

**SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON**



COURSE OUTLINE

Course Title: Mathematics

Code No.: Mth 151-3

Semester: One

Program: Aviation Machining

Author: The Mathematics Department

Date: August 1998

Previous Outline Dated: July 1997

**Approved: Qf.,lxx/^4n/l.-^ O
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**C L ^ / ^
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Total Credits: 3

Prerequisite(s): None

Substitutes: Mth 142, Mth 126, Mth 220, Mth 143

Length of Course: 3 hrs./week Total Credit Hours: 48

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PHILOSOPHY/GOALS:

In this course, emphasis will be placed on teaching mathematics at a level that will help the student in Aviation Machining. Some theoretical concepts and topics in algebra, geometry and trigonometry will be covered. These concepts and topics will be reinforced by the use of practical problems to make the current topic relevant to the students' needs.

II. STUDENT PERFORMANCE OBJECTIVES:

The basic objectives are that the student develop an understanding of the methods studied, demonstrate knowledge of the facts presented and show an ability to use these in the solution of problems. To accomplish these objectives, exercises are assigned. Test questions will be of near equal difficulty to questions assigned in the exercises. The level of competency demanded is the level required to obtain an overall passing average on the tests. The material to be covered is listed below.

TOPICS TO BE COVERED	APPROXIMATE TIME FRAME
Arithmetic	9 hours
Measurements	12 hours
Business math	5 hours
Applications	9 hours
Trigonometry	13 hours

IV. LEARNING ACTIVITIES

TOPIC NUMBER	TOPIC DESCRIPTION	REFERENCE CHARTER ASSIGNMENTS
1.0	ARITHMETIC	
1.1	Whole Numbers Rounding Off Procedures	Units 1-4, pages 1-11
1.2	Common fractions	Units 5-9, pages 12-28
1.3	Decimal fractions	Units 10-14, pages 29-45
2.0	MEASUREMENTS	
2.1	Direct measurements	Units 15-18, pages 46-49
2.2	Computed measurements including the Introduction of trigonometric functions	Units 19-25, pages 70-89
2.3	Conversion between systems of measure and within systems. The "SI" metric system and the British Engineering System	Units 26-27, pages 91-93 Glass notes

V. LEARNING ACTIVITIES

TOPIC NUMBER	TOPIC DESCRIPTION	REFERENCE CHAPTER ASSIGNMENTS
3.0	BUSINESS MATHEMATICS	
3.1	Percentages	Units 28-29, pages 94-98
3.2	Graphs (construction and reading)	Unit 30, pages 99-113 Scales, graph paper
4.0	APPLICATIONS	
4.1	Ratio and proportion	Units 30-32, pages 102-113
4.2	Shop formulae	Units 33-36, pages 114-132
4.3	Powers and roots	Units 37-39, pages 133-141
5.0	Geometry and trigonometry	
5.1	Geometry forms and construction	Units 40-42, pages 142-164
5.2	Trigonometry applications	Units 43-49, pages 165-196

V, REQUIRED RESOURCES / TEXTS / MATERIALS:

- 1- Practical Problems in Mathematics for Manufacturing. Davis, 4th Edition
2. Calculator: (Recommended) SHARP Scientific Calculator EL-531L.
Note: The use of some kinds of calculators may be restricted during tests.

VI, EVALUATION PROCESS / GRADING SYSTEM:

MAJOR ASSIGNMENTS AND TESTS

While regular tests will normally be scheduled and announced beforehand, there may be an unannounced test on current work at any time. Such tests, at the discretion of the instructor, may be used for up to 30% of the overall mark.

At the discretion of the instructor, there may be a mid-term exam and there may be a final exam, each of which can contribute up to 30% of the overall mark.

The instructor will provide you with a list of test dates. Tests may be scheduled out of regular class time.

ATTENDANCE

It is your responsibility to attend all classes during the semester. Research indicates there is a high correlation between attendance and student success.

If you are absent from class, it is your responsibility to find out from your instructor what work was covered and assigned and to complete this work before the next class. Your absence indicates your acceptance of this responsibility.

VI. EVALUATION PROCESS/GRADING SYSTEM (Continued):

Unexcused absence from a test may result in a mark of zero ("0"). Absence may be excused on compassionate grounds such as verified illness or bereavement. On return from an excused absence, you should ask your instructor to schedule the writing of a make-up test. Failure to do so will be considered as an unexcused absence.

METHOD OF ASSESSMENT (GRADING METHOD) :

A+	Consistently outstanding	(90% - 100%)
A	Outstanding Achievement	(80% - 89%)
B	Consistently above average achievement	(70% - 79%)
C	Satisfactory or acceptable achievement in all areas subject to assessment	(55% - 69%)
X or R	A temporary grade, limited to situations With extenuating circumstances, giving a student additional time to complete course requirements (See below)	(45% - 54%)
R	Repeat - The student has not achieved the objectives of the course, and the course must be repeated	(0% - 44%)
GR	Credit exemption	

The method of calculating your weighted average will be defined by your instructor. Since grades are based upon averages, it follows that good marks in some tests can compensate for a falling mark in another test.

Make-Up Test (if applicable)

An "X" grade may be assigned at the end of the regular semester if you have met **ALL** of the following criteria:

- an overall average between 45% and 54% was achieved
- at least 50% of the tests were passed
- at least 80% of the scheduled classes were attended
- all of the topic tests were written

If you are assigned an "X" grade, you may convert it to a "C" grade by writing a make-up test on topics agreed to by the instructor. This test will be available at the time agreed to by your instructor.

At the end of the regular term, it is your responsibility to obtain your results from your instructor and, in the event of an "X" grade, to inquire when the make-up test will be available.

VI. EVALUATION PROCESS/GRADING SYSTEM (Continued):

The score you receive on this make-up test will replace your original test score and be used to re-calculate your weighted average. If the re-calculated average is 55% or greater, a "C" grade will be assigned. If the re-calculated average is 54% or less, an "R" grade will be assigned.

"R" and "X" Grades at the end of the Semester

If an "X" grade is not cleared by the specified date, it will become an "R" grade. Except for extenuating circumstances, an "X" grade in Math will not be carried into the next semester.

"R" Grades during the Semester

A student with a failing grade and poor attendance (less than 80% attendance) may be given an "R" at any time during the semester.

VII. SPECIAL NOTES:

Students with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities), are encouraged to discuss required accommodations with the professor and/or contact the Special Needs Office.

Advanced Standing

Students who have completed an equivalent post-secondary course must bring relevant documents to the Coordinator, Mathematics Department:

- a copy of course outline
- a copy of the transcript verifying successful completion of the equivalent course

Note: A copy of the transcript must be on file in the Registrar's Office.

VIII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor or the Prior Learning Assessment Office (E2203).