

Anoka Technical College

ARCH 2085: Structural Technology

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites:

This course requires both of these prerequisite categories

1. ARCH 1000 - Residential Construction

And

2. ARCH 1043 - Architectural CAD I

Corequisites: None

MnTC Goals: None

This course will focus on the basic concepts of building structures for wood and steel structural systems. Topics covered include examining section and material properties, calculating live load and dead load, calculating maximum moment and maximum shear in beams, and calculating maximum beam deflection. Calculation results will determine the size of the joist, beam or column to be selected for a building. Other topics include interpreting structural drawing details, analyzing welded and bolted connections, and drafting structural framing and plans and connection details. (Prerequisites: ARCH 1000 and ARCH 1043)

B. COURSE EFFECTIVE DATES: 09/24/2013 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

D. LEARNING OUTCOMES (General)

1. Analyze architectural drawings for structural members.
2. Calculate building live loads and dead loads.
3. Compute sectional properties for structural sizing.
4. Use material properties for structural sizing.
5. Select the size of wood and steel floor joists and trusses.
6. Select the size of wood and steel beams.
7. Select the size of wood and steel columns.
8. Compute steel welded and bolted connection.
9. Create structural framing plans.
10. Create structural connections details.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted