Course Information Form (CIF)

Course Code: CIT 213
Course Title: Construction Materials II

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 15.0201
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 2-2-3
Credit Hour Distribution:

Lecture: 2	Lab: 2	Clinical: 0	**Total: 3**

General Course Information

Catalog Description

Fundamental material properties, construction, applications, and testing processes for natural soils and asphalt paving materials.

General Course Objectives

- Student shall be able to conduct the commonly used material tests.
- Student shall be able to evaluate data from tests and make appropriate process control decisions.

Minimum Placement Levels

English	Reading	Math
None	None	Placement out of MAT 072 or credit in MAT 131 with a grade of C or higher

Prerequisites

Credit in CIT 111

Methods of Evaluation

7 problem sets and 3 exams.

Instructional Materials and Additional Supplies

Illinois' Ice Age Legacy, current edition, Myrna Killey

Course Content

General Learning Outcomes (GLOs)

- Reasoning and Inquiry: Students will demonstrate the ability to solve problems using deductive reasoning and logic, quantitative reasoning, or the scientific method.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Geology	1. Explain modes of soil formation and deposition. 2. Describe the size ranges for gravels, sands, silts, and clays.	0	2	0
Weight/Volume Relationships	1. Calculate properties related to weight-volume characteristics, given specific properties of a soil mass.	4	0	0
Sieve Analysis	1. Perform a mechanical grain size analysis of a soil from a local source.	0	4	0
Asphalt Mixtures: Definitions, types, grades, characteristics, properties, and identification	1. Describe purposes and primary characteristics of the most common asphalt paving mixtures. 2. Measure and calculate in-place density from pavement core samples.	6	6	0
Atterberg Limits	1. Determine the liquid limit, plastic limit, and plasticity index of a local soil.	2	4	0
Soil Classification Systems	1. Classify a soil according to the Unified System, given soil index properties of a specific soil.	4	4	0
Standard Compaction Tests	1. Determine the maximum dry density and optimum water content for a given soil by the Standard Proctor Method.	4	4	0
Field Density Testing	1. Determine the in-place density and water content of a compacted soil using the sand cone method.	2	4	0
Unconfined Compressive Strength	1. Determine the unconfined compressive strength of a given soil using laboratory and field methods.	0	2	0
Foundations	1. Select foundation type and size given soil type, depth of foundation, and loading.	4	0	0
Construction Issues	1. Discuss basic embankment construction inspection issues and equipment capabilities and their applications.	4	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	30	0