

CALENDAR DESCRIPTION

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, 1989

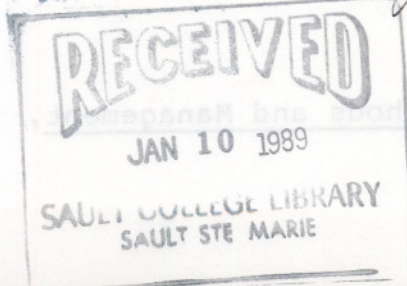
Author: S. IENCO

New: \_\_\_\_\_ Revision: X

APPROVED:

[Signature]  
Chairperson

Jan 9/89  
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 &amp; Concrete Technology Review</u> <ul style="list-style-type: none"><li>- physical properties of cement and concrete</li><li>- concrete mix design (laboratory)</li><li>- principles of quality concrete</li><li>- cold and hot-weather concreting</li><li>- concrete finishing</li><li>- reinforced concrete</li><li>- concrete construction practices</li><li>- testing of laboratory cylinders</li><li>- testing of laboratory beams</li><li>- reinforcing pull out test</li></ul>
2	18	<u>Formwork</u> <ul style="list-style-type: none"><li>- properties of concrete in the plastic state</li><li>- properties of formwork material</li><li>- formwork hardware and fasteners</li><li>- analysis of formwork</li><li>- slab form design</li><li>- wall and column form design</li><li>- causes of formwork failures and necessary precautions</li><li>- shoring and scaffolding</li></ul>
3	18	<u>Introduction to Reinforced Concrete Design</u> <ul style="list-style-type: none"><li>- working stress design</li><li>- modular ratio and transformed steel area</li><li>- analysis and design of beams</li><li>- maximum reinforcement ratio</li><li>- minimum reinforcement</li><li>- shear reinforcement</li><li>- bond and development length</li></ul>

HEAVY CONSTRUCTION

TOPIC NO.	PERIODS	TOPIC DESCRIPTION
4	6	<u>Construction Safety</u> <ul style="list-style-type: none"><li>- personal protective clothing</li><li>- storage of materials</li><li>- excavations</li><li>- guardrails</li><li>- scaffold and working platforms</li><li>- trenching support systems</li></ul>
		<u>Formwork</u> <ul style="list-style-type: none"><li>- properties of concrete in the plastic state</li><li>- properties of formwork material</li><li>- formwork hardware and fasteners</li><li>- analysis of formwork</li><li>- slab form design</li><li>- wall and column form design</li><li>- causes of formwork failures and necessary precautions</li><li>- shoring and scaffolding</li></ul>
		<u>Introduction to Reinforced Concrete Design</u> <ul style="list-style-type: none"><li>- working stress design</li><li>- modular ratio and transformed steel area</li><li>- analysis and design of beams</li><li>- maximum reinforcement ratio</li><li>- minimum reinforcement</li><li>- shear reinforcement</li><li>- bond and development length</li></ul>