

Soil Resource Management Syllabus

ENR4260

Spring 2023

Course Information

- **Course times and location:** Class will be held in person Monday, Wednesday, Friday from 11:30 a.m.-12:25 p.m. in Kottman Hall 245
- **Credit hours:** 3
- **Mode of delivery:** in person

Instructor

- **Name:** M. Scott Demyan
- **Email:** demyan.4@osu.edu
- **Phone Number:** 614-688-3349
- **Office location:** Kottman Hall 408B
- **Office hours:** Mondays and Wednesdays 12:30-1:30 p.m. or by appointment
- **Preferred means of communication:**
 - My preferred method of communication for questions is **email**. Please include in the subject line of the email **ENR4260**.
 - My class-wide communications will be sent through the Announcements tool in CarmenCanvas. Please check your [notification preferences](https://go.osu.edu/canvas-notifications) (go.osu.edu/canvas-notifications) to be sure you receive these messages.

Teaching Assistant

- none

Course Prerequisites

ENR 3000 or permission of the instructor



THE OHIO STATE UNIVERSITY

College of Food, Agricultural, and Environmental Sciences
[Department]

Course Description

As soil is a finite resource that supports a multitude of ecosystem functions, it is imperative that we use and manage the soil resource with the overall goal of long-term sustainability. In this course you will examine types of soil degradation, including erosion, compaction, and salinity. You will also learn methods of preventing degradation and remediating existing issues, with special emphasis on conservation tillage, crop rotations, and soil health. Additionally, you will gain hands-on experience in soil investigations to apply to real world case studies.

Learning Outcomes

By the end of this course, students should successfully be able to:

- Understand terminology used in soil and water conservation and management.
- Understand the processes of soil erosion and degradation.
- Understand the problems caused by poor management and subsequent soil degradation.
- Analyze soil problems, and develop methods to address soil management and conservation problems.
- Gain practical experience in utilizing tools for soil resource management.
- Restoration of degraded soil.
- Understand the societal implications of soil and land use management.

General Education Expected Learning Outcomes

Not applicable.



How This Course Works

Mode of delivery: This course is in person.

Pace of course activities: This course is divided into **major modules** that are released one week ahead of time. Students are expected to keep pace with weekly deadlines in order to succeed in the course.

Team based learning (TBL): For portions of the course we will be using team-based learning (TBL) as a tool for activities and exercises. Following a survey that you will fill out during the first week, I will form you into groups. For a majority of group work, the activities will be done during class time.

Saturday Field trip or written assignment: As the best place to learn about soils is in the field, you will have the opportunity to attend one of several Saturday field trips. Typically we would leave Kottman Hall around 8:00 am and return by early afternoon (1-2 pm). This will count towards your self-check/participation grade. I understand if you are unable to attend an out of class field trip, so if you are unable to, there will be an alternative written assignment given for the same credit.

Credit hours and work expectations: This is a 3 credit-hour course. According to [Ohio State bylaws on instruction](https://go.osu.edu/credit%20hours) (go.osu.edu/credit hours), students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of C or average.

Attendance and participation requirements: Research shows regular participation and engagement in class is one of the highest predictors of success. With that in mind, I have the following expectations for everyone's participation:

- **Participating in class and attendance: Monday, Wednesday, Friday**
You are expected to attend in-class meetings. Please see section on Notification of absences (pg. 9). Additionally, there will be team-based learning activities which will be done in class and which you will benefit by being in class.
- **Office hours: optional**
Office hours are optional. If you would like to schedule a meeting outside of normal office hours, please see me after class or contact me via email to set up an appointment.
- **Participating in annotated reading: usually once per weekly**
As part of your grade, you will be expected to post on an assigned reading in the collaborative discussion tool through Carmen on the module's topics.
- **COVID statement:** Per University guidelines, I will be taking attendance every in-person class meeting for contact and tracing purposes. When we form teams towards the end of Week 1, I will expect you to sit in your team area for in-person classes. In general



please let me know if you will miss a class section for any reason. Materials will be available on Carmen and for lecture materials, typically I will provide a recording of lecture days after the class.



