

Reinforced Concrete Structures

2

(CEng-3122)

First Class

INTRODUCTION TO THE
COURSE

1

April 23, 2020

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Presentation Outline

Content

1. General Introduction

General Introduction

○ **WHY this course?**

- ✓ Continuation on reinforced concrete structures1.
- ✓ Develop students understanding of analysis and design of continues beams, two way slab systems, columns and addressing the limit state of Torsion.

2. Expectations

Expectations

- Yours?

Please point out any issues that you may feel will be opportunities to improve on from last semester experience.

- Mine?

Its simple!

Same as last semester but expect you to perform to a higher standards!

3. Course Structure

Course Structure

Chapter1: Plastic Moment Redistribution

- Introduction
- Plastic hinge and collapse mechanism
- Rotation requirement

Course Structure

Chapter2: Continuous Beams, One-Way Solid And Ribbed Slabs

- Introduction
- Analysis and design of continuous beams.
- Analysis and design of one way slabs
- Analysis and design of one way ribbed slabs

Course Structure

Chapter3: Two Way Slab Systems

- Introduction
- Analysis and design of two way beam supported slabs
- Analysis and design of flat slabs

Course Structure

Chapter4: Column

- Introduction
- Analysis and design of short columns
- Analysis and design of slender columns

Course Structure

Chapter5: Torsion

- Introduction
- Equivalent truss analogy
- Design for torsion

4. References

References

Text Books:

1. Reinforced Concrete: Mechanics and Design, **by James G MacGregor and James K Wight.**
2. **Design of Concrete Structures, by R. Park and T. Paulay.**
3. Reinforced Concrete: A fundamental Approach, **by Edward Nawy**
4. Design of Concrete Structures, **by Arthur H. Nilson, David Darwin and Charles W. Dolan.**
5. Reinforced Concrete Design, **by Pillai and Menon**
6. Reinforced Concrete Design to Eurocode 2, **by Bill Mosley, John Bungey and Bay Hulse**

References

Code of Standards:

1. Eurocode **“0”**: Basis of structural design
2. Eurocode **1**: Actions on structures
3. Eurocode **2**: Design of concrete structures-Part 1-1; General rules and rules for Buildings.

References

Software:

1. CSI ETABS Ultimate 2016 V16.2.1
2. CSI.SAFE.2016.v16.0.2
3. CSI.SAP.2000.v20.0.0

5. Assessment

Assessment

- **2xTest** **30%**
 - **5xAssignment** **10%**
 - Semester Project **20%**
 - Final Examination **40%**
100%
- *As always BONUS marks for Extra Effort are in PLAY!!! 😊*
- Not exceeding 10 marks per student.

6. Course Blog

Course Blog

Blog Link: <https://aaitrc2.wordpress.com/>



The screenshot shows the homepage of the course blog. At the top, there is a navigation menu with five items: Home (highlighted in orange), About, Contact Us, Download, and Forum. Below the menu, the course title "AAIT-RC2-CENG-3122" is displayed in a large, bold, blue font, followed by the subtitle "DESIGN OF REINFORCED CONCRETE STRUCTURES II" in a smaller, blue font. To the right of the title is a search bar with the text "Search" and a blue "search" button. Below the text is a large photograph of a modern, multi-story building with a curved facade and extensive glass windows, identified as the Addis Ababa Institute of Technology. The building is set against a clear blue sky.

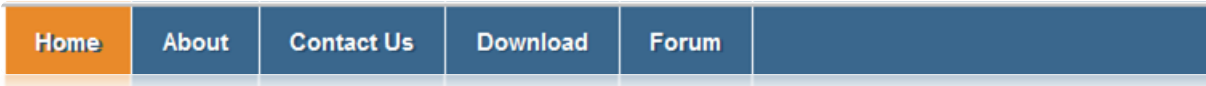
Home About Contact Us Download Forum

AAIT-RC2-CENG-3122
DESIGN OF REINFORCED CONCRETE STRUCTURES II

Search search

Addis Ababa institute of Technology

Course Blog



Download Page:

- Standard forms:
- Lecture note:
- Assignments:
- Analysis and Design Aid:

Go Beam

7. Contact Information

Reminder:

Students are always encouraged and welcomed to raise questions in outside class sessions!

and

Consultation hours:

Office:

Email:

8. Assignment#0

Question#1: Write an Essay of a maximum of 400 words.

About: Why are you studying Civil Engineering and Your expectations from the course.

Question#2: Do the revision questions given on the revision assignment.

Submission date: One week