

**UNIVERSITY OF UTAH**  
**DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING**  
**CVEEN 3310, GEOTECHNICAL ENGINEERING – FALL 2017**

**Instructor:** Dr. Evert Lawton, *Office:* 2028 MCE  
*Phone:* 585-3947 *E-mail:* [Lawton@civil.utah.edu](mailto:Lawton@civil.utah.edu)  
*Office Hours:* To Be Determined  
*Website for Course on CANVAS – access via your CIS account at* [cis.utah.edu](http://cis.utah.edu)

**Teaching Assistant(s): TO BE DETERMINED**

**Prerequisite and co-requisite:** *Prerequisite:* Strength of Materials (CVEEN 2140 or equivalent),  
*Recommended co-requisite or prerequisite:* Hydraulics (CVEEN 3410)

**Textbook:** *An Introduction to Geotechnical Engineering* by R. D. Holtz, W. D. Kovacs, & T. C. Sheahan,  
 2<sup>nd</sup> edition, Pearson, Upper Saddle River, New Jersey, 2011. ISBN-13: 978-0-13-249634-6.

**Grading:**

<u>Component</u>	<u>Weighting</u>	<u>Grade</u>	<u>Score (%)</u>	<u>Grade</u>	<u>Score</u>
Homework .....	15%	A	95-100	C	73-76
Three midterm exams* .....	45%	A-	90-94	C-	70-72
Final exam .....	20%	B+	87-89	D+	67-69
Quizzes .....	10%	B	83-86	D	63-66
Attendance .....	10%	B-	80-83	D-	60-62
*17% for highest score, 15% for middle score, 13% for lowest score		C+	77-79	E	< 60

**How to be Successful in this Course:** The material in the last half of this course is probably as difficult as any material you will have as an undergraduate. The following suggestions are provided to help you be successful in this course. (1) Come to every class; stay awake and pay attention during lecture. Take handwritten notes of everything written on the board or discussed in class. (2) Keep up with the homework assignments. If you fall behind, it will be difficult to get caught up. Start each assignment as soon as possible so that (a) you get a feel for how long it will take you to complete the assignment, and (b) you can determine for which problems you will need to seek help. (3) Do as much work as possible by yourself with as little help from others as possible. Working assignments in a group not only is prohibited (see details in Homework section below), it prevents many students from truly understanding the concepts being tested by the problems. (4) If you need help, the best source is one of the TAs or the professor. They understand the material better than any of your classmates. (5) Thoroughly read the appropriate reading assignment before each class to obtain a general understanding of the material to be covered in that lecture. Doing so allows you to understand the material better as it is discussed in class, with less effort and time needed outside the classroom. (6) Each week when the graded homework assignment is returned to you, re-do all the problems (or parts of problems) that you did not do 100% correctly. Seek help from others (preferably a TA or the professor) if you do not understand what you did wrong or how to do a problem correctly. Re-doing the problems in a timely manner allows you to understand fully the concepts and procedures needed to do all the assignments in the course, which will likely result in you getting significantly higher grades on the exams. (7) Take a course load that is commensurate with the time you have available to spend on your courses. 15 credit hours of undergraduate classes requires a minimum of about 50 hours of work per week, which is more than the typical job that requires 40 hours per week.

**Electronic Recording of Lectures:** Electronic recording of lectures of any kind is strictly prohibited. Violation of this rule will result in a grade of E for the course.

**Equipment Needed for Homework, Exams, and Quizzes:** You will need the following equipment for homework, exams, and quizzes: a compass, a protractor, and an engineer's scale.

