

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: HEAVY CONSTRUCTION

Code No.: ARC 232-4

Program: CIVIL CONSTRUCTION

Semester: IV

Date: JANUARY, 1990

Author: S. IENCO

New: _____ Revision: X

APPROVED:

Mu

R. Crockett

Chairperson

90/02/02

Date

CALENDAR DESCRIPTION

HEAVY CONSTRUCTION

ARC 232-4

COURSE NAME

COURSE NUMBER

PHILOSOPHY/GOALS:

To further the student's understanding of the wide variety of techniques that go to form a heavy construction project.

METHOD OF ASSESSMENT:

Assignments	40%
Mid Term Examination	25%
Final Examination	35%

	100%

A+ 90 - 100

A 80 - 89

B 70 - 79

C 55 - 69

R Repeat

X A temporary grade, limited to situations with extenuating circumstances, giving a student additional time to complete the requirements of the course.

1. Minimum acceptable grade is 55%
2. Each assignment will carry equal weight
3. If at the end of the semester your overall average of the combined assignments and tests is below 55%, then it will be up to the instructor whether you receive an "R" grade or a rewrite. The criteria employed for arriving at that decision is class attendance, class participation and overall grade.
4. If a rewrite is granted it will cover the entire semester course work and the maximum obtainable grade on the rewrite is a "C".

TEXTBOOK(S):

Construction Methods and Management,
Nunally

HEAVY CONSTRUCTION

TOPIC NO.	PERIODS	TOPIC DESCRIPTION
1	18	<u>Cement & Concrete Technology Review</u> <ul style="list-style-type: none">- physical properties of cement and concrete- concrete mix design (laboratory)- principles of quality concrete- cold and hot-weather concreting- concrete finishing- reinforced concrete- concrete construction practices- testing of laboratory cylinders- testing of laboratory beams- reinforcing pull out test
2	18	<u>Formwork</u> <ul style="list-style-type: none">- properties of concrete in the plastic state- properties of formwork material- formwork hardware and fasteners- analysis of formwork- slab form design- wall and column form design- causes of formwork failures and necessary precautions- shoring and scaffolding
3	18	<u>Introduction to Reinforced Concrete Design</u> <ul style="list-style-type: none">- working stress design- modular ratio and transformed steel area- analysis and design of beams- maximum reinforcement ratio- minimum reinforcement- shear reinforcement- bond and development length

HEAVY CONSTRUCTION

TOPIC NO.	PERIODS	TOPIC DESCRIPTION
4	6	<u>Construction Safety</u> <ul style="list-style-type: none">- personal protective clothing- storage of materials- excavations- guardrails- scaffold and working platforms- trenching support systems