

## PLSCI 22 INTRO TO SOILS

### FALL 2020 Course Syllabus

**Lecture/Lab:** Monday 6:00pm – 8:45 pm Wednesday 6:00pm – 8:45 pm

**Instructor :** Jerry Delsol  
Agriculture Department  
Lab location: 305

Office location Room 401  
Office hours: By appointment  
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**Course description:** This course engages the students in the study of soil as a growth medium for plants and a valuable natural resource. Topics include physical, chemical and biological properties of soil; soil-water relationships; organisms, organic matter decomposition and soil ecosystem principles; soil reactions, cation exchange and essential nutrients; synthetic and organic fertilizers; soil conservation and land management principles. Students are required to participate in lab field trips and other off- campus field trip during lab. Students will be expected to keep and turn in a lab notebook and conduct a soil survey report as a portion of their final lab grade. Upon successful completion of this course, students will have gained a better understanding and appreciation of the invaluable role soils play in agro-ecosystems.

**Required text:** Website: <https://wccag.weebly.com/>

**Grading policy:** Students must complete both lecture and lab portion of class to receive a passing grade.

Lecture	Lab
Exam 1: 15%	Notebook: 15%
Exam 2: 15%	Soil Survey: 10%
Exam 3: 15%	Lab quizzes: 10%
Exam 4: 15%	Participation: 5%
Lecture: 60%	Lab: 40%
Total: 100%	Total 100%

#### General class policies:

*Any cell phone use is not permitted during class* (failure to comply will result in up to 10 points deducted from final grade). Your punctual attendance is important to your success in this class, so please arrive on time. If you are to miss a class, it is your responsibility to obtain the information from another classmate (do not contact the instructor to obtain information from a missed class). There will be *no credit given for missed exams or late assignments* (officially documented exceptions include illness or injury, death in immediate family, or college approved activities, all with prior approval). Although not guaranteed, missing more than 10% of instruction (two classes), will subject you to being dropped from the class. If you intend to drop this course, it is ultimately your responsibility to do so.

All course communication outside of class will be done by email via the YCCD web portal, *so it is your responsibility to insure YCCD has your correct email address and that you check your web portal on a regular basis for course announcements*. Any changes to the course schedule will be announced in class and emailed to you, *so it is your responsibility to note all changes and adhere to them*.

Every student must abide by the YCCD Student Code of Conduct. In order to preserve the integrity of the

academic community, *no form of academic dishonesty will be tolerated*. For detailed information, please refer to the YCCD Academic Integrity and the Student Conduct Code, which is in the YCCD Catalog and part of policy, Student Discipline.

**In case of emergency:** WCC police can be reached at (530) 681-8782 Or call 9-1-1. In the event of an emergency that requires evacuation of the classroom, we will meet safely outside to account for everyone and receive further instructions.

### PLSCI 22 Course Schedule Week Date Lecture topic Lab activity Reading

Week	Date	Lecture topic	Lab Activity	Reading
1	8/17	Course introduction; <b>Topic 1a: <i>Soils and their significance</i></b>	<b>Lab orientation, expectations and safety;</b> <i>Dirt! The Movie</i>	L-1
2	8/19	<b>Course introduction;Topic 1b: <i>Soils and their significance</i></b>	<b>bring soil sample to class;</b> <i>Soil processing and texture by feel lab; take-home sedimentation exercise</i>	L-2
3	8/24	<b>Topic 2: <i>Soil formation and classification</i></b>	<b>bring soil sample to class;</b> <i>Soil processing and texture by feel lab; take-home sedimentation exercise</i>	L-2,3
4	8/26	<b>Topic 3: <i>Soil physical properties</i></b>	<i>Soil physical properties lab</i> :bulk density, porosity; <b>take- home sedimentation exercise due</b>	L-4,7
5	8/31	<b>Exam 1 &amp; <i>Soil physical properties</i></b>	<i>Soil Physical properties lab, cont.:</i> Particle Size Distribution	L-4,7
6	9/2	<b>Topic 4: <i>Soil-water relations</i></b>	<i>Soil moisture lab</i>	L-9
7	9/9	<b>Topic 4: <i>Soil-water relations</i></b>	<i>Soil moisture lab</i>	L-9

8	9/14	Topic 5: <i>Soil acidity, alkalinity, and salinity</i>	<i>Soil acidity, CEC and liming lab</i>	L-7
9	9/16	Exam 1 & <i>Soil acidity, alkalinity, and salinity</i>	<i>Soil acidity, CEC and liming lab</i>	L7
10	9/21	Topic 6a: <i>Soil Colloids and chemical properties,</i>	<i>Soil pit evaluation lab</i>	L-4
11	9/23	Topic 6b: <i>Soil Colloids and chemical properties, cont.</i>	<i>Soil pit evaluation lab</i>	L-4
12	9/28	Organic matter decomposition	Microscope lab	L-11
13	9/30	Topic 7: <i>Soil Ecology and Organic Matter</i>	<i>Video on Soil Ecology and OM; A closer look at soils</i>	L-11
14	10-5	Exam 3 & <i>Soil Ecology and Organic Matter</i>	Group work on soil survey reports	L-11
15	10/7	Topic 8: <i>Soil fertility</i>	<i>Soil and plant tissue analysis lab</i>	L-12
16	10/12	Topic 8: <i>Soil fertility, cont. Soil report due in class</i>	<i>Soil and plant tissue analysis lab, cont.:</i> In lab analysis and interpretations	L-12
17	10/14	Topic 9: <i>Practical nutrient management Lab Notebooks due in class</i>	<i>Soil management and water demo; carbon sequestration</i>	L-13
18	10/19	Topic 10: <i>Soil Conservation</i>	<i>Soil Quality lab</i>	L-13
19	10/21	Topic 10: <i>Soil Conservation</i>	<i>Soil Quality lab</i>	L-13
20	10/26	Topic 10: <i>Soil Conservation</i>	<i>Soil Quality lab, cont.:</i>	L-13

21	10/28	Topic 11: <i>Bulk Density Porosity</i>	<i>Bulk Density and porosity Lab</i>	L-8
22	11/2	Topic 12: <i>PH</i>	<i>Ph Lab</i>	L-6,7
23	11/4	Topic 13: <i>CEC</i>	<i>CEC lab</i>	L-7
24	11/9	Topic 14: <i>Nutrient cycling</i>	<i>Discovering what nutrient cycles are.</i>	L-11
25	11/11	Veterans Day		
26	11-16	Topic 15: <i>Soil Microbes</i>	<i>trapping microbes lab</i>	L-10
27	11/18	Topic 16: <i>Soil Microbes</i>	<i>trapping microbes lab</i>	L-10
28	11/23	Topic 17: <i>Soil reports</i>	<i>Reading reports</i>	
29	11/25	No Class Thanksgiving		
30	11/30	Topic 18: <i>Soil Maps</i>	<i>Online maps</i>	L-5
31	12/2	Topic 19: <i>Soil Maps</i>	<i>Online maps</i>	L-5
32	12-7	Fertilizers and reading reports	<i>Worksheets &amp; practice problems</i>	L-11,12
33	12-9	Fertilizers and reading reports	<i>Worksheets &amp; practice problems</i>	L-11,12
34	12/14-18	Final Exam Period		

*All lab activities coded in green indicate that a lab write up for the activity is expected to be*

*included in your lab notebook. As indicated, a minimum of nine write ups following the first eight topics are required for the possibility to receive full credit on your lab notebook. Please consult your outline of assignments for further explanation of the requirements for your lab notebook.*