**Reading Assignments:** The reading assignments for each lecture topic are given on page 8. To facilitate the learning process, each student will be required to read the assignment and **be prepared to discuss in class** the material that was read. Because it is nearly impossible to cover the material exactly according to the schedule, it is each student's responsibility to follow the lectures in class to determine what the appropriate reading assignment is for the next class period. If you are not sure, ask the professor ahead of time. Unannounced (pop) quizzes covering the assigned material may be given throughout the semester, if necessary, to ensure that students are reading the assigned material. Pop quizzes may also be given at the end of class to determine if students learned the material presented during class. In addition, there may be announced quizzes. Handouts will be used at various times throughout the course and can be downloaded or printed from the course web site. **PLEASE BRING THE TEXTBOOK, HANDOUTS, AND/OR OTHER APPROPRIATE REFERENCES TO EACH CLASS!**

**Participation:** At various times during each lecture, students will be asked questions or be given the opportunity to answer questions posed by the instructor. Each student is expected to participate in these discussions during the lectures throughout the semester. Relevant information from students with practical working experience on a particular topic is encouraged. Sleeping, reading newspapers or material not relevant to the class, working on homework for this class or other classes, talking on a cell phone, downloading and reading e-mail, texting, surfing the web, etc. will not be tolerated. Habitual violation of these rules may result in your dismissal from the class or course.

**Communication via E-mail and CANVAS:** The university requires that all e-mail communication for classes be through your official U-mail account. Therefore, please send all e-mails to the professor or TAs from your official U-mail account. Alternately, you may communicate with the professor or TAs by sending a message through CANVAS, which is generally more secure than e-mail.

**Attendance:** Attendance at lectures is necessary to learn the material. Missing lectures increases the amount of time you spend on the course and reduces the quality of your educational experience. Attendance is worth 10% of your overall grade (see Grading section on p. 1). Attendance for each class lecture will be graded as follows:

- Arriving on time\* and staying for the entire lecture: 100 points
- Missing 5 minutes or less of lecture time (unexcused): 90 points
- Missing more than 5 min. but no more than 15 min. of lecture time (unexcused): 75 points
- Missing more than 15 min. but no more than 30 min. of lecture time (unexcused): 50 points
- Missing more than 30 min. of lecture time (unexcused) will be calculated according to the following equation, where  $P$  is the number of points:

$$P = \frac{x^2}{6!} (4\theta + 3z^3) \cdot \tan(0^\circ)$$

\*Arriving on time means being seated in the classroom, with the appropriate references readily available, and ready for the lecture to begin [not talking, with your cell phone turned off (not on vibrate or silent) and put away].

In addition, any student missing more than six (6) classes with unexcused absences may have his or her grade reduced by 5% per additional class missed. Habitual tardiness may also result in a reduced grade for the class in addition to the reductions in the 10% grade for attendance discussed above. **To pass the course, each student**

**must attend a minimum of 75% of the lectures (including excused absences).** Failure to do so will result in a grade of “E” or “I” for the course.

**Homework:** Homework is typically due at the **beginning of class** (8:35:00 am) on the due date. Homework can be turned in until the professor leaves the classroom on the due date, but will be assessed a penalty of 5% if not turned in by the beginning of class. No homework will be accepted after the professor leaves the classroom regardless of the circumstances. **A minimum of 75% of the homework problems must be completed and turned in on time for grading to pass the course.** Failure to do so will result in a grade of “E” for the course. Homework must be neatly done, well organized, with ALL work shown. Assignments not meeting these requirements will not be graded. Homework assignments must follow the departmental formatting and style requirements summarized on the last page of this handout with details given in the style guide (*Homework Requirements.pdf*, available on the course website), with the following additional requirement:

It is permissible to discuss the basic concepts and how to solve the problem in a general sense with others prior to working on the assignment. Once you have started a problem, you may ask questions of other students, but the questions should be limited to specific aspects of a problem that you do not understand. It is not acceptable to work on the assignments with another person or in a group where the assignments are worked entirely together. You may get as much help from the instructor or TAs for the class as they can legitimately give you during regularly scheduled office hours, via e-mail, or via CANVAS message.

All assignments must contain the following signed honor pledge:

On my honor as a student of the University of Utah, I have neither given nor received unauthorized aid on this assignment.

By signing this honor pledge, you are indicating that you have abided by the rules provided above and those given in the section on *Ethics* in the departmental homework policy (see p. 8 of this syllabus). Cheating of any kind on the homework will result in a grade of zero for the entire homework assignments grade.

