

Engineering School of Sustainable Infrastructure and Environment

CEG 5205C – Insitu Measurement of Soil Properties

3 Credits – Spring 2019

Description: Techniques for insitu measurement of soil properties and the use of statistical techniques to estimate soil properties at un-sampled locations.

Lectures: MWF – 6th Period – Weil Hall 273

Final Exam: 4/29/2019 10:00 AM – 12:00 PM

Instructor: Dr. Scott Wasman
575I Weil Hall
(352) 273-4609
scott.wasman@essie.ufl.edu

Text and Notes: Notes for each lecture will be provided in PDF format and posted online. It is strongly recommended that the cited sections of the referenced text be read prior to lecture. There is an example set in the reference text that will be utilized throughout the semester to practice the concepts.

Referenced text:

An Introduction to Applied Geostatistics, Isaaks & Srivastava, Oxford University Press, ISBN 0-19-505013-4 (available for viewing and download through the UF network here https://app.knovel.com/web/toc.v/cid:kpAIAG000U/viewerType:toc/root_slug:an_introduction_to_applied_geostatistics)

Assignments: Homework will be assigned approximately weekly and due the following week.

Grading:

Exams – 2	= 50%
Assignments	= 25%
Project	= 25%

Final letter grades will be assigned based on the following scale.

A	100-90%
B	89-80%
C	79-70%
D	69-60%
E	59-0%

Accommodations for Students with Disabilities: Students requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the instructor when requesting accommodation.

Commitment to a safe and inclusive learning environment

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination.

It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@ufl.edu

Sexual Discrimination, Harassment, Assault, or Violence

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Tentative Schedule:

Lecture #	Day	Month	Day	Description	Text Pg.
1	M	Jan	7	Introduction	3-6
2	W	Jan	9	Univariate Description	10-23
3	F	Jan	11	SPT Technique	Handouts
4	M	Jan	14	Frequency Distributions, Histograms	
5	W	Jan	16	Measures of Spread, Shape	10-23
6	F	Jan	18	Bivariate Description	10-23
-	M	Jan	21	MLK Day-Holiday	24-39
7	W	Jan	23	Scatterplots	24-39
8	F	Jan	25	Correlation, Linear Regression	24-39
9	M	Jan	28	Spatial Description	24-39
10	W	Jan	30	Covariance Functions	24-39
11	F	Feb	1	CPT Technique	Handouts
12	M	Feb	4	Variograms, h-scatterplots	40-65
13	W	Feb	6	Generating Variograms	Handouts
14	F	Feb	8	Soil Properties from CPT & SPT	Handouts
15	M	Feb	11	Data Sets	107-140
-	W	Feb	13	Exam #1	
16	F	Feb	15	DMT Technique	Handouts
17	M	Feb	18	Spatial Continuity	140-182
18	W	Feb	20	Spatial Continuity	140-182
19	F	Feb	22	Estimation	185-196
20	M	Feb	25	Estimation	185-196
21	W	Feb	27	Random Function Models	196-236
22	F	Mar	1	Random Function Models	196-236
Mar 2 – 9 Spring Break					
23	M	Mar	10	Class Project Introduction	
24	W	Mar	12	Point Estimation, Polygons, Triangulation, Inverse Distance	249-277
25	F	Mar	14	Ordinary Kriging	278-301

26	M	Mar	17	Ordinary Kriging Example	Handouts
27	W	Mar	19	Sequential Gauss Simulation	Handouts
28	F	Mar	21	Sequential Gauss Example	Handouts
29	M	Mar	24	Established Variability of Soil Properties	Handouts
30	W	Mar	26	PMT Technique	Handouts
31	F	Mar	28	FWI Technique	Handouts
32	M	Apr	1	Class Project Workshop	
-	W	Apr	3	Exam #2	
33	F	Apr	5	ER Technique	Handouts
34	M	Apr	8	Class Project Workshop	
35	W	Apr	10	Estimating Drilled Shaft Capacity	Handouts
36	F	Apr	12	Estimating Global Stability	Handouts
37	M	Apr	15	Estimating Global Stability	Handouts
38	W	Apr	17	Projects	
39	F	Apr	19	Projects	
40	M	Apr	22	Projects	
41	W	Apr	24	Projects	