Course Materials, Fees and Technologies

Required Materials and/or Technologies

- All required readings will be posted in Carmen

Fees and/or Additional Requirements

- none

Required Equipment

- **Computer:** current Mac (MacOS) or PC (Windows 10) with high-speed internet connection.
- **Webcam:** built-in or external webcam, fully installed and tested
- **Microphone:** built-in laptop or tablet mic or external microphone
- **Other:** a mobile device (smartphone or tablet) to use for BuckeyePass authentication

If you do not have access to the technology you need to succeed in this class, review options for [technology and internet access](https://go.osu.edu/student-tech-access) (go.osu.edu/student-tech-access).

Required Software

Microsoft Office 365: All Ohio State students are now eligible for free Microsoft Office 365. Visit the [installing Office 365](https://go.osu.edu/office365help) (go.osu.edu/office365help) help article for full instructions.

CarmenCanvas Access

You will need to use [BuckeyePass](https://buckeyepass.osu.edu) (buckeyepass.osu.edu) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you do each of the following:

- Register multiple devices in case something happens to your primary device. Visit the [BuckeyePass - Adding a Device](https://go.osu.edu/add-device) (go.osu.edu/add-device) help article for step-by-step instructions.
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes, good for 365 days, that can each be used once.
- [Install the Duo Mobile application](https://go.osu.edu/install-duo) (go.osu.edu/install-duo) on all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.



If none of these options will meet the needs of your situation, you can contact the IT Service Desk at [614-688-4357 \(HELP\)](tel:614-688-4357) and IT support staff will work out a solution with you.

Technology Skills Needed for This Course

- Basic computer and web-browsing skills
- [Navigating CarmenCanvas](https://go.osu.edu/canvasstudent) (go.osu.edu/canvasstudent)
- [CarmenZoom virtual meetings](https://go.osu.edu/zoom-meetings) (go.osu.edu/zoom-meetings)
- [Recording a slide presentation with audio narration and recording, editing and uploading video](https://go.osu.edu/video-assignment-guide) (go.osu.edu/video-assignment-guide)
- Connecting remotely to computer lab via Guacamole to be used for ArcGIS and other software if you do not want to install on your own computer (https://osuitsm.service-now.com/selfservice/kb_view.do?sysparm_article=kb06285)

Technology Support

For help with your password, university email, CarmenCanvas, or any other technology issues, questions or requests, contact the IT Service Desk, which offers 24-hour support, seven days a week.

- **Self Service and Chat:** go.osu.edu/it
- **Phone:** [614-688-4357 \(HELP\)](tel:614-688-4357)
- **Email:** servicedesk@osu.edu



Grading and Faculty Response

How Your Grade is Calculated

Assignment Category	Percent (%)
Annotated readings	10
Self checks	7
Team checks	7
Problem sets	10
Application exercises	8
Midterm exam 1	10
Midterm exam 2	10
Soil management project drafts	8
Final soil management project	25
Attendance	5
Total	100

See [Course Schedule](#) for due dates. Typically **assignments** will be due on Wednesdays, except for the final Soil Management Project, which will be due April 25th. The two **midterm exams** will be due on Friday of weeks 5 and 9, respectively.



Descriptions of Major Course Assignments

Annotated readings (10%)

Description: We will have assigned readings from both textbooks, scientific articles, and reports generally at the beginning of modules which will provide further background information complimentary to case studies. To encourage reading and also interactive engagement with other students, we will use Perusall within Carmen to collaboratively annotate readings. I will typically “seed” several questions or discussion points in the reading. Your **objectives** in annotating each reading assignment are to stimulate discussion by posting good questions or comments and to help others by answering their questions.

Academic integrity and collaboration: While the annotations are a collaborative activity, your written annotations should be your own work.

Self checks (7%)

Description: Shelf checks are short, graded assessments in Carmen to check your comprehension of concepts covered that week. They will draw heavily from the annotated reading assignments (see below). These will be completed as a Carmen assignment at the beginning of the class period.

Academic integrity and collaboration: Self checks should be completed on your own. This will be done in class generally at the start of a module.

Team checks (7%)

Description: Given at the beginning of a module based on annotated readings, video content, these will be a follow on to the self checks as part of the team-based learning.

Academic integrity and collaboration: Team checks will be completed as part of a group. This will be done in class generally at the start of a module.

