CM 3210 – Applied Structures - I  
College of Architecture & Construction Management  
Term: Fall 2015

Prerequisite: CET 2200

Class Meeting time: (Tue & Thur 6:30 PM – 8:30 PM)

Course Website: http://d2l.kennesaw.edu

Class Location: H322

Class instruction methodology: 4-0-4 100% in classroom and Lecture discussion

Instructor: Pavan Meadati

Office Location & Hours: Mon & Wed: 3:00 PM to 5:00 PM

Course Communications: Email /Phone: pmeadati@kennesaw.edu/678-915-3715  
Preferred method of contact: D2L email only or during office hours


COURSE SYLLABUS

Construction Management Faculty are involved in the development of knowledge, understanding, and application in an environment where we monitor, manage, and facilitate the learning process. Instructor strives to provide a rich learning environment that allows for a range of individual learning styles. The following syllabus provides specific topics for the course through various forms of teaching and discovery based on a selection of reading materials and other resources.

Course Catalog Description:
A descriptive study of structural behavior with an overview of statics, strength of materials, design of beams and columns for concrete, steel, and timber structural systems.

Purpose of Course:

Course Goals, Objectives & Expectations:
This course provides an overview of structural systems from the perspective of construction managers. The course provides fundamental structural mechanics and summarizes basic issues relevant to common forms of construction and major structural materials such as steel and concrete. Various issues, while selecting a framing system or materials, which must be considered by the construction managers, will be discussed. These include safety including loads for different type of building use, serviceability requirements, environmental concerns such as wind and earthquakes, contractors concerns such as support and equipment required during construction. The course will end with an introduction to the philosophy of design issues and related economics issues. Students will be required to complete a series of individual assignments that focus on specific concepts covered in the course.

1) Model real world structures in two dimensions for analysis.
2) Analyze and design simple steel beams and columns for flexure, shear and deflection.
3) Analyze and design simple reinforced concrete beams and columns for flexure, shear and deflection.
4) Analyze and design reinforced concrete slab and footing for flexure, shear and deflection.

How This Course Relates to the Student Learning Outcomes in the Construction Management Program: Demonstrate communication ability with construction project team members

Student Learning Outcomes:
1. Understand the basic principles of structural behavior.
COURSE POLICIES

Attendance Policy:
Students are expected to be present for every meeting of the course. It is expected that students will arrive to class on time and if expected to be absent from class, prior notification to the instructor is required (e-mails are accepted for this purpose). All absences will be considered unexcused absences, unless they are cleared with the instructor with a memorandum, submitted electronically (i.e., via Email), stating the date and reason for the absence.

Quiz / Exam Policy:
There are three exams and three quizzes in the course. The exams will test the individual student's understanding of some of the principle concepts covered in the course. The exams cover material discussed in the lectures, or included in the assigned readings up to the time of the exam. If an exam is missed as a result of an excused absence, it needs to be made up. If an exam is missed as a result of an unexcused absence or being late to class, it will not receive any credit at all (i.e., 0 points).

Make-up Policy:
There are no make-up quizzes or lab assignments - so don’t ask.

Assignment Policy:
Homework or Class project should have a professional appearance, being neat, logically formatted, and legible. Homework or Class project will be turned in at the beginning of class on the date due. It is each student’s responsibility to deliver late submission to the instructor. Homework or Class project that is submitted after the beginning of class will receive a penalty of 10%. Homework or Class project submitted the day after the class on which that is due will receive a penalty of 25%, 2 days after 50%, 3 days after 100% off.

