

%

SURVEYING
Course Name

SUR 121-3
Course Number

PHILOSOPHY/GOALS:

The objectives of this course is to take survey field work problems that occur and show the student how, in practice, they should be dealt with. Levelling practices, profiles and cross-section works will be dealt with along with planimeter work. Bearings and azimuth conversions, latitudes and departures and D.M.D.'s will be studied.

METHOD OF ASSESSMENT (GRADING METHOD):

Tests	55%
Field Book	10%
Projects	23%
Assessment by Instructors	12%

%

TEXTBOOK(S):

Surveying Notes by the Sault College Engineering Department

.

GEOLOGICAL TECHNICIAN
GT 11

Performance objectives for surveying

Sur 121-3

The objectives of this course is to take survey field work problems that occur and show the student how, in practice, they should be dealt with. Levelling practices, profiles and cross section works will be dealt with along with planimeter for determining areas and volumes. Bearings and azimuth conversions, latitudes and departures along with areas by D.M.D.'s will be studied.

The student, on completion of this course must be able to;

1. Set grades and B.M.'s in the field.
2. Deduce level notes.
3. Record field level notes and notes for profiles.
4. Plot profiles.
5. Determine areas of cross-section via end area marked.
6. Determine areas of cross-section via planimeters.
7. Set sewer grades.
8. Design and plan and layout drainage schemes.
9. Determine survey requirements for borrow pit excavations.
10. Determine azimuths, bearings, and co-ordinates.
11. Determine areas by D.M.D.'s.
12. Plot contour lines.
13. Determine contours from points of known elevation.
14. Conduct a topographic survey.
15. Using field notes, draw a topographic map.

%

•

SURVEYING - SUR 121-3

Topic No.	Periods	Topic Information
1	6	<u>Theory of Levelling</u> Terms and definitions Differential levelling Notekeeping
2	2	<u>Levelling Instruments</u> Types of levelling instruments Levelling work accessories Levelling using different levels
3	4	<u>Profile Levelling</u> Decipher levelling notes Plotting profiles
4	3	<u>Grade Work Levelling</u> Setting sewer grades Setting ditch grades, sidewalks, etc.
5	3	<u>Grade line Problems</u> Rate of grade % Intersecting grade lines
6	3	<u>Construction Surveys</u> Layout of grade lines for roads Layout of grade lines for sewers, ditches
7	3	<u>Contours</u> Interpolation Plotting
8	3	<u>Earthwork</u> Cross-sections of pits Computations of volumes
9	3	<u>Angular Measure</u> Azimuth, bearings Bearings from field angles

%

%

1

Field Exercises121-3Engineering Technician

<u>Exercise No.</u>	<u>Periods</u>	<u>Context</u>
1	2	Differential levelling
2	4	Setting B.M.'s Profiles
3	2	Street survey, plan & profile
4	3	Sewer grades, preliminary design and layout
5	2	Topographic surveying
6	2	Cross sections, volumes