A. CATALOGUE COURSE DESCRIPTION

CVEN 3400 Structural Testing. Credit hours (1). A laboratory course dealing with the measurement of the engineering properties of construction materials. **Prerequisite: Statics (ENGR 2110)**

B. TEXTBOOK

No text is required. Information obtained from Civil engineering Web site.

**Important Class Resources and Reference Material:**
http://www.ecoccs.com/tsuteach.html
STEM Resources for Tennessee State University (TSU) students and faculty provided by Irucka Embry

Links for the CVEN 3400 course:

- Structural Testing Laboratory (CVEN 3400) Course Materials
- Structural Testing Laboratory (CVEN 3400) Useful Resources
- Structural Testing Laboratory (CVEN 3400) Lecture Notes
- Structural Testing Laboratory (CVEN 3400) Pre-Laboratory Assignments
- Structural Testing Laboratory (CVEN 3400) Laboratory Assignments
- Structural Testing Laboratory (CVEN 3400) Final Exam

Other useful links:

- Communication
- Plotting & Data Visualization (Graphical Communication)

C. COURSE OBJECTIVES

1. This course is intended to develop the student’s ability to write laboratory reports and become aware of laboratory testing procedures and skills. In addition, provide students with hands-on experience on how to describe the results of testing through written reports and being able to communicate professionally.
2. To demonstrate the procedure of measuring certain material properties of civil engineering materials.

3. To become familiar with the behavior of various materials used in civil engineering and their structural properties.

D. COMPETENCY

1. Test materials used in the construction of civil engineering facilities.

2. Evaluate materials to be used in design of structures.

E. Rubrics For The course CVEN 3400 Structural Testing Laboratory

Description of Assignment: The instructor will assign laboratory experiments and a final exam to provide an overview of structural testing methods for civil engineering students.

Performance Criteria: Outcomes are considered to be met if 70% or more of the students demonstrate a competent or higher level of performance in the criteria listed below.

<table>
<thead>
<tr>
<th>Program Indicator and Targeted Student Outcomes</th>
<th>Not Acceptable &lt; 60</th>
<th>Below Expectations 60 - 70</th>
<th>Meets Expectations 70 - 90</th>
<th>Exceed Expectations &gt; 90</th>
<th>Score</th>
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<tbody>
<tr>
<td>Ability to apply knowledge of mathematics, science, and engineering, a</td>
<td>Failure to apply a basic understanding of mathematics, science, and engineering.</td>
<td>Partial ability to apply a basic understanding of mathematics, science, and engineering.</td>
<td>Ability to apply a basic understanding of mathematics, science, and engineering.</td>
<td>Capable of applying a more than basic understanding of mathematics, science, and engineering.</td>
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<tr>
<td>Ability to design and conduct experiments, as well as to analyze and interpret data, b</td>
<td>Failure to adequately conduct experiments as well as to analyze and interpret data.</td>
<td>Partial ability to conduct experiments as well as to analyze and interpret data.</td>
<td>Ability to adequately conduct experiments as well as to analyze and interpret data.</td>
<td>Capable of adequately conducting experiments as well as to analyze and interpret data.</td>
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<tr>
<td>Ability to communicate effectively through the written laboratory report, g</td>
<td>Failure to communicate effectively through the written laboratory</td>
<td>Partial ability to communicate effectively through the written laboratory</td>
<td>Ability to communicate effectively through the written laboratory</td>
<td>Capable of communicating effectively through the written laboratory</td>
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### Ability to apply knowledge in construction and structural engineering, 1

- Failure to apply an understanding of construction and structural engineering.
- Partial ability to apply an understanding of construction and structural engineering.
- Ability to apply an understanding of construction and structural engineering.
- Capable of applying a proficient understanding of construction and structural engineering.

### Average

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### F. PREREQUISITES

**Statics (ENGR 2110)**

### G. COURSE OUTLINE

1. Introduction to Statistics & Probability
2. Moisture Content of Coarse aggregate
3. Cement
4. Sand gradation
5. Concrete mix design
6. Concrete mix design/testing
7. Slump test
8. Admixtures fly ash, retarders, accelerator, revert
9. Light weight concrete/testing
10. Asphalt Mix Design
11. Asphalt Flow and Stability
12. Testing

### H. RELATION OF COURSE TO ABET CRITERIA

**General Criteria**

(3a) Knowledge of math, science, engineering

(3b) Design, conduct experiments; analyze and interpret data

(3g) Effective communication

(3k) Techniques, skills, modern tools for engineering practice
I. ASSIGNMENTS / LAB REPORT FORMAT


2. Refer to http://writing.engr.psu.edu/workbooks/documentation.html for information on how to properly cite resources used in the lab report and refer to http://web.mst.edu/~cottrell/ME240/Reports/Engineering%20plot%20guidelines.pdf for information on how to display tables and figures in the lab report.

