Course Syllabus

Instructor
Name: Asheka Rahman, PhD, PE
Office Address: School of Construction, College of Science & Technology
Bobby Chain Technology Building, The University of Southern Mississippi, Hattiesburg, MS 39406
Phone Number: 225-436-5301 (Cell)
Email: asheka.rahman@usm.edu

Office Hours
By appointment
The best way to contact me is through Blackboard email.

Drop Date
Tuesday, January 28 is the last day to drop full-semester classes without academic penalty

Textbook

Prerequisites
AEC340, Corequisite: BCT 445L.

Credit Hours
2 Semester Hours Credit

Course Description
Theory and applications of soil mechanics to foundation design and construction.
Course Overview
Soils and Foundations introduces soil materials and their compositions. This provides a background for soil performance during many construction activities including compaction, dewatering, embankment, excavation, and foundation stresses.

Learning Outcomes
You will become familiar with many types of soils, their characteristics, and the appropriate applications and problems with each type of soil.

Course Objectives
Upon completion of the course, students should be able to:
1. Describe the physical characteristics of soil constituents
2. Describe the various soil indices of course and fine constituents
3. Classify soils according to the Unified and AASHTO systems
4. Calculate the effective soil stress
5. Interpret contracts and ethical issues.
6. Interpret soil reports
7. Explain embankment, excavation, and dewatering techniques
8. Size foundations and approximate settlement
9. Solve open channel flow problems using the Manning equation

Assessment /Grading:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Midterm Exam</td>
<td>25</td>
</tr>
<tr>
<td>2. Final Exam</td>
<td>25</td>
</tr>
<tr>
<td>3. Assignments</td>
<td>50</td>
</tr>
</tbody>
</table>

Grading Policy

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 to 100</td>
</tr>
<tr>
<td>B</td>
<td>80 to 89</td>
</tr>
<tr>
<td>C</td>
<td>70 to 79</td>
</tr>
</tbody>
</table>
Syllabus *

Ch. 1 Physical Character of Soil Constituents
Ch. 3 Soil Index Properties
Ch. 4 Soil Classification
Ch. 5 Stress Analysis and Engineering Reports
Ch. 6 The Contract and Contract Documents, and Ethics(handout materials)

Mid Term Exam Chapters 1, 3, 4, 5, 6

Ch. 8 Embankment Const. and Control
Ch. 9 Dewatering
Ch. 10 Excavations and Excavation Support
Ch. 11 Foundation Construction

Hydraulics, Bernoulli’s equation (handout materials) Hydraulics, Open Channel Flow (handout materials) Hydraulics, Open Channel Flow (handout materials) Course Review

Final Exam.

*Schedule may be revised if necessary. Students will be notified if this is the case.
### Class Schedule*

