

CE 3336 – 12332 Civil Engineering Materials
MW 12:30-1:20 LART 319

FALL 21

Instructor: Vivek Tandon (vivek@utep.edu) Office: MW 10:30 to 11:30 AM

Required Text: *Materials for Civil and Construction Engineers*, Mamlouk and Zaniewski, Addison Wesley Longman, Inc., 4th edition.

References: *Lecture Notes and Laboratory Notes*

OBJECTIVES OF COURSE

The CE 3336 course focuses on developing an understanding of appropriate mechanical and physical properties of civil engineering materials, including Asphalt, Asphalt Concrete, Portland cement, Portland cement concrete, aggregates, wood, masonry, and the nature of the material.

SCHEDULE

A tentative lecture schedule is attached. Reading assignments will be assigned during the lecture, and you are expected to read the appropriate assignment before the lecture.

Prepared notes will also be occasionally handed out in class to supplement, or in some cases to substitute for, reading material from the book. Be sure to save the notes because you will be evaluated over the topics covered in the notes.

GRADING

Your grade for this course will be determined based on 1,600 points as per the following weightage:

1. Assigned Homework Grade (240)
2. Three exams 150 points each (total points = 450 points)
3. One Final Exam (300 points)
4. Quiz (300 points)
5. Laboratory (310 points)

In accordance with University regulations, students who miss examinations will receive grades of zero. Exceptions to this rule will be made only on a carefully considered individual basis and only if the student contacts the instructor before the exam. If you know in advance that you will miss an exam, it is your responsibility to inform the instructor before the exam.

HOMEWORK

Homework problems will be assigned on every topic. Homework will be assigned and submitted online (MS Teams portal) but will not be evaluated. Instead, TA will count the number of problems

worked on, and if all the assigned problems have been submitted, a 100% grade will be assigned to that Home Work. Experience clearly shows that a student's grade depends on the effort put into working and understanding the homework. Homework solutions will be available after due dates. We encourage that you team up with your classmates for this activity.

QUIZZES

Students will be quizzed regularly. The quiz will be similar to the homework problems from the previous week, the examples solved in the class, or the examples in the textbook or reading assignments. The duration of the quiz will be less than 15 minutes. To accommodate possible emergencies, the two lowest grades obtained will not be considered.

EXAMINATIONS

Examinations are generally held during the class period for about 50 minutes. The tentative dates and topics covered are included in the attached schedule. In addition, for those students who missed the exams due to reasons beyond their control and desire to take a makeup test, a makeup test will also be conducted on the day of the final at the end of the final exam. However, to take this test, the students should provide their homework and quizzes and request a makeup exam. To be eligible for a makeup exam, you should have an average of better than 70% in the homework and quizzes related to the topics covered on a given exam.

FINAL EXAMINATION

The final examination will cover the whole course and will last two hours and 45 minutes. **To pass the course, you must receive more than 50% grade in the final exam.** The final exam will be multiple-choice and partial credit will not be given for wrong answers.

STUDY GROUPS

Students should form study groups of about four-five persons. These groups will collaborate in the laboratory sessions. Group members are also encouraged to get together to solve the homework problems. Keep in mind that working together does not mean copying from each other.

ATTENDANCE and CLASS PARTICIPATION

Students are expected to attend all class periods and must attend all laboratory periods. Those who fail to attend class regularly are inviting scholastic difficulty and, with the approval of the Dean of the College of Engineering, may be dropped from the course with a grade of F for repeated (5 or more) unexcused absences. All students are expected to participate in the class regularly. This should be documented in their lecture notebooks. We will evaluate them regularly to monitor their progress.

Homework assignments and other material will only be distributed in the class or via email.

POLICY ON CHEATING

Students are expected to be above reproach in all academic activities. Students who engage in academic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the university. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give an unfair advantage to a student, or the attempt to commit such acts (Regents Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22). Scholastic dishonesty harms the individual, all students, and the integrity of the university. Therefore, policies on academic dishonesty will be strictly enforced.

COURSE/INSTRUCTOR EVALUATION

A course/instructor evaluation will be conducted in class near the end of the semester.

LABORATORY

Each student must register for a laboratory section. You will not be allowed to pass this course if you do not attend all laboratories. Please consult me if you feel you have to miss a laboratory to schedule some makeup in advance. We are very interested in seeing that the laboratory provides you with the training you need without the undue burden on your time. Please keep us informed of any problems that you are having with your laboratory.

FINAL COMMENT

Good luck to all of you in this course. Please do not hesitate to ask questions in class, or if necessary, to see your instructor outside of class. Any specific comments that students have on how the course might be improved are particularly welcomed.

COVID-19 PRECAUTIONS

Would you please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms? If you are feeling unwell, please let me know as soon as possible to work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu so that the Dean of Students Office can support you and help with communication with your professors. The Student Health Center is equipped to provide COVID 19 testing.

The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. If you still need the vaccine, it is widely available in the El Paso area and will be available at no charge on campus during the first week of classes. For more information about the current rates, testing, and vaccinations, please visit epstrong.org

Tentative Lecture and Laboratory Schedule

Week	Monday	Wednesday	Exam Topics	Laboratory
08/23	Intro.	Topic 1		No Laboratory
08/30	Topic 1	Topic 1		No Laboratory
09/06	Labor Day	Topic 1		Virtual Plant Visit
09/13	Topic 2	Topic 2		How to Prepare Laboratory Report
09/20	Topic 2	Topic 3		Introduction to Measuring Devices
09/27	Exam I	Topic 3	1-2	Specific Gravity, Absorption, & Gradation
10/04	Topic 3	Topic 4		Mortar Specimen Preparation
10/11	Topic 4	Topics 4		Mortar Test
10/18	Topic 4	Topics 4		Concrete Mix Design
10/25	Topic 5	Topic 5		Preparation of Concrete Specimens
11/01	Exam II	Topic 5	2-4	Binder Test Demonstration
11/08	Topic 5	Topic 6		Asphalt Concrete Mix Design Problem
11/15	Topic 6	Topic 6&7		Asphalt Concrete Mix Testing
11/22	Topic 7	Topic 8		Properties of Wood and Testing of Concrete Specimen
11/29	Exam III	Topic 8	5-7	Masonry Demo
Final Exam December 6th, 7:00 a.m. – 9:45 a.m.				

Topic No.	Subject	Assigned Reading
1	<i>Materials Engineering Concept</i>	Chapter 1
2	<i>Aggregates</i>	Chapter 5
3	<i>Portland Cement</i>	Chapter 6
4	<i>Portland Cement Concrete</i>	Chapter 7
5	<i>Asphalt and Asphalt Mixtures</i>	Chapter 9
6	<i>Wood</i>	Chapter 10
7	<i>Masonry</i>	Chapter 8
8	<i>Nature of Materials</i>	Chapter 2