Problem sets (10%)

Description: Problem sets will be assignments in which you apply concepts and theories from the readings and lectures through case studies and real-world situations. These assignments will involve multiple choice answer, fill in the blank, short essay, and calculations. These will be uploaded to Carmen as a Word document.

Academic integrity and collaboration: Problem sets should be your own original work. Typically there will be space to show your work when involving calculations.



Application Exercises (8%)

Description: Exercises will be done using various tools (e.g. Web Soil Survey, RUSLE2, nutrient loss modeling, watershed conservation). These will be uploaded to Carmen as a Word document.

Academic integrity and collaboration: Exercises should be completed on your own and be your own original work.

Midterms (20%)

Description: Two midterm exams (10% each) will be given to assess knowledge comprehension of the material covered up to each respective exam. Midterms will model questions and problems covered in the knowledge checks, problem sets, and major topics derived from the annotated readings. These will be completed as a Carmen assessment.

Academic integrity and collaboration: Midterms should be completed on your own. Midterms can be taken open-book, but once started, must be completed in the allotted 1-hour time block by the due date.

Soil management project drafts (8%)

Description: A soil management project (see full description below) will be assigned at the beginning of the semester. You will have the opportunity to turn in drafts of each section for review prior to the final project. We will also use these assignments to find and cite scientific literature. These will be uploaded to Carmen as a Word document.

Academic integrity and collaboration: The soil management project drafts should be completed on your own and should be original work. For your drafts I will use Turn-It-In to check for any potential plagiarism to allow you to make changes prior to final submission.

Soil management final project (25%)

Description: This series of assignments allows you to apply the knowledge and skills that you have learned in lecture/homework in a real-world setting. You will select a parcel of land and are being given the overall with the goal to sustain or improve soil ecosystem services. Specifics of the assignment: The assignment is scaffolded with sub-portions due over a series of weeks, so that you can gauge your progress and make sure you are on the right track before the final report. These will be uploaded to Carmen as a Word document.



Academic integrity and collaboration: The final soil management project should be completed on your own and should be original work.

Class attendance (5%)

Description: Research shows that attending and engaging in class improves retention and overall performance in a course. I will take daily attendance which will count towards this portion of your class grade. Please see next section on absences.

Late Assignments and Accommodations

Please refer to Carmen for due dates. Due dates are set to help you stay on pace and to allow timely feedback that will help you complete subsequent assignments. Late assignments will be deducted 5% per day after the due date for a maximum of three days.

I recognize that life happens and there are legitimate circumstances in which you will miss an assignment deadline. If something is impacting your ability to complete course requirements, please alert me as soon as possible.

This policy applies to all course requirements. You are responsible for planning your schedule to avoid excessive conflicts with course requirements. In such cases I can grant a deadline extension for assignments/exams.

1. I will not penalize students during the academic term due to the following **unavoidable or legitimate** circumstances:

- illness, physical or mental, of you or your dependent(s);
- medical conditions related to pregnancy;
- dependent care during emergency and/or COVID-19 school closings;
- participation in intercollegiate athletic events;
- subpoenas;
- jury duty;
- military service;
- bereavement, including travel related to bereavement;
- religious observances: At the beginning of the semester, you should notify me of any religious holiday(s) that will necessitate your request for deadline extension. A week before a religious holiday, send me an email notification that you will miss a deadline to observe a religious holiday. Because religious holidays are scheduled in advance, the instructor has the right to insist, where feasible, that you complete the course work prior to the anticipated absence. Here is additional official guidance from the University: *Our inclusive environment allows for religious expression. Students requesting accommodations based on faith, religious or a spiritual belief system in regard to examinations, other academic requirements or absences, are required to provide the instructor with written notice of specific dates for which the student requests alternative accommodations at the earliest possible date. For more*

information about religious accommodations at Ohio State, visit odi.osu.edu/religious-accommodations.

- participation in formal University system governance, including the University Senate, Student Senate, and Board of Regents meetings, by students selected as representatives to those bodies; and activities sponsored by the University if identified by the senior academic officer for the campus or the officer's designee as the basis for excused absences.

2. For circumstances not listed in (1), I will decide on a case-by-case basis if an absence is due to unavoidable or legitimate circumstances and grant a request for extended deadline.

