

## **NVCC COLLEGE-WIDE COURSE CONTENT SUMMARY**

### **CIV 210 - STRUCTURAL SYSTEMS (5 CR.)**

#### **COURSE DESCRIPTION**

Introduces the application of the principles of mechanics and strength of materials to the analysis and design of civil engineering structures, specifically in the areas of building and highway construction, timber, steel and concrete structures. Lecture 5 hours per week.

#### **GENERAL COURSE PURPOSE**

To apply the basic principles of statics and strength of materials to the analysis and design of civil engineering structures. To familiarize the student with steel and concrete construction in highway and building structures.

#### **ENTRY LEVEL COMPETENCIES**

A knowledge of statics and strength of materials. Prerequisite: EGR 130.

#### **COURSE OBJECTIVES**

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

- A. be familiar with structural members and structural materials in civil engineering structures
- B. define external loads
- C. calculate stresses in statically determinate members
- D. design beams, columns, base plates, connections in accordance with recognized codes
- E. be familiar with methods of erection of steel structures.

#### **MAJOR TOPICS TO BE COVERED**

- A. Application of statics to civil engineering structures
- B. Gravity loads
- C. Structural materials - yield and allowable stresses
- D. Members in tension
- E. Concentrically and eccentrically loaded members
- F. Flexure members
- G. Footings and foundations