

**Copilot****CIVL210 - Structural Engineering Project****University:** Western University of Civil Engineering**Course Duration:** Full Year (Fall and Winter)**Instructor:** Dr. Robert Williams**Contact Information:** robert.williams@wuce.edu**Office Hours:** Tuesdays and Thursdays, 3:00 PM - 5:00 PM**Course Description**

In this second-year course, students design and analyze a small-scale structural project, such as a pedestrian bridge or a building framework. The project is based on specifications provided by a fictitious client.

**Learning Outcomes**

By the end of this course, students will be able to:

1. Apply structural analysis and design principles to real-world projects.
2. Select appropriate materials and conduct material testing.
3. Perform load calculations and ensure safety factors are met.
4. Create technical drawings and documentation.
5. Work effectively in teams to complete engineering projects.
6. Communicate design concepts and results through written reports and oral presentations.

**Course Timeline and Deliverables****Fall Semester:**

Date	Deliverable	Description	Weight
September 15, 2020	Team Formation and Project Proposal	Teams form and submit a proposal outlining the project scope and objectives.	10%
October 20, 2020	Preliminary Design Report	Submission of initial design, including sketches and material selection.	15%
November 25, 2020	Structural Analysis and Load Calculations	Detailed analysis of structural components and load calculations.	20%
December 10, 2020	Midterm Presentation	Presentation of progress, including design and analysis results.	10%

**Winter Semester:**

Date	Deliverable	Description	Weight
February 15, 2021	Detailed Design Document	Comprehensive design document with detailed drawings and specifications.	15%
March 20, 2021	Prototype Development and Testing Report	Report on prototype development and testing results.	20%
April 10, 2021	Final Presentation and Demonstration	Final presentation and demonstration of the structural project.	10%

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### Grading Breakdown

- Team Formation and Project Proposal: 10%
- Preliminary Design Report: 15%
- Structural Analysis and Load Calculations: 20%
- Midterm Presentation: 10%
- Detailed Design Document: 15%
- Prototype Development and Testing Report: 20%
- Final Presentation and Demonstration: 10%

**Total: 100%**

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### Course Policies

- **Attendance:** Regular attendance is required. More than three unexcused absences may result in a lower grade.
  - **Late Submissions:** Assignments submitted late will incur a penalty of 5% per day, up to a maximum of 25%.
  - **Academic Integrity:** All students are expected to adhere to the university's academic integrity policy. Plagiarism or cheating will result in disciplinary action.
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### Required Materials

- Textbook: "Structural Analysis" by R.C. Hibbeler
  - Access to structural analysis software (e.g., SAP2000, ETABS)
  - Prototyping materials (to be specified based on project requirements)
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### Additional Resources

- University Library
  - Structural Engineering Lab
  - Online tutorials and workshops
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This syllabus provides a comprehensive overview of the CIVL210 course, including key elements such as learning outcomes, a detailed timeline with deliverables, and their respective weights. If you need any further details or adjustments, feel free to ask!