Notification, Verification of Absences, and Make-up Work

1. Please notify me in writing by email of circumstances identified in (1) or other circumstances leading to a request for makeup work as soon as possible and provide information to explain the absence. Some situations will be sufficiently urgent that arrangements for makeup work cannot be made prior to the date of an absence. In such cases, we will make arrangements as soon as possible following your return.

2. I may request verification for absences, with the exception of a single episode medical absence that does not require medical services.

3. I may request verification for a single episode medical absence if (i) you have had more than one single episode medical excuse for an assignment, or (ii) the single episode medical excuse involves not being able to complete an exam.

4. You will not be penalized, and I will provide reasonable and timely accommodation or opportunity to make up missed work, including exams or other course requirements that have an impact on the course grade if you:

1. Were absent due to circumstances identified in (1);

2. Have complied with the notification requirements; and

3. Have provided verification if I have requested further information.

5. Extended absences that result in missing many critical components of the course, even for legitimate reasons, will be dealt with on a case by case basis, as arrangements for makeup work may be difficult or unreasonable to accomplish.

Per University policy, I am not obligated to accommodate a student who has missed so much of the critical components of a course, even for legitimate reasons, that arrangements for makeup work would not be reasonable. Students must notify me of circumstances identified above or other circumstances leading to a request for a deadline modification as soon as possible and provide information to explain the late assignments. Generally, technical glitches such as a bad internet connection, laptop and computer malfunction are not acceptable excuses for missing a deadline.

Weather or other short-term closing

Should in-person classes be canceled, we will meet virtually via CarmenZoom during our regularly scheduled time. I will share any updates via CarmenCanvas.



Instructor Feedback and Response Time

I will provide the following list to give you an idea of my intended availability throughout the course. Remember that you can call [614-688-4357 \(HELP\)](tel:614-688-4357) at any time if you have a technical problem.

- **Preferred contact method:** If you have a question, please contact me first through my Ohio State email address (demyan.4@osu.edu). I will reply to emails within **48 hours on days when class is in session at the university**.
- **Class announcements:** I will send all important class-wide messages through the Announcements tool in CarmenCanvas. Please check [your notification preferences](https://go.osu.edu/canvas-notifications) (go.osu.edu/canvas-notifications) to ensure you receive these messages.
- **Grading and feedback:** For assignments submitted before the due date, I will try to provide feedback and grades within **seven days**. Assignments submitted after the due date may have reduced feedback and grades may take longer to be posted.]

Grading Scale

93–100: A
 90–92.9: A-
 87–89.9: B+
 83–86.9: B
 80–82.9: B-
 77–79.9: C+
 73–76.9: C
 70–72.9: C-
 67–69.9: D+
 60–66.9: D
 Below 60: E



Other Course Policies

Discussion and Communication Guidelines

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style:** While there is no need to participate in annotated readings and class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. A more conversational tone is fine for non-academic topics.
- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm doesn't always come across online. I will provide specific guidance for discussions on controversial or personal topics.
- **Citing your sources:** When we have academic discussions, please cite your sources to back up what you say. For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.
- **Backing up your work:** Consider composing your academic posts in a word processor, where you can save your work.

Academic Integrity Policy

See [Descriptions of Major Course Assignments](#) for specific guidelines about collaboration and academic integrity in the context of this online class.

Ohio State's Academic Integrity Policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the university's [Code of Student Conduct](#) (studentconduct.osu.edu), and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the university's *Code of Student Conduct* and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the university or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the university's *Code of Student Conduct* is never considered an excuse for academic misconduct,

so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by university rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the university's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the university. If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- [Committee on Academic Misconduct](http://go.osu.edu/coam) (go.osu.edu/coam)
- [Ten Suggestions for Preserving Academic Integrity](http://go.osu.edu/ten-suggestions) (go.osu.edu/ten-suggestions)
- [Eight Cardinal Rules of Academic Integrity](http://go.osu.edu/cardinal-rules) (go.osu.edu/cardinal-rules)

Copyright for Instructional Materials

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

1. Online reporting form at equity.osu.edu,

2. Call 614-247-5838 or TTY 614-688-8605,
3. Or Email equity@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member."

This course adheres to The Principles of Community adopted by the College of Food, Agricultural, and Environmental Sciences. These principles are located on the Carmen site for this course; and can also be found at <https://go.osu.edu/principlesofcommunity>. For additional information on Diversity, Equity, and Inclusion in CFAES, contact the CFAES Office for Diversity, Equity, and Inclusion (<https://equityandinclusion.cfaes.ohio-state.edu/>). If you have been a victim of or a witness to a bias incident, you can report it online and anonymously (if you choose) at <https://studentlife.osu.edu/bias/report-a-bias-incident.aspx>.

Your Mental Health

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. No matter where you are engaged in distance learning, The Ohio State University's Student Life Counseling and Consultation Service (CCS) is here to support you. If you find yourself feeling isolated, anxious or overwhelmed, [on-demand mental health resources](https://go.osu.edu/ccsondemand) (go.osu.edu/ccsondemand) are available. You can reach an on-call counselor when CCS is closed at [614- 292-5766](tel:6142925766). **24-hour emergency help** is available through the [National Suicide Prevention Lifeline website](https://suicidepreventionlifeline.org) (suicidepreventionlifeline.org) or by calling [1-800-273-8255\(TALK\)](tel:18002738255). [The Ohio State Wellness app](https://go.osu.edu/wellnessapp) (go.osu.edu/wellnessapp) is also a great resource.



Accessibility Accommodations for Students with Disabilities

Requesting Accommodations

The university strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability including mental health, chronic or temporary medical conditions, please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with [Student Life Disability Services \(SLDS\)](#). After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's [request process](#), managed by Student Life Disability Services.

Disability Services Contact Information

- Phone: [614-292-3307](tel:614-292-3307)
- Website: slds.osu.edu
- Email: slds@osu.edu
- In person: [Baker Hall 098, 113 W. 12th Avenue](#)

Accessibility of Course Technology

This online course requires use of CarmenCanvas (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations as early as possible. Additionally we will be using various soil management related web apps, smartphone apps, and open access software during the course.

- [CarmenCanvas accessibility](http://go.osu.edu/canvas-accessibility) (go.osu.edu/canvas-accessibility)
- Streaming audio and video
- [CarmenZoom accessibility](http://go.osu.edu/zoom-accessibility) (go.osu.edu/zoom-accessibility)
- RUSLE2 (USDA erosion modeling program). Please note that this is a Windows only program. For those that need to, we will be able to use the program via an OSU computer lab remote access.
 - RUSLE2 program file:
<https://fargo.nserl.purdue.edu/RUSLE2ftp/RUSLE2ProgramFile/>
- QGIS (open source GIS program)



- Download page: <https://www.qgis.org/en/site/forusers/download.html#>
- For Windows:
 - 64 bit stand alone version: https://qgis.org/downloads/QGIS-OSGeo4W-3.16.2-2-Setup-x86_64.exe
 - 32 bit stand alone version: <https://qgis.org/downloads/QGIS-OSGeo4W-3.16.2-2-Setup-x86.exe>
- For macOS: <https://qgis.org/downloads/macos/qgis-macos-pr.dmg>
- Slake (A smartphone app to estimate aggregate stability):
 - Android version: https://play.google.com/store/apps/details?id=slaker.sydneyni.au.com.slaker&hl=en_US&gl=US
 - I-phone version: <https://apps.apple.com/us/app/slakes/id1481049813>



Course Schedule

Refer to the Carmen Canvas course for up-to-date due dates. See next page for course topics. These may be subject to change.



