

CE 60290: Advanced Structural Steel Design
University of Notre Dame
Dept. of Civil & Environmental Engineering & Earth Sciences

Course Information

<u>Course Title:</u>	CE 60290 - Advanced Structural Steel Design
<u>Credits:</u>	3.0 Credit Hours
<u>Pre-requisites:</u>	An undergraduate course focused on structural steel design.
<u>Course Description:</u>	The primary learning objectives of the course are to develop an advanced understanding of the analysis and design of steel members and connections with a focus on the application of the current AISC design specifications. This course will specifically cover the analysis and design (including limit states and failure modes) of connections, composite beams and welded built-up plate girders as well as plastic analysis and design of steel structures.
<u>Course Goals:</u>	<ol style="list-style-type: none">1. Develop an advanced understanding of the design and behavior of structural steel members and connections.2. Gain further familiarity in the usage of the AISC Manual.
<u>Lectures:</u>	Tuesday and Thursday at 9:30 - 10:45am Room: TBD
<u>Course Website:</u>	Course lecture notes, handouts, assignments, etc. will be archived at canvas.nd.edu . Lectures and board notes will typically be archived after class. All homework assignments will be archived in advance of their delivery.
<u>Instructor:</u>	Brian J. Smith, Ph.D., P.E. Teaching Professor Dept. of Civil and Environmental Engineering and Earth Sciences Massman Beavers Collegiate Professor in Heavy Civil Engineering College of Engineering Concurrent Teaching Professor School of Architecture
<u>Office Hours:</u>	Anytime by Appointment
<u>Required Text:</u>	<i>Steel Construction Manual</i> , 16 th Edition, AISC

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Graded Components

<u>Grades:</u>	Homework	30%
	Project	10%
	Midterm Exam	30%
	Final Exam	30%

Letter grades are determined at the end of the semester. The minimum numeric cut-offs to ensure a letter grade are:

A: 95.00% A-: 90.00% B+: 87.00% B: 83.00%
B-: 80.00% C+: 77.00% C: 73.00% C-: 70.00%

Participation: **Prompt and regular attendance at lecture is required and necessary for success in this course.**

Homework: Homework will be due at the beginning of the class on the assigned due date. Any homework submitted after the end of class will have a 25% reduction in score. Assignments that are more than 48-hours late will not be accepted. **All students have one “free” 48-hour homework deadline extension.** Additional extensions may be allowed on a case-by-case basis as determined by the instructor. **Homework will be submitted electronically using Canvas.** Please use document scanners or free apps such as “Lens” or “CamScanner” to make better quality scans of your assignments as opposed to simply taking photos.

All homework assignments should conform to the following presentation guidelines and standards:

- **Use only 8 ½” x 11” paper (to help grader view in Canvas).**
- **Use only one side of the paper (to help with quality of scan).**
- **Show all work with your final answer clearly identified.** The correct answer with no work shown will receive zero credit.
- **Complete the assignment with a professional mindset.**
- **Presentation and organization will count for up to 10% of your homework grade.** All work should be presented in the correct problem order, written neatly, all figures/diagrams should be drawn with a straight-edge.

Examinations: There are two examinations in this course. Unexcused absences for exams will result in a zero grade.

Course Expectations

Expectations of Students:

1. Prompt and regular attendance is required and necessary for success in this course. Regular attendance is generally correlated with student success. Students missing class must notify the instructor of their absence. Accommodations for excused absences will be governed by the University's Academic Code.
2. Stay current on homework assignments. Homework is an extension of learning outside of the classroom. To make interactions on homework as beneficial as possible, students are required to attempt a problem before seeking assistance during instructor office hours.
3. Familiarize yourself with the AISC Manual. Use flags, post-its, highlighters, and annotations to mark-up your Manual. **Bring your Manual to class every meeting**; it will increase your proficiency in finding the information you need.

Honor Code:

Academic dishonesty will not be tolerated. All students are expected to read and comply with the Academic Code of Honor, which can be found at honorcode.nd.edu. Specific interpretations of this Code relative to this course include:

- Students are expected to comply with the honor pledge: "As a member of the Notre Dame community, I will not participate in or tolerate academic dishonesty."
- Students are allowed to work with their peers on homework assignments, but each student is expected to submit their own work and to attempt problems on their own before seeking help. Copying from another student is not allowed.
- Students may not receive assistance, of any kind, on exams.
- **Rule of Thumb: Providing guidance to help classmate(s) understand is encouraged. Helping your classmates(s) avoid doing their own work is inappropriate!**

Re-Grading Policy:

Any requests for partial or full re-grading of exams, homework assignments, or projects are welcomed. Once graded assignments have been distributed in class, students have until the following class to request re-grading. All requests should be made via email to document the request and should specifically state (1) which question(s) are to be re-graded, (2) the number of points requested to be returned, and (3) the rationale behind the re-grade request.

University Policies

Students with Disabilities:

Any student having a documented disability and anticipates needing accommodations in this course, must inform the instructor as soon as possible. Prior to this meeting the student must contact the Office for Students with Disabilities to obtain an “Arrangements for Reasonable Accommodations” form. This form verifies their disability and specifies the accommodation(s) needed. The process needs to be complete, meaning the form has been signed by the instructor and student and returned to the Office for Students with Disabilities one week or seven days before the test for which they are requesting accommodations.

Further information can be found at supportandcare.nd.edu and details pertaining to accessibility support can be found at the following link: [click here for link](#).

Support for Mental Health:

Care and Wellness Consultants provide support and resources to students who are experiencing stressful or difficult situations that may be interfering with academic progress. Through Care and Wellness Consultants, students can be referred to The University Counseling Center (for cost-free and confidential psychological and psychiatric services from licensed professionals), University Health Services (which provides primary care, psychiatric services, case management, and a pharmacy), and The McDonald Center for Student Well Being (for problems with sleep, stress, and substance use). Please visit supportandcare.nd.edu for more information.

Equity, Diversity and Inclusion:

The University of Notre Dame is committed to social justice. I share that commitment and strive to maintain a positive learning environment based on open communication, mutual respect, and non-discrimination. In this class we will not discriminate on the basis of race, sex, age, economic class, disability, veteran status, religion, sexual orientation, gender identity, color, or national origin. Any suggestions as to how to further such a positive and open environment will be appreciated and given serious consideration.