* 1. Read 1: chapter 7 2. Lab. Assignment #2 3. Quiz 1 (Recitation)
Week 3: Sept 3rd -9th Unit 1	• Soil classification	NO LAB/FIELD	*Due by Sept.9th* 1. Unit 1 Assignment 2. Quiz 2 (Recitation)
Week 4: Sept 10th-16th Unit 1	• Soil composition/ mineralogy • Soil chemistry	Masonville (#3)	*Due by Sept.16th* 1. Read 1: chapter 4, 9 2. Lab. Assignment #3 3. Quiz 3 (Recitation)
*Sunday, Sept. 16th	**Bioclimosequence: All day field trip (#4-6)**		
Week 5: Sept 17th -23rd Unit 1	• Soil weathering • Pedogenic Processes	Owl Canyon: Lithosequence (#7)	*Due by Sept.23rd* 1. Read 1: chapters 9, 10, 11 2. Lab. Assignment #4 3. Quiz 4 (Recitation)
Week 6: Sept 24th -30th Unit 1	• Exam review • ***Exam Sept. 26th (Wed)***	Overview of final project (library rm. 174)	*Due by Oct.30th* 1. Lab. Assignment #5-7
*Saturday, Sept. 29th	**Bioclimosequence: All day field trip (#4-6)**		
Week 7: Oct 1st-7th Unit 2	Models of Soil Formation 1) Parent material	CPER: Chronosequence & Toposequence (#8)	*Due by Oct.7th* 2. Read 1: chapter 11 3. Read 2: chapters 1,4 4. Lab. Assignment #8 5. Quiz 5(Recitation)
Week 8: Oct 8th -14th Unit 2	Models of Soil Formation 2) Climate 3) Organisms Review of Soil Biology	PLC: Hydrosequence (#9)	*Due by Oct.14th* 1. Read 2: chapter 6, 7 2. Lab. Assignment #9 3. Final project topic 4. Quiz 6 (Recitation)
Week 9: Oct 15th -21st Unit 2	Models of Soil Formation 4) Topography 5) Time	Web-based: Climosequence (#10)	*Due by Oct.21st* 1. Read 2: Chapter 5, 3 2. Lab. Assignment #10 3. Quiz 7 (Recitation)
Week 10: Oct 22nd -28th Unit 2	Models of Soil Formation 6) Humans		*Due by Oct.28th* 1. Read 6

			2. Quiz 8 (Recitation)
Week 11: Oct 29th-Nov.4th Unit 2	Models of Soil Formation • Guest Lecture • Guest Lecture		*Due by Nov.4th* 1. Final project outline
Week 12: Nov 5th -11th Unit 2	• Group led discussion to class of scientific paper on BGC cycle • ***Exam Nov. 7th (Wed)***		*Due by Nov.11th* 1. Group paper review to class 2. Unit 2 Assignment
Week 13: Nov 12th -18th Unit 3	• Paleosols & Paleoclimatology • Models: Soil mass balance techniques		*Due by Nov.18th* 1. Read 1: Chapter 15 2. Read Chadwick 1990 3. Quiz 9 (Recitation)
Week 14: Nov 19th -25th Unit 3	FALL BREAK 	FALL BREAK 	FALL BREAK 
Week 15: Nov 26th–Dec.2nd Unit 3	• Guest Lecture on Soil Survey	Groups work on final projects	*Due by Dec.2nd* 1. Unit 3 Assignment 2. Quiz 10 (Recitation)
Week 16: Dec 3rd -9th Unit 3	• Guest Lecture from NRCS • Exit evaluation	Final Project Presentations	*Due by Dec.9th* 1. Final project presentations
Week 17: Dec 10th ; 2:00-4:00		Final Project Presentations	

Grading and Exam Policy

- **Late Submissions**
  - Assignments submitted after the due date and time will not be accepted
  - Quizzes/exams cannot be completed after the due date and time
  - There will be no makeup assignments available
- **Make-up Exam Policy**
  - Make-up quizzes/exams will be permitted only under extenuating circumstances and only with prior notification and documentation (original funeral notice, original doctor note, etc.).
  - The instructor reserves the right to create alternate make-up exams for students who are not able to take the scheduled, on-campus exams.
  - Exams cannot be made up after the exam date has passed unless prior arrangements have been made.
- **View your Grades**
  - Grades for assignments and quizzes will be posted within 2 weeks of CSU's working days of the closing date of the assignment.
  - Grades for exams will be posted on RamCT Blackboard within 1 week of CSU's working days.
- **How your Grade will be Determined**

Grading Scale	
Grades	**Percentage**
Grade = A	90-100+%
Grade = B	80-89%
Grade = C	70-79%
Grade = D	60-69%
Grade = F	59% and below

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Assignment, and Project Grading Rubric