Furthermore, the following formatting requirements must be followed for all assignments where they are pertinent:

1. There are two choices with respect to showing gridlines when you are plotting a graph with two variables [e.g.,  $y = f(x)$ ,  $\gamma_a = f(w)$ , etc.]: (a) Show gridlines in both directions, or (b) do not show gridlines in either direction. It is unacceptable to show gridlines in one direction only as is the default for some spreadsheet programs.
2. Use subscripts and Greek letters, where appropriate, in all text, tables, graphs, figures, etc. that are done using computer programs. Nearly all computer programs have these capabilities. If the program you are using does not have these capabilities, please make a note in your assignment to indicate so.
3. If you perform regression analyses using *EXCEL* and show the equations on your graph, they will be shown initially as  $y = f(x)$  because the program does not know what variables you are using. Change the variables from  $y$  and  $x$  to the appropriate variables. For example, if the equation is shown as  $y = 13.209 + 5.2903x$  but you are plotting  $\gamma_a = f(w)$ , change the equation to  $\gamma_a = 13.209 + 5.2903w$ .
4. Do not use excess decimal places when labeling axes on a graph. Use the least number of decimal places that are appropriate for the scale intervals that you are using. For example, if your scale is from 0 to 25 in 5 unit intervals, use zero decimal places: 0, 5, 10, 15, 20, 25, not 0.00, 5.00, 10.00, 15.00, 20.00, 25.00. Also be consistent in the number of decimal places used. If your scale is from 0 to 2.5 in intervals of 0.5, the labels should be 0.0, 0.5, 1.0, 1.5, 2.0, 2.5, not 0, 0.5, 1, 1.5, 2, 2.5.

5. When giving titles to the axes in a figure, be consistent with both axes - use names only, symbols only, or both names and symbols for both axes. Also provide units for each variable unless it is dimensionless. For example, the following axis titles are acceptable when plotting  $q_c$  vs.  $D_r$ :

- Dry Density,  $\gamma_d$  (kN/m<sup>3</sup>) vs. Water Content,  $w$  (%)
- $\gamma_d$  (kN/m<sup>3</sup>) vs.  $w$  (%)
- Dry Density (kN/m<sup>3</sup>) vs. Water Content (%)

However, the following are unacceptable:

- Dry Density,  $\gamma_d$  (kN/m<sup>3</sup>) vs.  $w$  (%)
- Dry Density (kN/m<sup>3</sup>) vs. Water Content,  $w$  (%)
- Dry Density (kN/m<sup>3</sup>) vs.  $w$  (%)

Examples of improperly formatted graphs and figures that illustrate the requirements shown above are provided below.

Improperly formatted table:

Sublayer	$Z_{\text{midht}}$ (m)	$H_0$ (m)	$\sigma'_{v0}$ (kPa)	$Z_{b,\text{midht}}$ (m)	$\Delta\sigma_v$ (kPa)	$S'_{vf}$ (kPa)	$S_c$ (m)
1	22.5	5	201.45	12.5	81.82	283.27	0.1140
2	27.5	5	247.5	17.5	78.58	326.08	0.0922
3	32.5	5	293.545	22.5	74.38	367.93	0.0755
4	37.5	5	340	27.5	69.51	409.11	0.0623
$\Sigma =$							0.3440

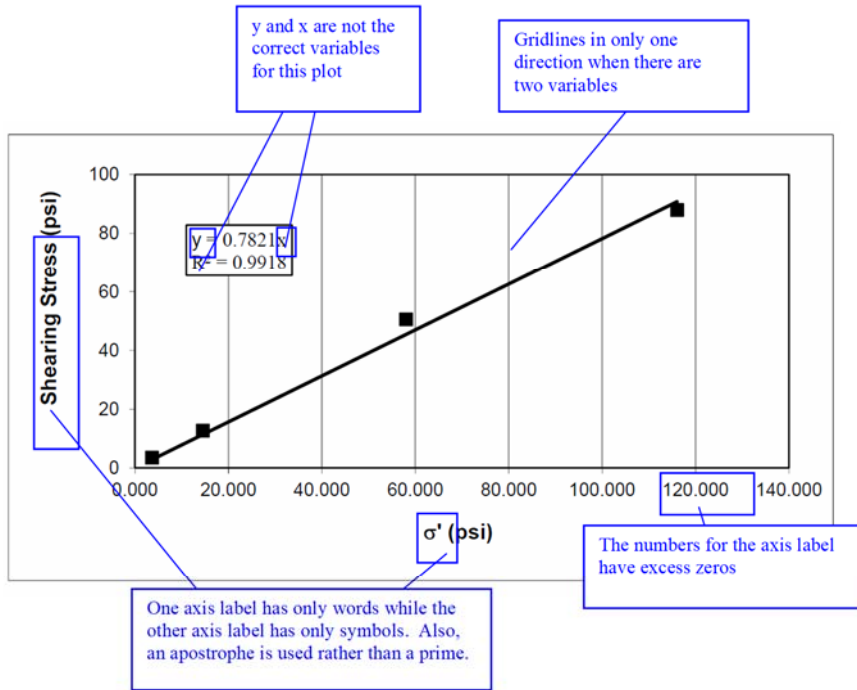
Annotations for the improperly formatted table:

