

Course Syllabus

Course Title: **Civil Technology**
Course Number: **CM F213**
Credits: 3
Prerequisites: CM F102 Methods of Building Construction
Location: CTC 604 Barnette Street, Room 322
Meeting Time: Mondays (9/XX -12/XX/2016) 6:00 9:00 pm

Instructor: Steven Geraghty P.E.
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Course Text: Construction Planning, Equipment and Methods, 8th Edition; Robert L. Peurifoy, Clifford J. Schexnayder, Aviad Shapira, and Robert L. Schmitt; McGraw-Hill

Course Description: CM F213 outlines elements of civil design, including soils and soil mechanics, foundations, roads, and utilities using local, state and federal regulations. Students will also be introduced to elements of construction surveying. (3+0)

This class introduces both design and construction elements associated with management of civil construction projects, including soils and soil mechanics, foundations, roads, site drainage, soil stabilization and utilities. Students will also be introduced to elements of lifting and rigging principles, excavation dewatering and other activities associated with civil work.

CM F213 topics include:

- General Topic - Safety procedures, University policies, course and lab procedures, emergency egress review
- Codes and Specifications - Local codes, design criteria, standard specifications, state and federal regulations
- Soils Sampling, testing, properties and characteristics, compaction, stabilization
- Foundations - Shallow foundations, pile foundations, caissons
- Road Construction - Elements of road prisms, aggregate processing and pavements
- Utilities - Design elements and construction of water and sewer utilities
- Earthwork Analysis Grading, cut & fill, cross-sections, sitework quantities and average haul analysis
- Construction Surveying - Initial layout, dimension control, road staking, utility staking, and elevation control.

Course Objectives: This course will provide entry-level construction managers an understanding of the fundamental elements of civil design and construction, including soils and soil mechanics, foundations, roads, aggregates, pavements, utilities and construction surveying in preparation for managing civil construction activities.

Student Learning Outcomes: Upon successful completion of the course, the student will be able to -

- Describe the importance and purpose of soils testing for civil projects.

Define the properties and characteristics of soil types and how they relate to the construction process.
Explain the different foundation types and their application.
Describe the fundamental components of roads and streets, including structural fill, processed aggregates and pavements.
Analyze plan and profile drawings and analysis of excavation and fill quantities.
Describe the essential design elements and construction practices for installing water and sewer utilities.
Perform an overall sitework analysis of a simple civil construction project.
Perform basic surveying measurements associated with control of civil construction projects.

Outcome will be assessed by:

- Class Discussion/Participation
- Written Exercises
- Written Exams

Instructional Methods:

Class sessions will consist of lecture/discussions. Emphasis will be on realistic assignments office procedures and terminology within the civil engineering and surveying fields.

Course Calendar: See Schedule of Topics attached.

Course Policies and Procedures:

University Policies - Please review all university policies as written in the current UAF catalog.

Attendance - Students are required to attend regularly and participate actively.

Students are responsible for class work even if there is a legitimate excuse for their absence. Team Projects and Lab activities during class will not be repeated for the benefit of absentees.

Cheating - Any means by which a student uses unauthorized assistance to prepare materials submitted as their own. Cheating is grounds for dismissal from the university. This includes the unauthorized use or exchange of computer files.

Smoking

Homework assignments (200 points) Text review questions and other relevant
current industry topics willewevints)

