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SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: QUANTITY SURVEYING I  
Code No.: SUR 242-3  
Program: \_\_\_\_\_ CIVIL/CONSTRUCTION  
Semester: TWO  
Date: MAY, 1983  
Author: W. R. DAVIES

New:

Revision:

APPROVED:

Chairperson

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Date

QUANTITY SURVEYING I  
Course Name

SUR 242-3  
Course Number

PHILOSOPHY/GOALS:

1. To develop an appreciation of the place for quantitative assessment in every field of the construction industry.
2. To attain a high level of accuracy in quantitative problem solving.
3. To understand the methods of site development and excavation.
4. To evaluate the material content of concrete structures.

METHOD OF ASSESSMENT (GRADING METHOD):

Course Work	50
Final Examination	<u>50</u>
	100%

TEXTBOOK{S):

C.I.Q.S. Method of Measurement

QUANTITY SURVEYING 1

SUR 242-3

TEXTS

Method of Measurement - Canadian Institute of Quantity  
Surveyors

SI Edition

Highway Materials etc. •• Atkins

REFERENCE

Building Construction - Huntington

NOTE: The following course outline should be read in conjunction with both the general and specific objectives of the course.

Topic No.	Periods	Topic Description	Lecture	Lab
1	4	Review plane and solid mensuration	2	2
2	6	Calculation of the volumes of prisms, cylinders, cones pyramids, spheres	2	4
3	6	Exercises in combinations of the above shapes	1	5
4	6	Determination of irregular areas and volumes using Simpson's Rule	2	4
5	8	Earth quantities using both grid and contour bases	2	6
6	2	Basic concepts of Canadian contract documents	2	
7	2	The principles underlying the C.I.Q.S. method of measurement	2	
8	4	Scheduling the general requirements, section (5.1)	1	3
9	8	Scheduling the site works, section (5.2)	2	6
10	18	Scheduling the concrete, section (5.3)	6	12

**COURSE OBJECTIVES**  
**Quantity Surveying I**  
**SUR 242-3**

GENERAL OBJECTIVES:

1. To appreciate the place of quantitative assessment in every field of the construction industry.
2. To attain the highest possible accuracy in quantitative problem solving.
3. To better understand the mode of site development and excavation.
4. To evaluate the material content of reinforced concrete structures.

SPECIFIC OBJECTIVES:

Unit 1 - Mensuration Review

1. Determine the volume of any given prism.
2. Determine the volume of any given cylinder or ring.
3. Determine the volume of any given pyramid, cone or sphere.
4. Calculate the area of any figure comprised of a combination of these shapes.
5. Calculate volume of any solid comprised of a combination of these shapes.
6. Determine the area of an irregular shape using Simpson's Rule.
7. Determine the volume of an irregular solid using Simpson's Rule.
8. To calculate earth quantities from a grid level drawing.
9. To calculate earth quantities from a contoured plan.
10. Demonstrate a capacity to cover all in this unit in either the S.I. or British units.

## Unit 2 - Basic Contract Document

1. Define the four main contractual types of drawings.
2. Describe the objectives of a specification.
3. Describe the objective of the general conditions to a contract.
4. List and differentiate between the three kinds of bond.

## Unit 3 - C.I.Q.S. Method of Measurement

1. Define the role of the C.I.Q.S.
2. Describe the format of the C.I.Q.S. method of measurement.
3. Define the order and accuracy of dimensions normally used.
4. List the inclusions allowed for in computing building areas.
5. List the exclusions allowed for in computing building areas.
6. List the inclusions and exclusions normally allowed for in assessing building volume.
7. Demonstrate a very clear understanding of the first principle of the standard method of measurement.

## Unit 4 - General Requirements

1. From a given set of contract documents prepare a take off and bill of quantities for the general requirements section as scheduled in the standard method of measurement.
2. Prepare a take off as in 4/1 bur for a current contract inspected locally.

## Unit 5 - Site Works (5.2)

The following objectives will be attained by taking off the relevant work both from an original contract drawing and from a given site.

1. Take off and bill the quantities for the clearing and grubbing of a virgin site.
2. Take off and bill the volume of excavated material for a domestic dwelling.
3. Take off and bill the drainage work for a typical home.
4. Take off and bill a section of roadway and sidewalk.
5. Take off and bill the complete landscaping of an office building site.

Unit 6 - Concrete (5.3)

1. Take off and bill the concrete and formwork for a simple retaining wall.
2. Prepare a re-bar schedule for a simple R.C. structure.
3. Take off and bill at least two concrete finishes for both walls and floors.