MEMORANDUM FOR STUDENTS ENROLLED IN CENG 3336

SUBJECT: CENG 3336 Administrative Instructions – Spring 2020

Course Specific Policies

1. CENG 3336 Soil Mechanics and Foundation Design
   Class Time: Tuesday and Thursday at 1:25 pm – 2:15 pm in room C204
   Lab section1: Tuesday (2:30 pm – 5:15 pm), lab section2: Thursday (2:30 pm – 5:15 pm), in room D114.

2. Instructor: Dr. Zafer Miqdadi
   Email: zmiqdadi@uttyler.edu

3. Welcome to CENG 3336 – Soil Mechanics and Foundation Design. In this course we will explore the fundamental mechanical and physical properties of soils and their relation to soil action in problems of Geotechnical Engineering, such as classification, permeability, shearing strength, and consolidation. You will also receive an introduction into the wonderful world of foundation design. I am confident that you will find this course to be interesting, challenging, and rewarding. A tentative course schedule is provided in Attachment 1.

   This course aims to provide an understanding of the nature of soils in engineering materials, common soil classification schemes, the importance of water in the soil and the effects of water movement, methods of predicting soil settlements, the stress-strain-strength response of soils, earth pressures, and bearing capacity. In the course laboratory experiences, you will examine soil properties and extract the necessary parameters for geotechnical design. Specific course objectives are provided in Attachment 2.

4. If you will miss a scheduled class, you are still responsible for the material.

5. You are encouraged to seek additional instruction during my office hours. These hours are posted outside my office door.

6. Class Room Procedures:

   a. Bring study notes, textbook, note-taking material, and calculator to every class. You may not borrow or exchange calculators during graded events. If your calculator fails during a graded exercise, I am not responsible to furnish a substitute. Class preparation is your individual responsibility. Please refer to Calculator Policy below.
   b. I will take daily time survey data – please ensure the Time Survey Sheets are circulated.
   c. It is a basic principle of professionalism that **"Professionals are not Late."** Please come to class on time and leave on time. Interruption of lecture is not acceptable.
   d. Textbooks:

      1) Principles of Geotechnical Engineering, 8th Edition by Braja M. Das and Khaled Sobhan, 2013
      ISBN 1133108660

      2) Soil Mechanics Laboratory Manual, 8th Edition by Braja M. Das, 2012
      ISBN 0199846375

   e. There will be unannounced quizzes throughout the semester. These quizzes will cover material covered in previous lectures

   f. Laboratory attendance is required and a short quiz will be given during the first five minutes of lab

7. Course Materials:

   a. I will post all course materials on Blackboard. Blackboard enrollment is now automatic with course registration, but you should ensure that you can access the class Blackboard page.

   b. I may also on occasion email you homework tips or points of clarification that are made aware to me outside of class. All email correspondence will take place through the Blackboard system, and therefore using your Patriot email accounts; so check your Patriot email account often.

8. Exams and Grading:

   a. Grade Breakout and Cutoffs:

Course Points		**Grade Scale**		
Mid-term Exams (2 at 250 each)	500 (25%)	A+	96.67%	1,933
Assignments / Pop Quizzes	400 (20%)	A	93.33%	1,866
Laboratory Experience	400 (20%)	A-	90.00%	1,800
Professional Practice Grade	200 (10%)	B+	86.67%	1,733
Final Examination	500 (25%)	B	83.33%	1,666
	2,000 (100%)	B-	80.00%	1,600
		C+	76.67%	1,533
		C	73.33%	1,466
		C-	70.00%	1,400
		D	65.00%	1,300
		F	<65.00%	<1,300

Standard DEPARTMENT cutoffs for your personal growth are shown above. *UNIVERSITY GRADE BREAKS WILL BE USED IN FINAL GRADE POSTING*.

If you earn a cumulative average of less than 60% on all exams, or if you fail to earn at least 60% on the final exam you may fail the course, **regardless of your course grade**. Of course, final grades are only A, B, C, D, F. Therefore, a C- is a C for a final grade. The distribution shown above is to graphically remind you of how well you are doing.

   b. Mid-term Exams and Final Exam:

      1) The dates for all exams are included in the course schedule. Official reasons for missing an exam are outlined in the UT Student Handbook. You are required to take a make-up Exam, regardless of your reason for missing the scheduled Exam. Report any conflict to me as soon as possible prior to the Exam.

