



## CE 3202 – Design Of Concrete Structures

### Fall 2012

**TIME & PLACE:** TR, 6.00-7.15 PM, M135  
**CREDITS:** 3 Credits  
**INSTRUCTOR:** Wasim Barham, PhD  
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**OFFICE HOURS:** Monday : 11:00am – 12:00 pm  
Wednesday: 10:00 am – 12:00 pm  
Thursday: 3:00 pm – 5:00 pm  
Other times (By appointment – Walk in- Email me or Call me!!!)

**PREREQS:** CE 3201

**TEXTBOOK:**

- *ACI318-11: Building Code Requirements for Structural Concrete and Commentary*, 2011, ISBN 978-0870317446
- *McCormac, J. C. Design of Reinforced Concrete, 8th edition, John Wiley & Sons, 2009; ISBN-10: 0321014626; ISBN-13: 978-0321014627*

**OUTLINE:**

	Topic	Book
I.	Introduction	Ch.1 &2
II.	Materials	Ch. 3
III.	Flexural design of beam sections	Ch. 4&5
IV	Shear design of beam sections	Ch. 6
V	Development and lap splice of reinforcement	Ch. 8
VI	Serviceability: Cracking and deflection of beams	Ch. 9
VII	One-way slab system design (Overview)	Ch. 10
VIII	Design of columns under combined loading	Ch. 11
IX	Footings: Strip & Spread Footings	Ch. 12
X	Retaining wall design	Handouts

**LEARNING OUTCOMES:**

- Understand the design philosophy of reinforced concrete structures
- Design singly and doubly reinforced concrete beams

- Design for shear strength of beams
- Design one-way reinforced concrete slabs
- Determine deflections of reinforced concrete beams
- Design reinforced concrete columns
- Determine development lengths of straight bars in tension and compression
- Design concrete footings
- Apply the art of detailing different reinforced concrete elements

<b>GRADING:</b>	MIDTERMS (2)	- 40%	
	FINAL	- 30%	(Comprehensive)
	HOMEWORK	- 15%	(~8 Assignments)
	PROJECT	- 15%	

Grading Policy:

A	B	C	D	F
100 – 90	89-77	76-64	63 - 52	51 – 0

- POLICIES:**
- Every homework assignment is due in one week, unless instructed otherwise
  - Assignments have to be turned in during class session.
  - Homework must be submitted on engineering calculation sheets
  - Homework must be bounded or stapled
  - Show all your work for full credit! Write your name on every page.
  - Present your work neatly!
  - Late homework and reports will NOT be accepted for credit. Work turned in late may be evaluated to provide you with feedback, but will not be graded / given credit except in cases of documented emergency.
  - Submission will not be accepted if the solutions are distributed by any means.
  - You may consult with others on assignments, provided you only submit your own attempt at the work.
  - Use of cell phones in classroom is not allowed for any purpose. Please put your phone on silent and keep it off your desk during the class.

**ACADEMIC HONESTY & DISRUPTIVE BEHAVIOR:**

A faculty member reserves the right to remove any student from his or her course if the student's behavior is of a disruptive nature or where there is evidence of academic dishonesty. In instances of disruptive behavior and/or academic dishonesty, the faculty member will discuss the circumstances with

the student(s) before taking final action. In the event the student cannot be reached, he/she will be given the grade of "Incomplete" until such time as he/she can be reached. The student shall have the right of appeal of the faculty member's decision first to the faculty member's department head and then to the appropriate college or school dean and, if necessary, to the Vice President for Academic Affairs. Removal of a student from a course under this provision will result in the faculty member's issuing a grade of "F". A grade of "F" issued under these circumstances shall not be superseded by a voluntary withdrawal and will be included in the student's cumulative grade point average calculated for graduation purposes (SPSU Student's Handbook).

**DISABILITY SUPPORT:**

If you have a documented disability as described by the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) that may require you to need assistance attaining accessibility to instructional content to meet course requirements, we recommend that you contact the ATTIC at 678 915 7361 as soon as possible. It is than your responsibility to contact and meet with your instructor. The ATTIC can assist you and the instructor in formulating a reasonable accommodation plan and provide support in developing appropriate accommodations for your disability. Course requirements will not be waived but accommodations will be made, when appropriate, to assist you to meet requirements. (SPSU's ADA Compliance Statement)