

ARCT 234 Structural Steel Detailing I 3 Credits

Course Description

The study of stationary (static) forces acting on structural members. The A.I.S.C. Structural Steel Manuals will be used to determine proper beam sizes and to design connections. Steel details are studied and drawn. (Prerequisites: ARCT 134, MATH 132, CAD 120, MATH 136)

Course Focus

This course covers two major areas: (a) statics/strength of materials and (b) structural steel design. Theories and general applications in areas such as direct stress, reaction calculation, moment calculation, shear calculation, and beam design are covered in the first half semester. In the second half, these theories are applied and the American Institute of Steel Construction (AISC) manual is used to calculate beam and connection sizes. Shop drawings are prepared by the student as an introduction to the drafting standards in the steel detailing industry.

Required Text

Structural Steel Drafting, 1st Edition: Paperback

Author: David C. Maclaughlin

ISBN Number: 0827373139

The NDSCS Bookstore unfortunately does not carry the text ... but it can be purchased USED on many textbook sites very inexpensively. If you need help - please contact your instructor.

Textbook Description: Practical and easy to use, this text lays a solid groundwork for beginning and intermediate students to pursue careers in architecture, construction, or civil engineering. The text clarifies the vital interdependence between structural steel design and fabrication drawings, equipping students to work flexibly with both. First and foremost a drafting book, Structural Steel Drafting gives an overview of structural design theory while providing numerous examples, illustrations, and real-world assignments. Students also become acquainted with critical tables and reference material from industry-standard sources, as well as the merits of Load and Resistance Factor Design and Allowable Stress Design.

Grading Scale

Your performance in this class will be based on the quality and accuracy of your sketches and answers on assignments, quizzes, and tests. Assignments that do not meet the deadlines given by the instructor will be reduced 10% per day.

Letter grades will be awarded as follows:

LETTER GRADE	PERCENT
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	Below 60%

Student/Instructor Communication

You can contact your instructor via email. This will be the quickest and easiest way for them to respond. You can also contact them in any way that is easiest and best for you in the particular instance. There are several areas inside the course area that you can post a message -- keep in mind that these posted comments are visible to everyone enrolled in the class. Many times, this is appropriate and exactly what you WANT ... at other times you may have comments or questions that you want to be more private. At these times please contact your instructor by email or by phone.

When posting a question inside the course - please know that questions will be answered within 48 hours, and every attempt will be made to answer within 24 hours. The exact time required will depend on the time the question was posted and the day of the week in which it was posted.

Your instructor will check email REGULARLY during the work week and you are expected to do the same! It is CRITICAL that you check your email at least every 24-48 hours ... it is also CRITICAL that you come into the class at least every 24-48 hours to look for postings etc.

If your instructor expects to be unavailable for more than 24-48 hours, you will be notified by email or a posting. It is greatly appreciated if you would do the same.

Course Policies and Procedures

Access Policy: Computer Failures and Viruses

Online students must maintain computer access at all times to the online course. Lack of computer access as an excuse for late work or missed exam/quiz will NOT be accepted. Review the [Computer Access Policy](#) to learn how you can take a proactive approach to your online success.

Student Attendance

Regular attendance and completion of all assignments, on time and as scheduled, is important to your success in this course. An online student who does not regularly attend their online class for a period of seven consecutive days may be dropped from the course. Attendance is evidenced by weekly completion of assignments and/or participation in online discussions. Efforts to contact inactive students are attempted as soon as each semester begins; however, if there is no response from the student and inactivity continues, a drop will be enacted. See the entire NDSCS Attendance Policy at www.ndscs.edu/online-attendance.