

METROPOLITAN STATE COLLEGE of DENVER  
Office of Academic Affairs

**REGULAR COURSE SYLLABUS**

School of: Professional Studies

Department: Engineering Technology

CIP Code: 15.0201

Prefix & Course Number: CET 4400

Crosslisted With\*: \_\_\_\_\_

Course Title: Steel Design I

Check All That Apply: Required for Major: \_\_\_\_\_ Required for Minor: \_\_\_\_\_ Specified Elective: \_\_\_\_\_  
Required for Concentration:  Elective: \_\_\_\_\_ Service Course: \_\_\_\_\_

Credit Hours: 3 (3+0)

Total Contact Hours per semester (assuming 15-16 week semester):

Lecture 45 Lab 0 Internship 0 Practicum 0 Other (please specify type and hours): \_\_\_\_\_

Schedule Type(s): L Grading Mode(s): L

Variable Topics Courses (list restrictions, including the maximum number of hours that can be earned\*\*):

\_\_\_\_\_  
\*\* NOTE: This information must be included in the course description.

Restrictions (Variable Topics Course): \_\_\_\_\_

Prerequisite(s): CET 3170 with a grade of "C" or better; or permission of instructor

Corequisite(s): None

Prerequisite(s) or Corequisite(s): \_\_\_\_\_

Banner Enforced:


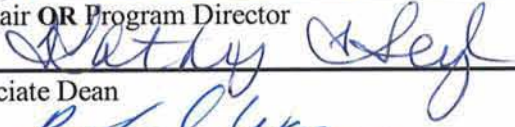

Prerequisite(s): \_\_\_\_\_

Corequisite(s): \_\_\_\_\_

Prerequisite(s) or Corequisite(s): \_\_\_\_\_

Catalog Course Description:

This course focuses on the analysis and design of structural steel members, based on the latest edition of AISC design requirements and specifications for structural steel.

|                                      |   |                         |
|--------------------------------------|---|-------------------------|
| APPROVED:                            |  |                         |
| Department Chair OR Program Director |   | <u>3 Apr 08</u><br>Date |
| Dean OR Associate Dean               |  | <u>4/8/08</u><br>Date   |
| Associate VP, Academic Affairs       |  | <u>5/12/08</u><br>Date  |

\*If crosslisted, attach completed Course Crosslisting Agreement Form

Prefix and Course Number: CET 4400

**Required Reading and Other Materials will be equivalent to:**

1. Segui, William (2007). *LRFD Steel Design 4<sup>th</sup> (or current) edition*. Thompson Delmar Learning Brooks/Cole
2. American Institute of Steel Construction (AISC) (2006). *Manual of Steel Construction. current edition*. AISC

**Specific, Measurable Student Behavioral Learning Objectives:**

Upon completion of this course the student should be able to:

1. Explain the fundamental analysis and design methods required for the design of structural steel members.
2. Conduct design of structural steel members in accordance with design codes.
3. Analyze steel structures for stresses and deformations.
4. Participate in producing and presenting a case study on a steel project.

**Detailed Outline of Course Content (Major Topics and Subtopics) or Outline of Field Experience/Internship (experience, responsibilities and supervision):**

- I. Introduction of the steel material and loadings on steel structures
- II. Design philosophies
- III. Analysis and Design of Tension Members
- IV. Analysis and Design of centrally-loaded Compression Members
- V. Analysis and Design of Beams
- VI. Analysis and Design of Beam-Columns

**Evaluation of Student Performance:**

1. Homework assignments
2. Written examinations
3. Oral presentation on faculty-assigned topic