

## Organic Soils Academy: Course outline.



Here is a brief outline of what we'll be doing:

Tuesday July 21, 2020

9:00 am Welcome & introductions; How this course works, where to find the materials, etc.

9:15 Soil as an eco-system

9:30 Soil physical characteristics review (aggregation, structure, texture)(web soil survey tool)

break

10:30 Soil Chemistry review (pH, Cation Exchange, % base saturation)

11:30 Soil nutrients, Organic Fertilizers, Soil nutrient tests (N-P-K, Ca, S)

break for lunch

1:00 Soil health testing introduction, Organic Matter, Infiltration, slake testing, density

1:30 Field tests of these concepts - with UW's Jamie Patton

break

3:00 Soil Biology & microbiology (we may break out the microscopes)

4:30 end for the day



*This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2019-38640-29879 through the North Central Region SARE program under project number ENC19-175. USDA is an equal opportunity employer and service provider. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.*

Wednesday July 22

8:30 start. Soil amendments & organic matter - organic approved

9:30 Compost & composting

break

11:00 Soil as a pollutant (& manure)(hypoxia in Green Bay)(ethics)

12:00 Building soil (green manure, cover cropping, crop rotation managed grazing - living roots in the soil)

Lunch

1:30 - 2:00 USDA-NOP Organic certification process

half hour travel time

2:30-4:30 Farm tour of best soil building practices - Full Circle Organic Farm, W2407 Hofa Park Rd, Seymour, 54165. (we'll see composting in action on a farm scale, green manure practices, managed grazing, soil building with sorghum-sudan).

Please don't hesitate to call or text or email if you have questions.



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The table below shows the topics and where to find them in the NWTC Blackboard course materials. These materials are available to you to copy and use in your own courses. This chart also shows the point values I typically assign to my assessments, for your reference. You will not be required to do the homework assignments, of course, but you may wish to download and adapt them to the course as you teach it. The course materials are based on an 8 week college learning cycle but can be re-configured into modules that make sense for your classroom.

Lesson	Topic:	Learning Plan Details	points
1	Course Overview Sustainable Philosophy Soil Physical Aspects	Course overview and “housekeeping”; introductions (if needed) Lecture: The whole soil course – an overview using a power point View: Demonstration/lecture: Physical properties, texture, aggregation	
	Reading & lecture	Thoughts on Soil - Essay Physical Properties – Essay & .pptx lecture	
	Discussion 1:	Introduce yourself using the Blackboard discussion forum. .	5
	Assignment 1.1:	Overview worksheet	10
	Assignment 1.2:	Write a 1 page reflection paper on Soil physical qualities	10
2	Soil Chemistry	Read: Soil Chemistry – Essays View: Lecture, .pptx, Soil Chemistry	
	discussion 2:	Explain a chemistry term - group work, use an analogy	5
	Assignment 2:	Soil chemistry worksheet	10
3	Soil Nutrients	View: power point – main points on nutrients Read: What is a nutrient? pages 17-22 “Essays” booklet Read: Nutrient Cycling of Anions in the Soil, pages 23-26 “Essays” booklet	
	Discussion3 : due 11/4 Sunday	Muddiest point	5
	Assignment 3: due 11/4 Sunday	Worksheet “Nutrients and their cycles”	10
4	Soil Sampling & testing	Read: How to access the USDA web-soil survey - Essay	
	Soil Health tests Soil Nutrient tests Interpreting tests	Read: How to submit a Soil Sample for Testing - Essay Read: What are Ideal soil test numbers pages - Essays View Demonstrations: soil health tests. Infiltration, respiration, compaction	
		Your thoughts on Soil testing	5
		Interpreting soil test results -worksheet	10

5	Organic Fertilizers, rates, conventional, applications	1) Organic Fertilizers – Essays & .pptx lecture 2) How much fertilizer should I apply? - Essays & work sheet	
	Discussion 5:	A fertilizer I would use is.....	5
	Assignment 5:	Fertilizer rate worksheet	10

6	Green Manures, cover crops, OMRI, Amendments,	Read: Organic Soil Amendments - Essay and the OMRI website paper Explore: the OMRI website (see the link in class materials in BB)	
	Discussion 6:	A new practice I might try	5
	Assignment 6:	Amendment worksheet	10

7	Review – concepts and topics from the first 6 weeks	We go over the book and assignments using a practice test.	
	Discussion 7 :	Ask Questions & review for the mid-term test	5
	Assignment 7: e-TEST:		40

8	Soil biology	Video: The Once Good Earth. Read about the Soil Food Web - Essay	
	Compost	Read: The Secret of Compost –Essay	
	Assignment 8a:	Soil biology worksheet	10
	Assignment 8b:	Soil compost quiz	10

9	Organic Certification	Review concepts to-date, review organic certification, and other materials found in your Blackboard class materials section including info on USDA – NRCS conservation programs	
	Building Sustainable Soil	Read “Ethical Predicament” and “Soil Comes Full Circle” Essays Video: watch the documentary: Searching for Sustainability	
	Discussion 9:	What soil conservation means to me	5
	Assignment 9:	Complete your final assignment – a soil plan for your farm base on Section 5 NOP plan	40