- All other column headings are symbols.
- The zero should be subscripted.
- The  $s$  should be the Greek symbol  $\sigma$ .
- All numbers in a column should have either the same number of decimal places or the same number of significant figures.
- The column heading is left justified while the numbers are right justified. The rest of the columns are center justified. Change both the heading and numbers to center justified:

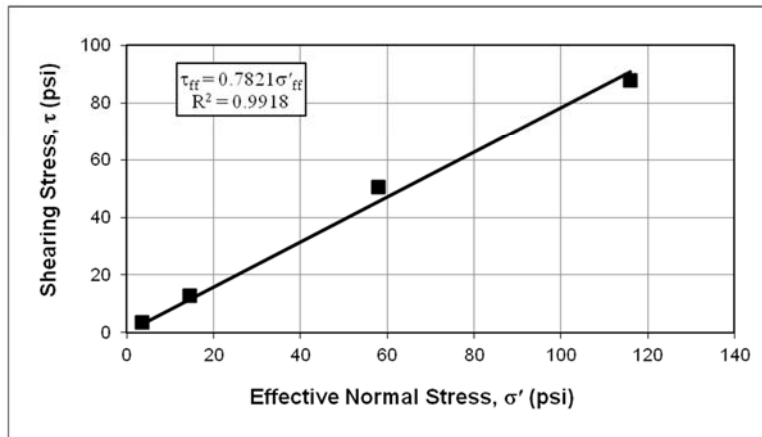
The same table properly formatted:

$i$	$Z_{\text{midht}}$ (m)	$H_0$ (m)	$\sigma'_{v0}$ (kPa)	$Z_{b,\text{midht}}$ (m)	$\Delta\sigma_v$ (kPa)	$\sigma'_{vf}$ (kPa)	$S_c$ (m)
1	22.5	5	201.45	12.5	81.82	283.27	0.1140
2	27.5	5	247.50	17.5	78.58	326.08	0.0922
3	32.5	5	293.55	22.5	74.38	367.93	0.0755
4	37.5	5	339.60	27.5	69.51	409.11	0.0623
$\Sigma =$							0.3440

Improperly formatted figure:



The same figure properly formatted:



Formatting is generally worth 10% of the score for each homework assignment, but the percentage may change at the discretion of the instructor. Failure to comply with this policy will result in either reduced credit, rejection of homework that is considered to be non-submittal, or receipt of a failing grade at the discretion of the instructor.

**Summary of Answers for Homework Solutions:** After homework is returned, which typically occurs the class period after it is due, a summary of answers to each problem will be provided in the Modules section of CANVAS. Complete homework solutions will NOT be provided.

**Course Workload:** It is expected that each student will spend, on average, about 3 hours of work per week per credit hour outside of lecture. For this class, which is a three-credit hour class, it is expected that each student will spend *on average* about 9 hours of work per week on assignments *in addition to lecture time*. If you find that you are consistently spending more time than this, please see the instructor for assistance to help you increase your efficiency and reduce the amount of time spent on the class.

**Honesty:** Cheating of any kind on homework, quizzes, laboratory reports, or exams will not be tolerated and will result in a grade of *E* for the course and possibly other disciplinary action by the department, college, or university.

