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SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAOLT STE- MARIE, ONTARIO

COURSE OUTLINE

Course Titie: INTRODUCTORY MATHEMATICS

Code No.: MTH L55-4

Program: PULP AND PAPERMAKING OPERATIONS

Semester: SEMESTER I

Date: JULY 1989

Author: ADAM SUGDEN

New: Revision:

APPROVED: _____ /r
Chairperson **Date** ".•r—————-T—'

CALENDAR DESCRIPTION

INTRO MATHEMATICS	MTH 155-4
COURSE NAME	COURSE NUMBER

PHILOSOPHY/GOALS;

This course deals with the mathematical fundamentals required for understanding the technologies used in pulp and paper manufacture. The course will build on skills learned in high school and will continue to a point where the student will be competent to carry out the yarious calculations needed for other courses in this program.

Mathematical fundamentals to be covered will include addition, subtraction, multiplication/ division, fraetions, decimalS/ powers, roots anci solving for unknowns. Aspects of geometry, particularly the calculation of area and volume, will be reviewed. The preparation and analysis of graphs, unit conversions and practical problems will be dealtj with. Basic statistics will be introduced and will include mean, medianri standard deviation and linear correlation.

METHOD OF ASSESSMENT:

Students will be graded on the basis of their performance in four tests given at appropriate intervals during the semester.

Letter grades will be assigned according to the standard Sault College system. Students having a final overall cumulative percentage between 50 and 59% may be permitted to write a supplemental examination that will cover the material from the entire course.

T£XTBOQK(S):

Thera has been no textbook assigned for this course at this time. However, there are several useful texts that could be used that will cover most of the aspects of tne course.

OBJECTIVES:

The overall academic objective of this course is that the student will be able to demonstrate mastery of mathematical skills that are relevant to pulp and paper manufacture. The specific objectives to be met are as follows:

1. Demonstrate required ability to perform basic mathematical operations such as addition/ subtraction, multiplication and division.

2. Demonstrate ability to compute fraet ions and decimal equivalents of fraetions.

3. Dembnstrate the use of fractions and decimals in basic mathematical operations of addition, subtraction, multiplication and division.

4- Demonstrate ability to use powers and roots of numbers in mathematica calculations.

5. Demonstrate the ability to solve for unknowns in simple mathematical expressions.

6. Demonstrate abilities in determining area and volume of both regular and irregular surfaces.

7. To be able to prepare and analyze graphs, specifically, bar charts, line charts and seatter diagrams and to fit a trend line to data points.

8. Demonstrate abilities in the ealculation and use of mean, median, standard aeviation and descriptive statistics.

9. Demonstrate ability to calculate simple linear equations and the ir correlation coefficients•

NATURE OF PRESENTATION:

The course will be given for 4 hours per week using four single periods It will be in a lecture format with examples worked out in class- Work to be completed outside of elass hours will be regularly assigned.

TOPICS COVERED:

WEEK	TOPIC
	Introduction to course, the topics to be covered Why mathematics is required for pulp and paper Review of math competence
	Basic math skills Addition, subtraction, multiplication, division Conversion of units
3-	- Fractions - Decimals - Basic math skills using fractions and decimals - Percentages and Ratios
	Test 1 Powers of numbers Roots of numbers
	Basic algebra Solving for one unknown
	Basic Geometry
	Calculation of areas of planes Calculation of areas of solids
	- Calculation of volumes of symmetrical solids
	- Practical problems in areas and volumes
lu.	- Graphical presentation of information - Interpretation of graphs

WEEK	TOPIC
11.	- Test 2 - Basic statistics: what they mean - Measures of "average"
12.	- Mean, median, mode - Standard deviation - Interpreting standard deviation
13-	- Simple linear equations - "Goodness of fit" of equation to data points
	Test 3

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