      2) The mid-term exams and final exam are closed book. You can use a TI-30 calculator (or FE equivalent see calculator policy below).

      3) Use the restroom prior to coming to class to take an exam. Suspicious restroom breaks in the middle of an exam are not acceptable.

      4) Solutions to exams will not be posted on Blackboard, but you may stop by office and see exam solutions.

   c. Calculator Policy: Only NCEES approved calculators will be permitted during tests and your test will be collected and your grade will be a zero if you are caught using a non-approved calculator.

   d. Laptops/PDAs/MP3 players/Cell Phones or other electronic devices: The use of any electronic device, except an approved calculator, is not permitted during exams. Your exam will be collected and your grade will be a zero if you are caught using a non-approved electronic device. The use of phones and MP3 players is not permitted during lessons.

   e. Collection of Student Work: Throughout the semester I will collect student work (best, average, and worst) for the ABET course and outcomes notebooks. This will require me to make a copy of your

work, keep your original and return a copy of the graded work to you. I will not draw attention as to what level of work you accomplished.

f. Embedded indicators of accomplishment of program outcomes: At times throughout the semester, portions of student work will be analyzed to determine if our program is accomplishing stated program outcomes based on established metrics. **If your work is below the minimum established metric, you will be required to repeat the assignment or that portion of the assignment until you achieve the minimum acceptable standard based on the metric.**

1) Homework: Homework problems will typically be assigned on a daily basis. Students may *discuss* their homework solutions with one another, but each student must submit their own, **independent** solutions (i.e. you may not just copy someone else's homework). **Individual homework must be done individually**. If you receive assistance from a fellow student on a particular problem you must cite that assistance within your solution.

HOMEWORK FORMAT: The production of a neat, organized, high-quality homework assignment cannot be overestimated nor can its importance to your course grade be overstated. A homework assignment should be something you are proud of and not something hastily "slapped together". Toward this end, considerable emphasis will be placed on not only getting the correct answer but also on how the solution is presented.

All homework is mandatory and becomes part of your grade. Failure to submit any required homework will result in an incomplete. As an engineer your goal is to make a clear, logical, and professional presentation of your work, which is both accurate and correct. As such both your presentation and the accuracy of your work are important, and both will be graded. It is critical that you show all of your work and leave "footprints" so that it can be easily followed.

b. Problem Sets:

1) **Use Engineer paper only or full-page printouts from Mathcad, Excel, Visual Analysis, etc.** You may neatly tape or glue short computer printouts onto Engineer paper at the appropriate place in the logical flow of the problem. Only use one side of a page. Clearly present **a brief problem statement and a sketch** with your solution. Clearly and concisely explain each step. For narratives of more than a line or two, use your word processor or the text capability if you are using MathCAD or Excel. If you are writing out a paragraph or more, you must type it.

2) Late Submissions. It is a basic principle of professionalism that **"Professionals are not late." Late homework assignment will not be accepted**. However, in legitimate cases late assignment may be accepted with prior discussion with your professor (coordinated late submission). A "COORDINATED LATE" submission occurs when you will miss the deadline for a graded homework assignment and you contact me in advance. Notification immediately before the submission will not suffice. Deductions to your assignment grade for late submissions will be given as follows:

1. 0-24 hours late — a deduction of 25% of the earned grade
2. 24-48 hours late — a deduction of 50% of the earned grade
3. More than 48 hours late — No credit. **Assignments must still be submitted.**

Habitually late homework WILL have a significant negative impact on your professional practice grade!

3) All homework in this course must be properly documented. It is likely that you might receive help from your classmates - just simply document it. Information from the course textbooks (equations and outlines of procedures), class notes, or me is considered immediately available to all students and need not be acknowledged or documented. **YOU ARE REQUIRED TO ACKNOWLEDGE AND DOCUMENT ALL OTHER ASSISTANCE AND REFERENCES USED.** Documentation will be accomplished in accordance with any manual for writing, footnote or endnote, for papers, but for written homework, just place the documentation right at the point you received help using who and what assistance.

c. Assigned readings: Doing the assigned reading prior to class will help you to understand the material presented during the instruction and will fill in gaps for things we do not cover (***I will not cover everything***). It will also make you more familiar with terms and concepts to be covered. Reading the assignment prior to attending class will enhance your ability to learn!

9. There may be opportunities to earn bonus points for additional work on problem sets, exams, or for completion of other optional assignments. Opportunities for bonus points will be clearly identified by me and announced in class. Make use of these opportunities to extend your learning!

10. Professional Practice. During this semester, a portion of your grade in this course (10%) will be derived from a level of professional practice expectations. These expectations include a professional demeanor and work ethic (attitude), consistent daily preparation (assignment reading, appropriate materials brought to class, homework completed on time, etc.), commitment to learning and fulfilling obligations (attendance, on time), and being engaged in class activities (participation).

11. Academic Misconduct: Plagiarism of homework and cheating on examinations will be interpreted as academic misconduct and will not be tolerated. Please refer to the University of Texas at Tyler current Undergraduate Catalog for academic policies and Manual of policies and Procedures for Student Affairs (MOPPS, Chapter 8) regarding academic integrity, cheating, and plagiarism. Academic dishonesty will not be tolerated. Ignorance of the rules and policies provides no protection from the consequences.

12. Students Rights and Responsibilities. To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:
http://www.uttyler.edu/wellness/StudentRightsandResponsibilities.html

13. Grade Replacement/Forgiveness. If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by Census Day (See Schedule of Topics). Failure to do so will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates will receive grade forgiveness (grade replacement) for only three course repeats; graduates, for two course repeats during his/her career at UT Tyler. Also, please notify the instructor so that they know about your circumstances.

14. State-Mandated Course Drop Policy. Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the Census Day (See Schedule of Topics). Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Registrar's Office and must be accompanied by documentation of the extenuating circumstance. Please contact the Registrar's Office if you have any questions. Please contact the instructor prior to dropping the course to receive any guidance in your course progress.

15. Disability Services. In accordance with federal law, a student requesting accommodation must provide documentation of his/her disability to the Disability Support Services counselor. If you have a disability, including a learning disability, for which you request an accommodation, please contact Ida MacDonald in the Disability Support Services office in UC 282, or call (903) 566-7079. Additional information may also be obtained at the following UT Tyler Web address: http://www2.uttyler.edu/disabilityservices/

16. Student Absence due to Religious Observance. Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

17. Student Absence for University-Sponsored Events and Activities. If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

18. Social Security and FERPA Statement. It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

19. Emergency Exits and Evacuation. Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. For Tornado warnings the safe areas within the building have been designated. The instructor will identify to you these safe refuge areas. If you require assistance during an evacuation, inform your instructor in the first week of class. Do Not re-enter the building unless given permission by University Police, Fire Department, or Fire Prevention Services, or other official Public Safety personnel.

UT Tyler Honor Code

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Students Rights and Responsibilities

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:http://www.uttyler.edu/wellness/rightsresponsibilities.php

Campus Carry

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is availableathttp://www.uttyler.edu/about/campus-carry/index.php

UT Tyler a Tobacco-Free University

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors. Forms of tobacco not permitted include cigarettes, cigars, pipes, waterpipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products. There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visitwww.uttyler.edu/tobacco-free.

Laptops/PDAs/MP3 players/Cell Phones or other electronic devices

The use of any electronic device, except an approved calculator, is not permitted during exams. Your exam will be collected and your grade will be a zero if you are caught using a non-approved electronic device/calculators. Any instances of a calculator inappropriately used during an exam will be the basis of alleging Academic Misconduct and may result in Failing (F) of the course at the determination of the course's instructor or the basis for a recommendation for expulsion from the University. Any Calculator used during an exam in this course must meet the requirements stated within the policy below.

Calculator Policy

Only NCEES approved calculators will be permitted during tests and your test will be collected and your grade will be a zero if you are using a non-approved calculator.

The approved calculators include the following: (Please check the NCEES website for a complete listing, www.ncees.org/exams/calculator-policy/. Examples include but are not limited to:

Hewlett Packard – HP 33s, HP 35s, and no others
Casio – All FX 115 models
Texas Instruments – All TI 30X or TI-36X models.
If you are unsure about your calculator, it is your responsibility to check with the instructor for approval.