**Courtesy:** Your instructor will treat you with courtesy at all times. In return, he expects you to give him the same respect. Please arrive at class and laboratory sessions on time. Students who arrive late to class or laboratory – even a minute or a few minutes - disrupt the students who are already there and the instructor. There should be no talking at any time during the lecture except to ask or answer questions of the instructor. There should be no reading of newspapers, sleeping, surfing the internet, texting, or other non-attentive activities during the class.

**Rules Regarding Cell Phones:** The use of a cell or mobile phone of any type at any time or for any reason during class lectures is strictly prohibited. Therefore, **please turn off all cell phones BEFORE the lecture or laboratory begins and put your cell phone away.** If there is an unusual circumstance that requires you to have access to your cell phone during the lecture, please notify the instructor before class. The penalties for unauthorized use of a phone during lecture are as follows: A 1% reduction in overall course grade for the first violation, a 10% reduction in overall grade for the second violation, and a grade of *E* for the course for any additional violation beyond the first two.

**Quizzes:** As discussed in the *Reading Assignments* section, quizzes may be given at the beginning of class to ensure that students are reading that day's assignment prior to class. Quizzes may also be given at the end of a lecture to ensure that each student was paying attention and obtaining a basic understanding of the material covered during the lecture. In addition, announced quizzes may be given to assess students' understanding of important concepts as a supplement to the main exams. For quizzes given at the beginning of class, a student must be in her/his seat at 8:35:00 am or s/he will not be allowed to take the quiz.

**Exams:** **To pass the course, you must meet both of the following two requirements for the exams: (1) All four exams must be taken and a reasonable attempt made to complete each exam; and (2) you must pass (grade of 60 or better) at least one of the exams.**

**Course Evaluations:** It is important that each student do a course evaluation at the end of the course. The course evaluations provide feedback to the university and future students as to the quality of instruction in this course. To provide incentive for each student to do the evaluation, 25 extra credit points will be added to each student's homework score who completes his/her course evaluation after the last class period for this course ends (9:25 am on Wednesday December 6, 2017) and before the final examination period begins (8:00 am on Monday, December 11, 2017).

**Calculations and Significant Figures:** The concept of significant figures (digits) is an important concept when performing engineering calculations. Please carefully read the handout on significant figures (*Significant Figures.pdf*). When performing calculations, do NOT round off intermediate values, as any rounding done prior to obtaining the final answer may result in an error in your answer. Here is an example illustrating a case where rounding of intermediate values gives a wrong answer:

**Given:**  $e = 0.414$ ,  $S = 84.6\%$ ,  $G_s = 2.72$ ,  $V_s = 2.49 \text{ ft}^3$ ,  $\gamma_w = 62.4 \text{ lb/ft}^3$

**Required:** Calculate  $\gamma$  rounded to three significant figures

**Correct Solution:** Values shown are those given by a calculator but have not been rounded.

$$V_v = e \cdot V_s = (0.414)(2.49 \text{ ft}^3) = 1.03086 \text{ ft}^3$$

$$V_t = V_v + V_s = 1.03086 + 2.49 = 3.52086 \text{ ft}^3$$

$$V_w = S \cdot V_t = (0.846)(3.52086 \text{ ft}^3) = 2.97864 \text{ ft}^3$$

$$W_w = \gamma_w \cdot V_w = (62.4 \text{ lb/ft}^3)(0.87210756 \text{ ft}^3) = 54.41951174 \text{ lb}$$

$$W_s = G_s \cdot \gamma_w \cdot V_s = (2.72)(62.4 \text{ lb/ft}^3)(2.49 \text{ ft}^3) = 422.62272 \text{ lb}$$

$$W_t = W_s + W_w = 422.62272 + 54.41951174 = 477.0422317 \text{ lb}$$

$$\gamma = W_t / V_t = (477.0422317 \text{ lb}) / (3.52086 \text{ ft}^3) = 135.4902586 \text{ lb/ft}^3$$