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
<th>Assignment Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tue Jan. 14</td>
<td>Ch. 1 Physical Character of Soil Constituents</td>
<td>Chapter 1</td>
<td>none</td>
</tr>
<tr>
<td>2</td>
<td>Tue Jan. 21</td>
<td>Ch. 3 Soil Index Properties</td>
<td>Chapter 3</td>
<td>none</td>
</tr>
<tr>
<td>3</td>
<td>Tue Jan. 28</td>
<td>Ch. 4 Soil Classification</td>
<td>Chapter 4</td>
<td>Assignment 1</td>
</tr>
<tr>
<td>4</td>
<td>Tue Feb. 4</td>
<td>Ch. 5 Stress Analysis and Engineering Reports</td>
<td>Chapter 5</td>
<td>Assignment 2</td>
</tr>
<tr>
<td>5</td>
<td>Tue Feb. 11</td>
<td>Ch. 6 The Contract and Contract Documents, and Ethics(handout materials)</td>
<td>Chapter 6</td>
<td>Assignment 3</td>
</tr>
<tr>
<td>6</td>
<td>Tue Feb. 18</td>
<td>Review/Practice Test</td>
<td>Chapter 1-6</td>
<td>Assignment 4</td>
</tr>
<tr>
<td>7</td>
<td>Tue Feb. 25</td>
<td>Review/Practice Test</td>
<td>Chapter 1-6</td>
<td>none</td>
</tr>
<tr>
<td>8</td>
<td>Tue Mar. 4</td>
<td>Mardi Gras holiday/midterm</td>
<td></td>
<td>Midterm Mar.5-7</td>
</tr>
<tr>
<td>9</td>
<td>Tue Mar. 11</td>
<td>Spring Break</td>
<td></td>
<td>none</td>
</tr>
<tr>
<td>10</td>
<td>Tues Mar. 18</td>
<td>Ch. 8 Embankment Const. and Control</td>
<td>Chapter 8</td>
<td>none</td>
</tr>
<tr>
<td>11</td>
<td>Tue Mar. 25</td>
<td>Ch. 9 Dewatering</td>
<td>Chapter 9</td>
<td>Assignment 5</td>
</tr>
<tr>
<td>12</td>
<td>Tue Apr. 1</td>
<td>Ch. 10 Excavations and Excavation Support</td>
<td>Chapter 10</td>
<td>Assignment 6</td>
</tr>
<tr>
<td>13</td>
<td>Tue Apr. 8</td>
<td>Ch. 11 Foundation Construction</td>
<td>Chapter 11</td>
<td>Assignment 7</td>
</tr>
<tr>
<td>14</td>
<td>Tue Apr. 15</td>
<td>Hydraulics, Bernoulli’s equation (handout materials)</td>
<td>handout</td>
<td>Assignment 8</td>
</tr>
<tr>
<td>15</td>
<td>Tue Apr. 22</td>
<td>Hydraulics, Bernoulli’s equation (handout materials)</td>
<td>handout</td>
<td>Assignment 9</td>
</tr>
<tr>
<td>16</td>
<td>Tue Apr. 29</td>
<td>Review/Practice Test</td>
<td>Chapter 1-6, handouts</td>
<td>none</td>
</tr>
<tr>
<td>17</td>
<td>Tue May. 6</td>
<td>Final</td>
<td></td>
<td>Final Exam May. 5-8</td>
</tr>
</tbody>
</table>

*Schedule may be revised if necessary. Students will be notified if this is the case.

**USM STUDENT HANDBOOK** Academic Dishonesty

BCT 445  
Spring 2014  
A. Rahman
It is the philosophy of The University of Southern Mississippi that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

The following is from the USM Undergraduate Bulletin:

“When cheating is discovered, the faculty member may give the student an F on the work involved or in the course. If further disciplinary action is deemed appropriate, the student should be reported to the Dean of Students. In addition to being a violation of academic honesty, cheating violates the Code of Student Conduct and may be grounds for probation, suspension, and/or expulsion. Students on disciplinary suspension may not enroll in any courses offered by The University of Southern Mississippi.”

Student will be given an F in the course if discovered for cheating!!

**Plagiarism**

Plagiarism is the act of taking another person's writing, conversation, song, or even idea and passing it off as your own. This includes information from web pages, books, songs, television shows, email messages, interviews, articles, artworks or any other medium. Whenever you paraphrase, summarize, or take words, phrases, or sentences from another person's work, it is necessary to indicate the source of the information within your paper using an internal citation. It is not enough to just list the source in a bibliography at the end of your paper. Failing to properly quote, cite or acknowledge someone else's words or ideas with an internal citation is plagiarism.
ADA Policy
If a student has a disability that qualifies under the American with Disabilities Act (ADA) and requires accommodations, he/she should contact the Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact ODA if they are not certain whether a medical condition/disability qualifies.

Address:
The University of Southern Mississippi
Office for Disability Accommodations
118 College Drive # 8586
Hattiesburg, MS 39406-0001
Voice Telephone: (601) 266-5024 or (228) 214-3232 Fax: (601) 266-6035

Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1-800-582-2233 (TTY) or email Suzy Hebert at Suzanne.Hebert@usm.edu.