

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: SURVEYING AND MAPPING
 Code No.: **2m**(Dio-f 5itP t ll, ^^ w
 Program: FORESTRY TECHNICIAN
 Semester: ^=Tff!mr~
 Date: JUNE 17, 1983 •
 Author: G. M. CAMERON

New: Revision:

APPROVED:

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Chairperson

Date

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SURVEYING AND MAPPING
Course Name

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Sj:lr230
Course Number

PHILOSOPHY/GOALS:

See attached course outline

METHOD OF ASSESSMENT (GRADING METHOD)

See attached

TEXTBOOK(S):

Surveying Notes, Sault College

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE

FORESTRY TECHNICIAN

COURSE OF STUDY OUTLINE SURVEYING AND MAPPING

The Surveying and Mapping course is designed to familiarize the student with basic surveying principles and to provide field practice in the use of surveying and the application of surveying methods. Emphasis is placed on surveying and mapping problems uniquely inherent to Forestry.

TIME

Semester 3 - SUR--Z30^3 / ^ ^ ^
3 Hours lecture (theory) and laboratory per week

Semester 4 - SUR 235-3
3 Hours lecture (theory) and laboratory per week

TEXT

Sault College - SURVEYING NOTES

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE

FORESTRY TECHNICIAN SEMESTER 3

COURSE OF STUDY OUTLINE SURVEYING AND MAPPING SUR 230-3

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TOPIC NO.	NO. of HOURS	TOPIC INFORMATION
		<u>GENERAL</u> Introduction, definitions of surveying types, kinds, and purposes of surveys kinds of surveying measurements, accuracy and precision of measurements, errors and mistakes.
12		<u>LEVELING</u> Introduction to leveling, methods of measuring differences in elevation, terms and definitions, theory of leveling form of field notes, leveling instruments and their use, leveling rods and related accessory equipment, sources of error and necessary precautions, field exercise.
12		<u>APPLICATION OF LEVELING</u> Profiles and their uses, methods of obtaining field data, plotting profiles from field notes, field exercise, grade lines and grade computations, giving grade in field, contours and contour leveling, plotting contours from field notes.
14		<u>ANGULAR MEASUREMENT AND DIRECTION</u> Terms and definitions, units of angular measurement, angular computations, methods of making angular measurements, meridans, azimuths and bearings, angles formed by lines of known direction, azimuths and bearings from field angles, magnetic compass surveying.

MARKING SYSTEM - SURVEYING
SEMESTER 3

CRITERIA EMPLOYED FOR ASSESSMENT PURPOSES

1. TOTAL ASSIGNMENT, PROJECT AND TEST ASSESSMENT ENTIRE SEMESTER
Late submissions will not be accepted unless prior consultation with instructor discloses unusual difficulty
2. ATTENDANCE
-Attendance will be recorded at the beginning of each class
-Late arrivals will be marked absent
-Chronic late arrivals will be refused admittance.
A poor attendance record will work to the detriment of the student where a border line situation is encountered

ASSIGNMENT, PROJECT, AND TEST ASSESSMENT

Individual assignments, projects and tests will be assessed on a basis of 100 marks.

-minimum acceptable grade = 60

BREAKDOWN

TOTAL SEMESTER = 100 marks
Assignments = 25 marks
Mid-semester Tests = 35 marks
Final Semester Tests = 40 marks

EXAMPLE

8 Assignments at 100 marks each
= 800 possible marks

Assume 540 marks attained

Therefore $\frac{540}{800} \times 25 = 16.875$

Mid-Semester test
Assume a grade of 74 marks attained
Therefore $74 \times 35 = 259$

Final Semester test
Assume a grade of 82 attained
Therefore $82 \times 40 = 328$

Therefore $16.875 + 259 + 328 = 603.875$ 79 or a grade of B

MARKING SYSTEM (con't)

INCOMPLETE GRADES

1. Repeat assignments or tests to carry a maximum possible grade of 60.
2. Mid-semester test may be repeated only once. Final semester test rewrites will be scheduled only during the prescribed make up period. Failure to attain a satisfactory grade therein will require repeating the course. Satisfactory completion. Semester 3. will be a prerequisite for entry, semester 4.

SEMESTER 4

Similar to the above in all respects, excepting as follows

Total Semester 4
100 marks

Assignments	- 25 marks
Mapping Projects	- 25 marks
Final Semester Test	- 50 Marks

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE

FORESTRY TECHNICIAN SEMESTER 4

COURSE OF STUDY OUTLINE - SURVEYING AND MAPPING SUR 236-3

TOPIC NO.	NO. of HOURS	TOPIC INFORMATION
		<u>LINEAR MEASUREMENT</u> Terms and definitions, units of linear measurement, conversions, methods of measuring distance, steel tapes, taping notes, errors and mistakes in taping establishing a pacing standard.
		THE ENGINEER'S TRANSIT Basic principles, types of transits and their general application, use of transits handling and set-up, the transit vernier sources of error, field exercise.
		<u>TRAVERSING</u> Types of traverse, angular closures, methods of traversing, stationing, mistakes and errors in traversing and their elimination.
	15	<u>TOPOGRAPHIC MAPPING</u> Freehand lettering, plotting traverse data with protractor and scale, plotting coordinates for horizontal control, plotting irregular boundaries, plotting topographic detail, mapping from field notes.
		<u>STADIA SURVEYING</u> Definitions, theory of stadia, the application and limitations of stadia surveying, notekeeping, reduction of stadia field notes, field procedure, plotting stadia topography.
		<u>FIELD EXERCISES</u> Transit and tape traverse survey. stadia survey.

SURVEYING

BIBLIOGRAPHY - REFERENCE TEXT

1. Philip Kissam - SURVEYING PRACTICE - third edition
McGraw-hill Book Company
2. Philip Kissam - SURVEYING INSTRUMENTS AND METHODS
McGraw-Hill Book Company
3. Philip Kissam - SURVEYING FOR CIVIL ENGINEERING
McGraw-Hill Book Company
4. Parker and Mc Guire - SIMPLIFIED SITE ENGINEERING
John Wiley and Sons.
5. Davis and Foote - SURVEYING , THEORY AND PRACTICE
McGraw-Hill Book Company
6. Breed and Hosmer - ELEMENTARY SURVEYING
John Wiley and Sons
7. Rubey, Lommell and Todd - ENGINEERING SURVEYS
The MacMillan Company
8. Moffitt and Bouchard - SURVEYING - SIXTH EDITION
In text Educational Publishers
9. Brinker and Wolf - ELEMENTARY SURVEYING - Sixth edition
IEP - A Dun-Donnelly Publisher
10. McCormac - SURVEYING
Prentice Hall Inc.
11. Ives - HIGHWAY CURVES
John Wiley and Sons
12. HICKerson - ROUTE SURVEYS AND DESIGN
McGraw-Hill Book Company
13. Meyer - ROUTE SURVEYING
In text Educational Publishers
14. Herubin - PRINCIPLES OF SURVEYING - Second Edition
Reston Publishin Company, Inc
15. Nassau - PRACTICAL ASTRONOMY
McGraw-Hill Book Company
16. Allen - SIX PLACE TABLES
McGraw-Hill Book Company
17. Brunns - A NEW MANUAL OF LOGARITHMS
18. Ives - 86li:aRW4mTaQ80»6P{gieoi^UNCTrONS