Correct Final Answer:  $\gamma = 135 \text{ lb/ft}^3$

**Solution with All Intermediate Values Rounded to Three Significant Figures:**

$$V_v = e \cdot V_s = (0.414)(2.49 \text{ ft}^3) = 1.03 \text{ ft}^3$$

$$V_t = V_v + V_s = 1.03 + 2.49 = 3.52 \text{ ft}^3$$

$$V_w = S \cdot V_v = (0.846)(1.03 \text{ ft}^3) = 0.871 \text{ ft}^3$$

$$W_w = \gamma_w \cdot V_w = (62.4 \text{ lb/ft}^3)(0.871 \text{ ft}^3) = 54.4 \text{ lb}$$

$$W_s = G_s \cdot \gamma_w \cdot V_s = (2.72)(62.4 \text{ lb/ft}^3)(2.49 \text{ ft}^3) = 423 \text{ lb}$$

$$W_t = W_s + W_w = 423 + 54.4 = 477 \text{ lb}$$

$$\gamma = W_t / V_t = (477 \text{ lb}) / (3.52 \text{ ft}^3) = 136 \text{ lb/ft}^3$$

Incorrect Final Answer:  $\gamma = 136 \text{ lb/ft}^3$

In general, in Geotechnical Engineering, the values used in calculations are known to about 2 or 3 significant figures. In this class, unless the problem statement tells you to do otherwise, **give your final answers to three significant figures.**

## Tentative Outline of Material to be Covered in Lecture:

<i>Date</i>	<i>Topic</i>	<i>Reading Assignment</i>
Aug 21	Introduction, significant figures, phase relations	Ch. 1, 2.1-2.2, HOs 1-5
Aug 23	Phase relations, soil texture	2.2-2.4, HO 5
Aug 25	Grain sizes and distribution, particle shape, Atterberg limits and consistency indices	2.3-2.7, HO 5
Aug 28	Tests for Atterberg limits, Unified Soil Classification System (USCS)	2.7.1-2.7.3, 2.8, 2.9, HO 6
Aug 30	USCS continued, AASHTO Classification System	2.9, 2.10, HOs 6 and 7
Sep 01	Geology, landforms, and the origin of geomaterials	Chapter 3, HO 8
<b>Sep 04</b>	<b>NO CLASS - LABOR DAY HOLIDAY</b>	
Sep 06	Clay mineralogy and activity	4.1-4.4
Sep 08	Specific surface, interaction of water and clay minerals	4.5-4.7
Sep 11	Structure and fabric of cohesive and granular soils, soil profiles, horizons, and taxonomy	4.8-4.11
Sep 13	<b>FIRST EXAM – COVERS CHAPTERS 1 THROUGH 3</b>	
Sep 15	Properties, macrostructure and classification of rocks, introduction to compaction	4.12-4.13, 5.1-5.2
Sep 18	Compaction of cohesive soils	5.3-5.4, HO 9
Sep 20	Compaction of granular soils, field compaction methods	5.5-5.6, HO 10
Sep 22	Compaction specifications, QC/QA, performance of compacted soils	5.7-5.8
Sep 25	Hydrostatic water within the ground: capillarity, GWT, and vadose zone	6.1-6.3, HO 11
Sep 27	Hydrostatic water within the ground: expansive soils and rocks (swelling and shrinkage)	6.4-6.6
Sep 29	Hydrostatic water within the ground: collapsible soils, frost action	6.6-6.8, HOs 12-14
Oct 02	Intergranular and effective stress, stress profiles, vertical and horizontal stresses	6.9-6.11, HO 15
Oct 04	Fundamentals of fluid flow (seepage) in soils and rocks, Darcy's Law	7.1-7.3, HO 16
Oct 06	Permeability and measurement of hydraulic conductivity	7.4
<b>Oct 09-13</b>	<b>NO CLASSES - FALL BREAK</b>	
Oct 16	Heads and 1D Seepage	7.5, HO 11
<b>Oct 18</b>	<b>SECOND EXAM – COVERS CHAPTERS 4 THROUGH 6</b>	
Oct 20	Seepage forces, quicksand, liquefaction	7.6, HO 11
Oct 23	2-D seepage and flow nets	7.7, HO 11
Oct 25	Seepage toward wells and through earthen dams and embankments	7.8-7.9
Oct 27	Control of seepage using soil and geotextile filters	7.10, HO 17
Oct 30	Compressibility and settlement of soil, spring-water analogy for saturated and dry soils	8.1-8.3, HO 18
Nov 01	Laboratory 1-D compression testing, stress history and preconsolidation pressure	8.4-8.6
Nov 03	Sampling, trimming, and disturbance, field curves, approximation of $C_c$ and $C_r$	8.9-8.12, HO 18
Nov 06	Settlement calculations for 1-D compression	8.7-8.8, HO 18
Nov 08	Compressibility of rock, Burland's comp. prop., in-situ methods to determine comp.	8.13-8.15
Nov 10	Time rate of consolidation, Terzaghi's 1-D consolidation theory	9.1-9.3, HO 19
Nov 13	Determination of $c_v$ and $k$ , calculation of time rate of $S_c$ using Terzaghi's theory	9.4-9.7, HO 18
<b>Nov 15</b>	<b>THIRD EXAM – COVERS CHAPTERS 7 THROUGH 8</b>	
Nov 17	Settlement from secondary compression, settlement of shallow foundations	9.8, 10.1-10.2
Nov 20	Induces stresses and stress distribution from shallow foundation loads	10.3, HOs 20-23
Nov 22	Immediate settlement of shallow foundations and complete settlement analysis	10.4-10.5
<b>Nov 24</b>	<b>NO CLASS - THANKSGIVING HOLIDAY</b>	
Nov 27	State of stress at a point, Mohr's circle	11.1-11.2, HO 24
Nov 29	Mohr's circle continued	11.2, HO 24
Dec 01	Stress-strain-failure relationships, Mohr-Coulomb failure theory for soils	11.3-11.4
Dec 04	Laboratory tests for shearing strength of soils	11.5
Dec 06	Stress-strain-strength behavior of cohesionless soils (sands)	12.1-12.3

