

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 4450 Crosslisted With*: _____

Course Title: Timber Design

Check All That Apply: Required for Major: _____ Required for Minor: _____ Specified Elective: _____
Required for Concentration: X 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): _____


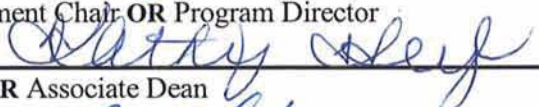

Prerequisite(s): CET 3170 with a grade of "C" or better, or permission of instructor

Corequisite(s): None

Prerequisite(s) or Corequisite(s): _____

Banner Enforced:

Prerequisite(s): _____
Corequisite(s): _____

APPROVED:		
<u>2B.</u>	<u>_____</u>	<u>3 Dec 08</u>
Department Chair OR Program Director		Date
		<u>4/8/08</u>
Dean OR Associate Dean		Date
		<u>5/19/08</u>
Associate VP, Academic Affairs		Date

*If crosslisted, attach completed Course Crosslisting Agreement Form

Prefix and Course Number: CET 4450

Prerequisite(s) or Corequisite(s): _____

Catalog Course Description:

This course focuses on the analysis and design of wood structures based on the latest edition of the *National Design Specifications for Wood Construction and Supplement*.

Required Reading and Other Materials will be equivalent to:

1. Breyer (2007). *Design of Wood Structures: LRFD and ASD, current edition*. McGraw-Hill
2. American Forest Products Association *National Design Specifications for Wood Construction (2005 or current edition)*.

Specific, Measurable Student Behavioral Learning Objectives:

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

1. Formulate familiarity with the National Design Specifications (NDS) for Wood Construction.
2. Formulate the fundamental analysis and design techniques required for the design of structural timber members and connections.
3. Design of structural timber members in accordance with the current design codes.
4. Analyze timber structures for stresses and deformation.
5. Compare design procedures and results for Allowable Stress Design (ASD) and Load Resistance Factor Design (LRFD)

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

- I. Introduction of General Wood Information and Loads Imposed on Structural Members
 - A. Wood buildings and design criteria
 - B. Design loads
 - C. Behavior of structures under loads and forces
 - D. Properties of wood and lumber grades
 - E. Structural glued laminated timber
- II. Analysis and Design of Wood Structures
 - A. Beam design
 - B. Axial forces and combined bending and axial forces
- III. Plywood and Other Wood Structural Panels
 - A. Horizontal diaphragms
 - B. Shearwalls
- IV. Wood Connections
 - A. Nailed and stapled connections
 - B. Bolts, log bolts and other connectors
 - C. Connection hardware

Evaluation of Student Performance:

1. Assigned design problems
2. Written examinations
3. Oral presentation