

# SOIL 4590 – Soil Judging –Spring 2018

Meeting times: Fridays 12-1 pm in STEM 235

## Instructors:

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## Description

Soil Judging is a field-oriented course that focuses on the techniques used to (1) describe soil morphology and site and profile characteristics, (2) make land use interpretations based on soil characteristics, and (3) classify soils. This class is designed to prepare students for National Collegiate Soil Judging Contest and for students to gain experience in the description and interpretation of soils in the field. During the spring semester, the team will compete at the national contest to be held in Tennessee from March 18-23. Generous contributions from the School of Energy Resources, Ecosystem Science and Management Department, and several other sources will be used to cover the expenses (of 8 students) for this trip including most food, lodging, and travel.

From this course, students will learn the basics of soil description and evaluation through active participation and hands-on field experiences. Photos from the UWYO & CSU participants in the 2017 soil judging contest can be viewed at <https://goo.gl/photos/3XiQomqvb8o3nb9W7>

## Goals

During this course, students will:

1. Develop an appreciation for soil characteristics and variability.
2. Prepare to participate as a member of the UWYO Soil Judging Team.
3. Develop skills necessary to describe genetic and diagnostic horizons in the field.
4. Learn to write and interpret soil descriptions.

Students who successfully complete the course will be able to:

1. Recognize and describe basic soil morphology (color, texture and rock fragment content, structure, consistence, redoximorphic features, and horizonation) using standard terminology;
2. Describe site characteristics (slope, slope profile, landform, parent material, and surface runoff).
3. Infer selected soil characteristic from the morphological and site descriptions (saturated hydraulic conductivity of the surface and limiting layers, effective rooting depth, soil water retention difference, and soil drainage class).
4. Identify diagnostic surface and subsurface soil horizons, classify soils to the great group level, and particle size family according to the basics of Soil Taxonomy.
5. Make general interpretations for soil suitability for use as septic tank absorption fields, dwellings with basements, local roads, and streets.

## Course materials

Soil Judging Manual – provided by the instructor – coming soon!

Contest website here: <https://sites.google.com/vt.edu/soil2018ncsc/home>

Keys to Soil Taxonomy, 12<sup>th</sup> edition – available to order and online at:

[http://soils.usda.gov/technical/classification/tax\\_keys/](http://soils.usda.gov/technical/classification/tax_keys/)

Field Book for Describing and Sampling Soils v3.0 – available as a pdf here:

<http://soils.usda.gov/technical/fieldbook/>

Supplemental reading from the Soil Survey Manual – available here: <http://soils.usda.gov/technical/manual/>

Supplies required for each lab (to be provided by the student for your own use):

- Soil sampling tool (heavy duty DULL knife, rock hammer, weeding tool, trowel)
- Clipboard

### Grading

- (1) Active participation, effort, and performance in lab activities and field trips will make up 50 points. “Active” means attending labs and field trips, and participating (asking questions, offering comments, etc.). Performance will be based primarily on scorecards collected after each field activity.
- (2) Quizzes and Assignments will account for 25 points. There will be quizzes given during lab time. Assignments will be occasional.
- (3) The National Soil Judging Contest experience will be worth 25 points.

### Tentative schedule

January 2018							February 2018						
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
31 New Year's Eve	Jan 1 New Year's Day	2	3	4	5	6	28	29	30	31	Feb 1 Groundhog Day	2 meet 12-1	3
7	8	9	10	11	12	13	4	5	6	7	8	9 meet 12-1	10
14	15 Martin Luther King, Jr.	16	17	18	19	20	11	12	13	14 Valentine's Day	15	16 meet 12-1	17
21 classes resume →	22	23	24	25	26 meet 12-1	27	18 Presidents' Day	19	20	21	22	23 meet 12-1	24
28	29	30	31	Feb 1	2 Groundhog Day	3	25	26	27	28	Mar 1	2	3
4	5	6	7	8	9	10	4	5	6	7	8	9	10

  

March 2018						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
25	26	27	28	Mar 1	2 meet 12-1	3
4	5	6	7	8	9 meet 12-1	10
11 Daylight Saving Time	12	13	14	15	16	17 St. Patrick's Day
----- Spring Break week -----						
18	19	20	21	22 individual contest	23 group contest	24 travel to TN
----- practice pits -----						travel to WY
25	26	27	28	29	30	31
Apr 1 April Fools' Day	2	3	4	5	6	7