**Note: Dates for the three midterm exams are tentative and may change. Do not schedule absences for personal reasons around the times of these exams.**

**FINAL EXAM – THURSDAY, DECEMBER 14, 2017 from 7:30 – 10:00 am, IN CLASSROOM**



**University of Utah - Department of Civil and Environmental Engineering**  
**Policy Concerning Homework Assignments**  
**Effective Date: 11/22/2004**

This policy reflects the mission of the Department of Civil and Environmental Engineering (CVEEN) to promote high professional standards. Its purpose is three-fold: (1) instill ethical work principles, (2) cultivate professional presentation of engineering calculations, and (3) develop problem-solving skills.

**Ethics**

If you are having difficulty understanding a homework assignment, you should seek help from the instructor or teaching assistant for the course. You may work with others in order to understand the concept(s) covered on a homework assignment. However, inappropriate assistance, such as copying solutions from others, from previous years' homework assignment solutions, or from solution manuals is unacceptable. You are not discouraged from studying together, but each student is expected to do his/her own work and submit her/his own assignments. Plagiarism of any sort will not be tolerated. Students should also familiarize themselves with the University regulations regarding academic misconduct: [http://www.admin.utah.edu/ppmanual/8/8-10\\_pdfs/8-10\\_section\\_5.pdf](http://www.admin.utah.edu/ppmanual/8/8-10_pdfs/8-10_section_5.pdf). Failure to comply with this policy will result in either reduced credit, rejection of homework which will be considered as non-submittal, or receipt of a failing grade at the discretion of the instructor. Student code of conduct violations will be pursued in accordance with University Policy.

**Format**

Your homework assignment solution must adhere to the following formatting rules.

1. Use only one side of 8.5 x 11 inch paper. Use engineering paper and pencil for handwritten solutions. Computer printouts must be on white paper. Each problem must be started on a separate piece of paper.
2. All solutions must be neatly written (or electronically generated), well organized, and logical. For engineering homework problems, the following sequence of categories should be used and will be required in your classes:
  - a) Given
  - b) Required
  - c) Assumptions
  - d) Solution
  - e) Summary of Answers
3. Number, title, and label each graph or table required by the assignment.
4. Generally, graphs should be drawn on a separate piece of paper (one graph per page) and should take up most of the page.
5. Use the same justification (left, center, right, or decimal) for all data in a table, including column labels.
6. Sample calculations must accompany computer spreadsheet solutions.
7. Your name, the course number, assignment number, and problem number must appear on the top of each sheet of the assignment. Number the pages.
8. Bind the assignment with one metal staple in the upper left hand corner of the pages. Do not use paper clips or dog-eared pages.

