SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number: CIVL 115 Department: Civil Engineering Technology

Course Title: Construction Materials&Meth. Semester: Spring Year: 1997

Objectives/Competencies

Course Objective	Competencies
1. Familiarize the student with the origin, properties and uses of the most common materials used in construction.	1. Students will become knowledgeable and be able to discuss the properties of: a. Steel and its origin from ferrous metals. b. Concrete and its components. c. Wood and a large variety of wood products. d. Knowledge about the curing and manufacture of plywood and specialty products is required.
2. Examine the general practice of designing and constructing a complete project.	1. The general steps in the bidding process. 2. The normal construction sequence starting from the foundation through to completion.
3. Provide construction methods related to simple steel frame structures.	1. Types of steel connections. 2. Methods for attaining structural rigidity. 3. The importance of maintaining structural rigidity, particularly during frame erection.

Course Objective	Competencies
4. Provide information on pavement design, including subdrainage systems.	1. Be able to identify the layers and their purpose in a typical asphaltic concrete pavement. 2. Understand the necessity of proper underdrainage systems. 3. Be able to describe the different pavement requirements for parking areas and streets.
5. Instruct on the purpose of ASTM tests.	1. For concrete know the purpose of ASTM tests including air content, compressive strength, slump, and unit weight. 2. For steel, understand the yield point, modulus of elasticity, stress and strain. All of these values will be calculated for a typical tensile strength test. 3. The importance of proper material selection id discussed by students in homework assignments.
6. Examine basic soil types and their impact on construction projects.	1. Be able to identify the four major soil types, and be able to discuss important characteristics of each type. 2. Understand the impact on construction costs of each soil type in relation to foundation type, dewatering cost, settlement, and permeability. 3. Be able to discuss techniques for improving existing soils at a site.