At the discretion of the course instructor, any calculator not meeting the requirements stated (especially in the case of a graphing calculator) may be used but only after an inspection of the device and a clearing of all the memory within

the device, performed for the instructor at a time immediately prior to the exam. At any time during the exam your calculator is subject to a random search by the instructor. Failure or refusal to clear all memory or to surrender your calculator to search will disqualify you from the exam immediately, unless you can produce a calculator meeting the requirements as stated above.

Attachments x2

Zafer Miqdadi, PhD

Topics Covered and Schedule

SUBJECTS	LESSONS
Course introduction	1
Physical soil properties	3
Classification	1
Compaction	2
Water flow through soil	3
Soil stress	4
Soil settlement	3
Shear strength	2
Lateral earth pressure	2
Bearing capacity	2
Slope stability	1
Exams	2
Exam reviews	2
Course summary	**1**
Totals:	**29**

CENG 3336 Soil Mechanics and Foundation Design Course Schedule - Spring 2020
(Subject to change as needed throughout the semester)

Lesson	Lab	Date	Topic	Reading	Homework
1	-	14-Jan	Introduction to Soil Mechanics / Foundations	Ch. 1	HW1
2		16-Jan	Origin of soils and grain size	Ch. 2	HW2
3	1	21-Jan	Weight - Volume relations	Ch. 3	HW3
4	2	23-Jan	Plasticity and soil structure 30-Jan Census Day (Withdraw without penalty)	Ch. 4	HW4
5		28-Jan	Classification of soil	Ch. 5	HW5
6	3	30-Jan	Compaction	Ch. 6	HW6
7		4-Feb	Relative compaction and compaction equipment	Ch. 6	HW7
8	4	6-Feb	Permeability	Ch. 7	HW8
9		11-Feb	Seepage	Ch. 8	HW9
10	5	13-Feb	In-situ stress	Ch. 9	HW10
11		18-Feb	Stresses in a soil mass	Ch. 10	HW11
12	6	20-Feb	Vertical stress due to surface loads	Ch. 10	HW12
13		25-Feb	**EXAM I**		
14	7	27-Feb	Vertical stress due to surface loads	Ch. 10	
15	8	3-Mar	Introduction to settlement		
16		5-Mar	Primary consolidation settlement	Ch. 11	HW 13
		11-16 Mar	**Spring Break**	Ch. 11	HW14
17		17-Mar	Time-rate of consolidation settlement	Ch. 11	HW15
18	9	19-Mar	Shear Strength	Ch. 12	HW16
19		24-Mar	Shear Strength **27-Mar Last Day to withdraw**		HW17
20	10	26-Mar	Lateral earth pressure	Ch. 13	HW18
21		31-Mar			HW19
22	11	2-Apr	Lateral earth pressure	Ch. 13	
23		7-Apr	**EXAM II**		
24	12	9-Apr	Bearing capacity	Ch. 16	HW20
25		14-Apr			HW21
26	13	16-Apr	Shallow foundation design	Ch. 15	HW22
27		21-Apr	Slope stability		HW23
28	14	23-Apr	Course and Final review		HW24
29		**27 Apr- 2 May**	**Final Exams week**		

CENG 3336 Course Objectives:

1. Develop an organized approach to solving soil mechanics problems.
2. Describe the physical properties of soil.
3. Use phase diagrams to obtain soil/water relationships.
4. Classify soil according to the USCS and AASHTO systems.
5. Explain compaction and calculate the relative density of a soil.
6. Calculate total stress, effective stress, and pour water pressure of soil.
7. Calculate soil permeability based on lab and field data.
8. Analyze and construct flow nets for two-dimensional flow through soil.
9. Calculate the total 1-D settlement and time rate of settlement of soil.
10. Analyze and develop a laboratory field curve for settlement parameters of a soil.
11. Describe the Mohr-Coulomb failure mode for soil.
12. Determine soil strength parameters from laboratory shear tests.
13. Calculate lateral earth pressure on a retaining structure.
14. Determine the bearing capacity of soil for a given foundation.
15. Analyze and design a shallow foundation for bearing capacity and settlement.
16. Analyze a soil for slope stability.
17. Describe the role of laboratory testing in geotechnical engineering
18. Solve engineering analysis and design problems using Mathcad and Excel