Week	Topics	Reading	Assignment (<u>Due Dates</u>) *-week
1	<ul style="list-style-type: none"> • Course introduction/soil mang. Performance objectives • Soil management performance objectives/team formation • Finding soils information #1-How to read a scientific article 	<ul style="list-style-type: none"> • none • Birge et al., 2016 • Carmen 	<ul style="list-style-type: none"> ○ Survey (WK1*) ○ Annotated reading #1 (WK2)
2	<ul style="list-style-type: none"> • No topic (MLK Day) • Water erosion: types, process, factors • Water erosion: soil erodibility 	<ul style="list-style-type: none"> • Carmen • Skidmore, 1962 • Carmen 	<ul style="list-style-type: none"> ○ Self- /team-check #1 (in class) ○ Problem Set #1 (<u>WK3</u>) ○ Annotated reading #2 (WK3) ○ Exercise #1 (WK8)
3	<ul style="list-style-type: none"> • Water erosion: modeling principals and application • Water erosion: Modeling principals, practice, application • Water erosion: managing water erosion 	<ul style="list-style-type: none"> • Carmen • Edwards & Owens, 1991 • Carmen 	<ul style="list-style-type: none"> ○ Self- /team-check #2 (in class) ○ Problem Set 2 (<u>WK4</u>) ○ Annotated reading #3 (<u>WK4</u>)
4	<ul style="list-style-type: none"> • Wind erosion: processes, factors, wind erosivity • Modeling wind erosion • Modeling wind erosion (cont)/Exam review 	<ul style="list-style-type: none"> • Carmen • Kuzyakov, 2019 • Carmen 	<ul style="list-style-type: none"> ○ Self- /team check #3 (in class) ○ Annotated reading #4 (WK5)



5	<ul style="list-style-type: none"> tillage/residue Review for Exam 1 1st Exam (February 10th) 	<ul style="list-style-type: none"> Carmen Carmen Carmen 	<ul style="list-style-type: none"> Self- /team check #4 (in class)
6	<ul style="list-style-type: none"> Conservation cropping systems (mid-semester feedback-UCAT)/conservation cropping (cont) Soil residue management 	<ul style="list-style-type: none"> Carmen TBD Carmen 	<ul style="list-style-type: none"> Problem Set #3 (<u>WK7</u>) Annotated reading #5 (<u>WK7</u>) Exercise 2 (WK10)
7	<ul style="list-style-type: none"> Soil capability and drainage classes Soil capability and drainage classes (cont.) The soil profile 	<ul style="list-style-type: none"> Carmen TBD Carmen 	<ul style="list-style-type: none"> Self- /team check #5 (in class) Problem Set #4 (<u>WK8</u>) Annotated reading #6 (<u>WK8</u>)
8	<ul style="list-style-type: none"> Utilizing and visualizing soils data Soil quality and soil health Soil management and water quality 	<ul style="list-style-type: none"> Carmen TBD Carmen 	<ul style="list-style-type: none"> Self- /team check #6 (in class)
9	<ul style="list-style-type: none"> Go over Problem Set 4, review for exam 2nd Exam (March 8th) Start Area of Interest Description (Section 4) 	<ul style="list-style-type: none"> Carmen none Carmen 	<ul style="list-style-type: none"> Draft soil management (Parts 1-4, WK 11)
	<ul style="list-style-type: none"> Spring break 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None

10	<ul style="list-style-type: none"> • Guest lecture-NRCS • Scientific literature; finding it, citing it • Soil organic matter 	<ul style="list-style-type: none"> • Carmen • TBD • Carmen 	<ul style="list-style-type: none"> • Annotated reading #7 (<u>WK11</u>) • Draft soil management (Parts 5-6, WK 12)
11	<ul style="list-style-type: none"> • Managing saline and sodic soils • Managing anthropogenic soils • Soil assessment I 	<ul style="list-style-type: none"> • Carmen • TBD • Carmen 	<ul style="list-style-type: none"> • Self- /team check #7 (in class) • Annotated reading #8 (<u>WK12</u>)
12	<ul style="list-style-type: none"> • Soil assessment II or Agroforestry • Managing phosphorus webinar • Project work day 	<ul style="list-style-type: none"> • Carmen • TBD • Carmen 	<ul style="list-style-type: none"> • Self- /team check #8 (in class) ○ Annotated reading #9 (<u>WK13</u>)
13	<ul style="list-style-type: none"> • On-field Ohio 	<ul style="list-style-type: none"> • Carmen • TBD • Carmen 	<ul style="list-style-type: none"> ○ Annotated reading #9 (<u>WK14</u>) ○ Draft project (WK14)
14	<ul style="list-style-type: none"> • Project work day • Project work day – individual consultations • Project work day – individual consultations 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> ○ None
15	<ul style="list-style-type: none"> • Soils and development • Frontiers of soil management • Wrap up session, Final report due 		<ul style="list-style-type: none"> ○ Final report (April 25th)