Course Technology: N/A

Evaluation & Grading

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>40%</td>
</tr>
<tr>
<td>Exam I</td>
<td>17.5%</td>
</tr>
<tr>
<td>Exam II</td>
<td>17.5%</td>
</tr>
<tr>
<td>Exam III</td>
<td>20%</td>
</tr>
<tr>
<td>Class Participation &amp; pop quizzes</td>
<td>5%</td>
</tr>
</tbody>
</table>

A = 90-100   B = 80-89   C = 70-79   D = 60-69   F = Below 60

UNIVERSITY POLICIES:
Statement of Student Rights and Responsibilities
KSU Student Code of Conduct

Plagiarism and Cheating:
No student shall receive, attempt to receive, knowingly give or attempt to give unauthorized assistance in the preparation of any work required to be submitted for credit (including examinations, laboratory reports, essays, themes, term papers, etc.). Unless specifically authorized, the presence and/or use of electronic devices during an examination, quiz, or other class assignment is considered cheating. Engaging in any behavior which a professor prohibits as academic misconduct in the syllabus or in class discussion is cheating. When direct quotations are used, they should be indicated, and when the ideas, theories, data, figures, graphs, programs, electronic based information or illustrations of someone other than the student are incorporated into a paper or used in a project, they should be duly acknowledged. No
student may submit the same, or substantially the same, paper or other assignment for credit in more than one class without the prior permission of the current professor(s).

University Policy on Academic Misconduct: Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the KSU Student Academic Integrity Policy at [http://kennesaw.edu/handbooks/faculty/section2_13.php](http://kennesaw.edu/handbooks/faculty/section2_13.php)

University Policy on Accommodating Students with Disabilities:
Students requesting accommodation for disabilities must first register with the Office of Disabled Student Support Services at [http://www.kennesaw.edu/stu_dev/dsss/dsss.html](http://www.kennesaw.edu/stu_dev/dsss/dsss.html). The Office of Disabled Student Support Services will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

**Netiquette: Communication Courtesy:** All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. [http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf](http://teach.ufl.edu/docs/NetiquetteGuideforOnlineCourses.pdf)

**Electronic Recording & Social Media Policy**

Electronic recording performed without the consent of the people being recorded chills the free exchange of ideas. Academic freedom, free inquiry, and freedom of expression should not be limited by the fear that one’s brainstorming, polemic discourse, speculative inquiry, or any other kind of expressed curiosity made within the space of a university classroom will be made public without one’s consent. This fear is unacceptable regardless of whether one is in an online, hybrid, or face-to-face classroom setting. Accordingly, no person shall electronically record any class discussion without the written permission of the instructor. No person shall publish online or elsewhere any electronic recording of a class discussion without the written permission of the instructor and any other persons who were recorded. This policy is not intended to discourage electronic recording in the classroom or the use of social media when such actions are performed with the written consent of the instructor and any other persons who were/will be recorded. Faculty accommodate all reasonable requests to electronically record a class discussion; these requests must be documented by the DisAbled Student Support Services available at: [http://www.kennesaw.edu/stu_dev/dsss/prospect.shtml](http://www.kennesaw.edu/stu_dev/dsss/prospect.shtml)

**GETTING HELP**

For issues with technical difficulties, please contact the Student Helpdesk:

1. Fill out a service form [http://uits.kennesaw.edu/support/formselect.php?s=tech](http://uits.kennesaw.edu/support/formselect.php?s=tech)
2. Email: studenthelpdesk@kennesaw.edu
3. Call: 770-499-3555

Getting Started With Technology Services [http://uits.kennesaw.edu/](http://uits.kennesaw.edu/)

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from ITS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

**Additional Technology Resources**

1. Student Service Desk and Help Center studenthelpdesk@kennesaw.edu
3. USG Desire2Learn Help Center [https://d2lhelp.view.usg.edu/](https://d2lhelp.view.usg.edu/)
4. D2L Training Options & Resources for Students
   https://web.kennesaw.edu/acs/pages/desire2learn/student-resources-d2l
5. Computertrain Online Courses http://www.kennesaw.edu/dlc/FacultyResources/
6. ITS Documentation Center
   http://uits.kennesaw.edu/docs/netaccess/guides/windows7_wifi_instructions.pdf
7. Check Service Outages http://status.usg.edu/
8. Maintenance Schedule https://usg.desire2learn.com

