# Reinforced Concrete Structures 2

(CEng-3122)

## First Class

INTRODUCTTION TO THE COURSE



Addis Ababa institute of Technology

April 23, 2020

# Presentation Outline

**Content**

1. General Introduction
2. Expectations
3. Course Structure
4. References
5. Assessment
6. Course Blog
7. Contact Information
8. Assignment#0

# 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-Part1-1; 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

| | |
|---|---|
| **2**xTest | **30%** |
| **5**xAssignment | **10%** |
| Semester Project | **20%** |
| Final Examination | **40%** |
| | **100%** |

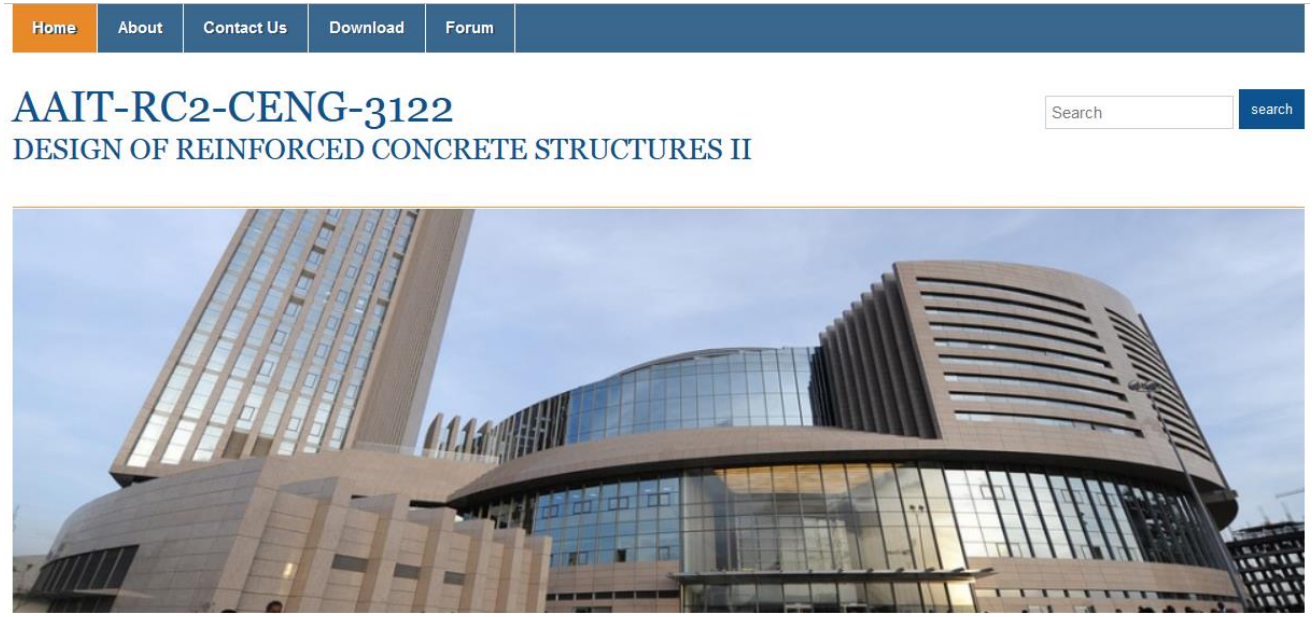
- *As always BONUS marks for Extra Effort are in PLAY!!!* ☺

  Not exceeding 10 marks per student.

# 6. Course Blog

# Course Blog

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



# 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