

1. Course Name
Structural Analysis II
2. Course Code
CIV062
3. Semester/Year
Second Semester / Third Year
4. Date of Preparation
2026/1/3
5. Available Attendance Methods
In-person
6. Total Study Hours / Total Units
60 theoretical hours / 5 units
7. Course Instructor's Name (If multiple, list all)
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8. Course Objectives
1. To understand approximate analysis of statically indeterminate structures. 2. To understand how to compute deflection of structures. 3. To understand how to analyze statically indeterminate structures by force method. 4. To understand how to analyze statically indeterminate structures by displacement method (slope-deflection). 5. To understand how to analyze statically indeterminate structures by displacement method (moment distribution). 6. To understand how to deals with computer applications in structural analysis.

9. Teaching and Learning Strategy

1. To introduce the students to concept of analyzing of indeterminate structures
2. To introduce the students to the computer modeling of structures.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or Topic Name	Learning Method	Assessment Method
1	4	Understand approximate analysis of indeterminate trusses	Approximate Analysis of Statically Indeterminate Trusses	In-person	Discussion
2	4	Understand approximate analysis of indeterminate frames	Approximate Analysis of Statically Indeterminate Frames	In-person	Written Exam
3	4	Apply conjugate beam method to structural problems	Conjugate Beam Method	In-person	Written Exam
4	4	Apply virtual work principle to trusses	Principle of Virtual Work for Trusses	In-person	Written Exam
5	4	Apply virtual work principle to beams and frames	Principle of Virtual Work for Beams and Frames	In-person	Discussion
6	4	Analyze beams and frames using force method	Analysis of Beams and Frames by Force Method	In-person	Written Exam
7	4	Mid-term assessment of understanding	Mid-term Exam	In-person	Written Exam
8	4	Analyze trusses using force method	Analysis of Trusses by Force Method	In-person	Written Exam
9	4	Analyze combined truss/frame members	Analysis of Combined Truss/Frame Members (Composite Structures)	In-person	Written Exam
10	4	Apply displacement method to beams	Analysis of Beams by Displacement Method (Slope-Deflection)	In-person	Written Exam
11	4	Analyze sway & non-sway frames by	Analysis of Sway and Non-Sway Frame by	In-person	Written Exam

		displacement method	Displacement Method (Moment Distribution)		
12	4	Apply moment distribution method to sway & non-sway frames	Analysis of Sway and Non-Sway Frame by Displacement Method (Moment Distribution)	In-person	Written Exam
13	4	Introduction to computer-based modeling	Introduction to Computer Structural Modeling	In-person	Practical Test
14	4	Perform structural modeling of trusses	Computer Structural Modeling of Truss	In-person	Lab Report
15	4	Perform structural modeling of frames	Computer Structural Modeling of Frame	In-person	Lab Report
16	4	Review and preparation for final exam	Preparatory Week Before Final Exam	In-person	Discussion

11. Course Evaluation

- **Mid-term exam** **10%**
- **HWs** **10%**
- **Quizzes** **10%**
- **Technical reports** **10%**
- **Attendance sheet** **10%**
- **Final Exam** **50%**

12. Learning and Teaching Resources

Required Textbook

- ***Structural Analysis* by R. C. Hibbeler, Tenth Edition**

Main References (Sources)

- ***Elementary Theory of Structures* by Yuan-Yu Hsieh, Second Edition.**
- ***Structural Analysis* by Jack C. McCormac.**

Recommended Online Resources

- [YouTube Link](#)