A style guide is included in the appendix to this document. (Note: This style guide is available as a handout on the course website and is titled *Homework Requirements.pdf*.)

# COLLEGE OF ENGINEERING GUIDELINES

[http://www.coe.utah.edu/wp-content/uploads/pdf/faculty/semester\\_guidelines.pdf](http://www.coe.utah.edu/wp-content/uploads/pdf/faculty/semester_guidelines.pdf)

Fall Semester 2017

## Appeals Procedures

*See the Code of Student Rights and Responsibilities, located in the Class Schedule or on the UofU Web site for more details*

### Appeals of Grades and other Academic Actions

If a student believes that an academic action is arbitrary or capricious he/she should discuss the action with the involved faculty member and attempt to resolve. If unable to resolve, the student may appeal the action in accordance with the following procedure:

1. Appeal to Department Chair (in writing) within 40 business days; chair must notify student of a decision within 15 days. If faculty member or student disagrees with decision, then,
2. Appeal to Academic Appeals Committee (see <http://www.coe.utah.edu/current-undergrad/appeal.php> for members of committee). See II Section D, Code of Student Rights and Responsibilities for details on Academic Appeals Committee hearings.

## Americans with Disabilities Act (ADA)

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you need accommodations in a class, reasonable prior notice needs to be given to the instructor and to the Center for Disability Services, 162 Olpin Union, 581-5020 (V/TDD) to make arrangements for accommodations. All written information in a course can be made available in alternative format with prior notification to the Center for Disability Services.

## Adding Classes

**Please read carefully:** All classes must be added within **10 academic days** of the beginning of the semester (deadline: Friday, September 1st). Late adds will be allowed September 2-September 11, requiring only the instructor's signature. Any request to add a class after September 11th will require signatures from the instructor, department, and Dean, and need to be accompanied by a petition letter to the Dean's office.

**A \$50 FEE WILL BE ASSESSED BY THE REGISTRAR'S OFFICE FOR ADDING CLASSES AFTER September 11th.** \*\*\*

## Withdrawal Procedures

*See the Class Schedule or web for more details* \*\* Please note the difference between the terms "drop" and "withdraw". Drop implies that the student will not be held financially responsible and a "W" will not be listed on the transcript. Withdraw means that a "W" will appear on the student's transcript and tuition will be charged. \*\*

### Drop Period – No Penalty

Students may DROP any class without penalty or permission during the FIRST TEN academic days of the term (Friday, September 1st).

### Withdrawal from Full Term Length Classes

Students may WITHDRAW from classes without professor's permission until **Friday, October 20, 2017**. Beginning September 2nd until October 20th, a "W" will appear on the transcript AND tuition will be charged. Refer to Class Schedule, Tuition and Fees for tuition information.

### Withdrawal from Session I & Session II

See the web page for details:

<http://registrar.utah.edu/academic-calendars/fall2017.php>

Withdrawals after **October 20th** will only be granted due to **compelling, nonacademic emergencies**. A petition and supporting documentation must be submitted to the Dean's Office, 1602 Warnock Engineering Building. Petitions must be received before the last day of classes (December 7, 2017).

## Repeating Courses

When a College of Engineering class is taken more than once, only the grade for the second attempt is counted. Grades of **W, I, or V** on the student's record count as having taken the class. Departments enforce these guidelines for other courses as well (e.g., math, physics biology, chemistry). Attempts of courses taken at transfer institutions count as one attempt. This means a student may take the course only one time at the University of Utah. Courses taken at the University of Utah may not be taken a second time at another institution. If a second attempt is needed, it must be at the University of Utah. Please work with your department advisor to determine the value of repeating courses. Students should note that anyone who takes a required class twice and does not have a satisfactory grade the second time may not be able to graduate. It is the responsibility of the student to work with the department of their major to determine how this policy applies in extenuating circumstances.