**Academic Resources**
1. Academic Tutoring Services http://www.kennesaw.edu/stu_dev/alp/academic.shtml
2. Disability Resources http://www.kennesaw.edu/stu_dev/dsss/dsss.html
4. Library http://www.kennesaw.edu/library/
7. Math Lab http://mathlab.kennesaw.edu/

**Student Support and Wellness Resources**
1. Career Services Center https://careerctr.kennesaw.edu/
2. Counseling and Psychological Services http://sss.kennesaw.edu/cps/
3. Center for Health, Promotion and Wellness http://www.kennesaw.edu/col_hhs/wellness/
4. Student Health Clinic http://studenthealth.kennesawstateauxiliary.com/

KSU desires to resolve student grievances, complaints and concerns in an expeditious, fair and amicable manner. The Complaints and Appeals Page was developed to assist current and prospective students in submitting complaints and appeals and to direct them to the most effective venue for accurate information and resolution. The resources on the page will direct students to the specific venue to appropriately address related student complaint. http://www.kennesaw.edu/complaints_appeals.shtml

Complaints for online students are resolved following the same general procedures for students who attend classes on campus. However, for any process that requires that a student appear in person, the university may make other arrangements. For processes that cannot be completed via telephone, e-mail, or written correspondence, the university may set up a two way Video conference site in place of a meeting on the KSU campus.
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<thead>
<tr>
<th>Class</th>
<th>Topic</th>
<th>Reading</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction &amp; Forces, Reactions, Sectional properties</td>
<td>1,2</td>
<td>Take Syllabus quiz &amp; HW-1 Assigned</td>
</tr>
<tr>
<td>2</td>
<td>Shear and Bending Moments, Types of Beams, Joint conditions</td>
<td>3</td>
<td>HW-1 Due</td>
</tr>
<tr>
<td>3</td>
<td>Shear and Bending Moments, Types of Beams, Joint conditions</td>
<td>3</td>
<td>HW-2 Assigned</td>
</tr>
<tr>
<td>4</td>
<td>Structural Design Loads and Methods &amp; Why steel Structures, steel structural products</td>
<td>8</td>
<td>HW-2 Due</td>
</tr>
<tr>
<td>5</td>
<td>Steel Beams and Framing Elements &amp; Steel Beams, Flexure and Shear design, Deflection Control</td>
<td>8, 9</td>
<td>HW-3 Assigned</td>
</tr>
<tr>
<td>6</td>
<td>Steel Beams, Flexure and Shear design, Deflection Control &amp; Exam 1</td>
<td>9</td>
<td>HW-3 Due</td>
</tr>
<tr>
<td>7</td>
<td>Steel Beams and Framing Elements</td>
<td>9</td>
<td>NONE</td>
</tr>
<tr>
<td>8</td>
<td>Columns Shapes, Slenderness and End conditions &amp; Steel Columns Design</td>
<td>10</td>
<td>HW-4 Assigned</td>
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<tr>
<td>9</td>
<td>RCC Structures – Elements &amp; Beams, Flexure and Shear design, Deflection Control</td>
<td>13</td>
<td>HW-4 Due &amp; HW-5 Assigned</td>
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<tr>
<td>10</td>
<td>Beam Shear design &amp; Double reinforced Beam</td>
<td>13</td>
<td>HW-5 Due</td>
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<tr>
<td>11</td>
<td>Double reinforced Beam &amp; Exam 2</td>
<td>13</td>
<td>NONE</td>
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<tr>
<td>12</td>
<td>Slab Design</td>
<td>14</td>
<td>HW-6 Assigned</td>
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<tr>
<td>13</td>
<td>Concrete Column Design &amp; RCC Foundations</td>
<td>15, 16</td>
<td>HW-6 Due &amp; HW-7 Assigned</td>
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<td>14</td>
<td>RCC Foundations &amp; Retaining Walls</td>
<td>16 &amp; Handout</td>
<td>HW-7 Due</td>
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<td>15</td>
<td>Course Review &amp; Exam 3</td>
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