Scoring Rubric 36 points=100%

CATEGORY	4	3	2	1
Content: FOCUS	Pedology topic/subject is clear, though it may/may not be explicitly stated.	Pedology topic/subject is generally clear though it may not be explicitly stated.	Pedology topic/subject may be vague.	Pedology topic/subject may be unclear or confusing.
Content: ORGANIZATION	Organizational structure establishes relationship between/among Pedology ideas/events.	Organizational structure establishes relationships between Pedology ideas/events, although minor lapses may be present.	Organizational structure establish some relationship between/among some of the Pedology ideas/events. The structure is minimally complete.	Organizational structure does not establish connection between/among Pedology ideas/events. The overall structure is incomplete or confusing.
Content: Quality of Information	Support information is related to and supportive of the Pedology topic/subject. Information includes supporting details and examples.	Support information has minor weaknesses in relatedness to and/or support of the Pedology topic/subject. Information includes most supporting details and examples.	Support information has major weaknesses in relatedness to and/or support of the Pedology topic/subject. Information includes some supporting details but no examples.	An attempt has been made to add support information, but it was unrelated to Pedology or confusing.
Content Consistency Balance	Maintains focus on Pedology topic/subject throughout response.	May exhibit minor lapses in focus on Pedology topic/subject.	May lose or may exhibit major lapses in focus on Pedology topic/subject.	May fail to establish focus on Pedology topic/subject.
Content: STYLE Sentence Fluency	Demonstrates skillful sentence fluency (varies length, good flow rhythm, and varied structure).	Demonstrates reasonable sentence fluency.	Demonstrates minimal sentence fluency.	Sentence fluency is lacking.

Content: STYLE Vocabulary	Exhibits skillful use of vocabulary related to Pedology that is precise and purposeful.	Exhibits reasonable use of vocabulary related to Pedology that is precise and purposeful.	Exhibits minimal use of vocabulary related to Pedology and is not always precise or purposeful.	Lacks use of vocabulary related to Pedology that is precise and purposeful.
Mechanics	Exhibits EXCELLENT CONTROL of grammatical conventions appropriate to the writing task: sentence formation; standard usage including agreement, tense, and case; and mechanics including use of capitalization, punctuation, and spelling.	Exhibits GOOD CONTROL of grammatical conventions appropriate to the writing task: sentence formation; standard usage including agreement, tense, and case; and mechanics including use of capitalization, punctuation, and spelling.	Exhibits REASONABLE CONTROL of grammatical conventions appropriate to the writing task: sentence formation; standard usage including agreement, tense, and case; and mechanics including use of capitalization, punctuation, and spelling.	Exhibits MINIMAL CONTROL of grammatical conventions appropriate to the writing task: sentence formation; standard usage including agreement, tense, and case; and mechanics including use of capitalization, punctuation, and spelling.
Non verbal and verbal Presentation	Successfully uses presentation media. Holds attention of entire audience with use of direct eye contact and fluid and relaxed body movements. Seldom use of notes.	Successfully uses presentation media. Holds consistent attention of audience with use of direct eye contact and fluid and relaxed body movements. Occasional use of notes.	Uses presentation media displays. Minimal eye contact and fluid and relaxed body movements. Mostly read from notes.	Needs assistance to use presentation media. Minimal eye contact and fluid and relaxed body movements. Entirely read from notes.
Cited Sources	All cited sources are accurately documented in the desired format.	All cited sources are accurately documented, but a few are not in the desired format.	Most cited sources are accurately documented, but many are not in the desired format.	Most cited sources are not accurately documented or in the desired format.
Total Score				
Grade				

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Other Policies and Procedures

Special Needs - Students having special needs as defined by the Americans with Disabilities Act should:

- Notify the Office of Disability Services as early in the term as possible. It is the student's responsibility to contact the Disability Support Office to document disability prior to receiving services.
- Notify the instructor after you have contacted the Office of Disability Services so that the instructor can consult with the Office of Disability Services to discuss what reasonable accommodations would be appropriate for your situation.

Academic Honesty

- Each student's academic work must be the result of his or her own thought, research, or self-expression.

- Cheating includes, but is not limited to: copying the work of another person (plagiarism) or permitting your work to be copied by another person, discussing test answers or questions with people who have not completed the test, distributing assignment materials to other students, poses sing course materials that have not been formally released to students in the course, and collaborating on the completion of assignments not specifically designated in the syllabus as being group projects".
- Cheating will be considered a breach of CSU's Code of Conduct Policy and may result in academic penalties (zero points on the assignment/test in question, a failing grade for the course), disciplinary action, and/or a referral to the Dean of Student Affairs. Examples 1) If it appears that two or more students have submitted the same material for any solo assignments, each student involved will receive zero points for that assignment. 2) If it appears that a student has copied an assignment from published material (including Internet sites), the student will receive zero points for that assignment

Critical Event Procedure

- In the event of a school closing due to weather or other major event that might impact class schedules, the instructor will post an announcement indicating what changes, if any, the event will have on the course schedule and due dates.

Copyright

- **The materials used in this course may be protected by copyright and are only for the use of students enrolled in this course for the purposes associated with this course and may not be retained or further disseminated.**

Withdrawals

If you stop attending class, submitting assignments or fail to take quizzes or tests prior to the withdrawal date, you will be administratively withdrawn from class and receive a W or, if it is your third attempt, an F.

If you stop participating after the withdrawal date, (withdrawal date October 15th) you will receive a WF that will then be computed as an F in your GPA. To avoid this situation, you should remain an active learner in this class and always communicate extenuating circumstances to me. Ongoing communication with the instructor is critical to your course success. I will use completion of tests, assignments, and other class activities as indicators of your participation in order to satisfy this reporting requirement.

Changes to the Syllabus

- The instructor reserves the right to make changes to this syllabus. In the event that changes become necessary, students will be notified through RamCT Blackboard Email.

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Student Success Tips

In order to be successful in this course, you need to be organized and manage your time well so that you can complete all assignments and assessments on time. You will need to devote at least 5 in class hours per week to complete the learning activities required in this course. Make sure that you do not allow yourself to procrastinate, and that you communicate with the instructor or your classmates if you have any questions on any course materials or need assistance completing any assignments.

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