Course Syllabus

2.1 Continuing Education Units

Course Instructor: Staff
Phone No. 480-727-5024
E-mail: jimrogers@asu.edu

Office Hours: All OTI Education Center Instructors are required to allow a half hour before and after each class period to meet with students.

Course Description:
This course covers the OSHA Excavation Standard and safety and health aspects of excavation and trenching. Course topics include practical soil mechanics and its relationship to the stability of shored and unshored slopes and walls of excavations, introduction of various types of shoring (wood timbers and hydraulic), soil classification, and use of protective systems. Testing methods are demonstrated and students participate in workshops in the use of instruments such as penetrometers, torvane shears, and engineering rods. Upon course completion students will have the ability to assess their employer’s compliance with the OSHA Excavation Standard, utilize soil testing methods to classify soil types, determine protective systems for excavation operations, and training requirements.

Student contact hours: 21

Prerequisite: None

Required Text: Included in the course registration fees and provided on the first day of the course

- 29 CFR 1926 Subpart P - Excavations
- Additional Handouts Provided by Instructors

Student Learning Outcomes:
Upon successful completion of this course, student should be able to:

- Identify hazards related to excavations and trenching
- List requirements contained in OSHA CFR1926 Subpart P - Excavations
- Identify requirements and competencies for a Competent Person as defined in Subpart P
- Explain basic concepts of soil mechanics and how environmental factors affect soil stability
- Perform field soil tests as described in Appendix A of the OSHA standard
- Properly classify soils according to the requirements of Appendix A of the OSHA Standard
- Describe proper sloping and benching methods according to Subpart B of the OSHA Standard
- Utilize Appendix C of the OSHA Standard to properly design timber shoring systems
- Utilize Appendix D of the OSHA Standard to design an aluminum hydraulic shoring system when manufacturers tabulated data cannot be obtained
- Utilize manufacturer’s tabulated data to design protective shoring and shield systems according to CFR1926.652
- Identify conditions requiring a Registered Professional Engineer
- Demonstrate the ability to select a proper protection system
- Explain requirements for identifying, locating and dealing with conflicting subsurface hazards including existing utilities, adjacent structures and archeological finds
- Describe rescue operation requirements and limitations
Assessments and Evaluation of Student Performance:
A student’s performance will be assessed based on the 100% attendance requirement, active participation in the class workshops, and a written exam given at the end of the course.

Grading Scale: CEU: Graded on a CR/NC basis

Course Policies:

Attendance Policy:
Students are expected to attend all class sessions and to be in class on time. No absences are allowed.

Ethics:
Each student has an obligation to act with honesty and integrity, and to respect the rights of others in carrying out all academic assignments. You are responsible to learn how the Student Academic Integrity Policy (http://provost.asu.edu/academicintegrity) applies to you personally and to this course in particular. Violations of the University Academic Integrity policy will not be ignored. Penalties include reduced or no credit for submitted work, a failing grade in the class, a note on your official transcript that shows you were punished for cheating, suspension, expulsion and revocation of already awarded degrees. In terms of defining specific examples of cheating, the university policy is very simple. Everything is forbidden until the instructor authorizes it. Cheating is doing something that affects an academic evaluation without the instructor's authorization. We will discuss in class what is authorized and that if you want to do anything else, you need to ask the instructor first.

Course Standards
a. Prior to the start of class, please turn off your cell phones, radios, Ipods and other electronic devices, or set to silent mode, to avoid unnecessary classroom disruptions.
   i. Taking notes electronically is permitted as long as the use of the device (computer, tablet, etc.) is restricted to use relating to this class
b. There will be no food or drink consumed, or hats worn in classroom.
c. Cell phones usage in class is not allowed out of respect to other students.
d. Students are responsible for ALL reading assignments and class handouts whether or not the material has been covered in class or specifically listed on the syllabus.
e. Students are expected to bring their text, a calculator, writing tablet or notebook, and appropriate writing materials to every class. No sharing of books, calculators, etc. will be allowed during quizzes or tests so please prepare.
f. Arizona State University maintains the highest standard for academic honesty and trusts that each student will perform ethically and professionally when preparing required work for this course. Each assignment must represent the student's collective original work, even for work designated as group work. Although ASU encourages collaboration between students, and faculty, in the sharing of ideas and experiences, individual work needs to represent the student's original thought and be distinguishably different from other students work. While discussions between students are encouraged, cheating will not be tolerated. Any student found cheating on an exam, a quiz, or assignment may be given a failing grade for the course and flagrant violations can result in additional consequences. You are cheating if you represent someone else's work as your own or if someone else represents your work as theirs. All graded work (exams, homework assignments, as well as any written exercises or quizzes) in this class must represent your own individual work only. Students may discuss the conceptual aspects of an assignment, but students must turn in their own, independently developed solutions. Grading will include comparing the structure and content of your solution with that of other students. By registration in this class, you are assumed to have read, understand and agreed to this policy, as well as to the procedures conveyed at the web sites below.
ABOR Student Code of Conduct and Student Disciplinary Procedures
http://students.asu.edu/srr/code

ASU Academic Integrity Policy:
http://provost.asu.edu/academicintegrity

Course Evaluations:
Course evaluations and program surveys are important components of the educational process. Students in this course will complete course evaluation forms distributed during the last day of the course. Evaluation is anonymous.

Statement on Accommodations:
Reasonable accommodations are made on an individualized basis. It is the responsibility of persons with disabilities, however, to seek available assistance and make their needs known. The University has designated the Disability Resource Center as the campus coordinating office for the provision and delivery of services and reasonable accommodations that ensure the University's programs, services, and activities are accessible to students with disabilities. The Disability Resource Center is available to assist any student who has a qualified and documented disability. Please contact the Disability Resource Center at 480-965-1234 (Voice) 480-965-9000 (TTY) for additional information.
URL: http://www.asu.edu/studentaffairs/ed/drc/
Sample #500 Course Schedule (Subject to Change):

<table>
<thead>
<tr>
<th>Time</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00am</td>
<td>Opening Remarks&lt;br&gt;Objectives&lt;br&gt;Introductions</td>
<td>Excavation and trenching protection systems – sloping and benching</td>
<td>Other subsurface hazards</td>
</tr>
<tr>
<td></td>
<td>Subpart P Requirements</td>
<td>Excavation and trenching protection systems – timber shoring for trenches &lt; 20 feet</td>
<td>Other subsurface hazards (cont)</td>
</tr>
<tr>
<td></td>
<td>The Competent Person</td>
<td>Excavation and trenching protection systems – Hydraulic Shoring</td>
<td>Adjacent structures and archeological finds</td>
</tr>
<tr>
<td>12:00</td>
<td>Lunch</td>
<td>Lunch</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00</td>
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<td></td>
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<tr>
<td></td>
<td>Soil testing procedures and equipment</td>
<td>Excavation and trenching protection systems – Shoring and trench boxes</td>
<td>Rescue Operations</td>
</tr>
<tr>
<td>4:30pm</td>
<td>Soil classification according to Appendix A</td>
<td>Utilizing a Registered Professional Engineer to test soils and design protection systems</td>
<td>Closing activities and written test</td>
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