3. Lab reports are due one week after the experiment has been completed. The report will be graded on the basis of 100 points. Correct use of technical and English language will carry considerable weight of the total grade given.

4. No late assignment will be accepted after that assignment has been graded and returned to the class. Under certain circumstances, late assignment can be graded and will receive a 10% deduction for every weekday in which it is late.

J. EVALUATION

Student grade will be based on actual participation in exams given, and the correctness of the lab report on terms of technical writing and English language usage. Assignments will carry the following grading weight:

Lab Reports: 85%
Exam: 15%

Grading Scale:
A: 90-100
B: 80-89
C: 70-79
D: 60-69
F: 59-0

K. ATTENDANCE

The university policy on attendance allows only 2 excused absences for this class. Anyone exceeding this limit should, immediately after returning to class, submit an excuse for the absence approved by the office of the Vice-President for Student Affairs. Persons with excessive absence without approved excuses may receive a grade of “F” for the course.
L. POLICIES

See current Catalog for policies and student handbook, including the policy on absences, cheating, and plagiarism.

DISABILITY ACCOMMODATION STATEMENT
TSU is committed to creating inclusive learning environments and providing all students with opportunities to learn and excel in their course of study. Any student with a disability or condition which might interfere with his/her class performance or attendance may arrange for reasonable accommodations by visiting the Office of Disability Services (ODS). ODS is located in Kean Hall, room 131 and can be reached at 963-7400 or www.tnstate.edu/disabilityservices. You will be required to speak with ODS staff and provide documentation of the need for an accommodation. If you qualify for an accommodation you will be provided with a document stating what type of classroom accommodations are to be made by the instructor. It is your responsibility to give a copy of this document to the instructor as soon as you receive it. Accommodations will only be provided AFTER the instructor receives the accommodation instructions from ODS; accommodations are not retroactive. You must follow this process for each semester that you require accommodations.

SEXUAL MISCONDUCT, DOMESTIC/DATING VIOLENCE, STALKING
TSU recognizes the importance of providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence, and stalking. If you (or someone you know) has experienced or is experiencing any of these incidents, there are resources to assist you in the areas of accessing health and counseling services, providing academic and housing accommodations, and making referrals for assistance with legal protective orders and more.

Please be aware that most TSU employees, including faculty and instructors, are “responsible employees”, meaning that they are required to report incidents of sexual violence, domestic/dating violence or stalking. This means that if you tell me about a situation involving sexual harassment, sexual assault, dating violence, domestic violence, or stalking, I must report the information to the Title IX Coordinator. Although I have to report the situation, you will still have options about how your situation will be handled, including whether or not you wish to pursue a formal complaint. Our goal is to make sure you are aware of the range of options available to you and have access to the resources you need.

You are encouraged to contact TSU’s Title IX Coordinator to report any incidents of sexual harassment, sexual violence, domestic/dating violence or stalking. The Title IX coordinator is located in the Office of Equity and Inclusion, McWherter
Administration Building, Ste. 260 and can be reached at 963-7494 or 963-7438. For more information about Title IX and TSU’s SART or policies and procedures regarding sexual, domestic/dating violence and stalking please visit: www.tnstate.edu/equity.

If you wish to speak to someone confidentially, who is not required to report, you can contact the TSU Counseling Center, located in the basement of Wilson Hall, at 963-5611 or TSU Student Health Services, located in the Floyd Payne Campus Center room 304, at 963-5084. You may also contact the following off campus resources: Sexual Assault Center of Nashville at 1-800-879-1999 or www.sacenter.org or the Tennessee Coalition to End Domestic & Sexual Violence at 615-386-9406 or www.tncoalition.org.

HARASSMENT & DISCRIMINATION
Tennessee State University is firmly committed to compliance with all federal, state and local laws that prohibit harassment and discrimination based on race, color, national origin, gender, age, disability, religion, retaliation, veteran status and other protected categories. TSU will not subject any student to discrimination or harassment and no student shall be excluded from participation in nor denied the benefits of any educational program based on their protected class. If a student believes they have been discriminated against or harassed because of a protected class, they are encouraged to contact the Office of Equity and Inclusion at McWherter Administration Building, Ste. 260, 615-963-7494 or 963-7438, www.tnstate.edu/equity.

M. INSTRUCTOR’S INFORMATION

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Irucka Embry, EIT</th>
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<tbody>
<tr>
<td>Telephone</td>
<td>(615) 713-7094</td>
</tr>
<tr>
<td>Electronic mail</td>
<td><a href="mailto:iruckaE@mail2world.com">iruckaE@mail2world.com</a></td>
</tr>
<tr>
<td>Office Location</td>
<td>N/A</td>
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<tr>
<td>Room</td>
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<tr>
<td>Office Hours</td>
<td>By appointment only</td>
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N. COURSE EVALUATIONS

This information will be updated later this semester.