

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY  
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: APPLIED MECHANICS  
Code No.: MCH 200-3 Semester: TWO  
Program: CIVIL TECHNICIAN  
Author: GEOFF DISANO  
Date: AUGUST, 1990 Previous.Outline Dated: JANUARY, 1987

APPROVED:  -  
Chairperson <sup>A</sup> Date

APPLIED MECHANICS

MCH 200-3

Course Name

Course Number

Total Credit Hours 45

Prerequisite(s): \_\_

**I. PHILOSOPHY/GOALS:**

The objective of this course is to introduce the student to a number of fundamental concepts of dynamics which should prove useful to the Civil Technician student.

**II.**

**LEARNING ACTIVITIES**

(Optional)

**REQUIRED RESOURCES**

**1) MOTION:**

- types of motions
- scalar and vector quantities
- distance and displacement
- speed and velocity
- uniform motion
- non-uniform motion
- acceleration
- uniformly accelerated motion
- falling bodies
- acceleration due to gravity
- the motion of projectiles
- normal acceleration

Chapter 9  
Introduction to Mechanics  
by Irving J. Levinson

**LEARNING ACTIVITIES**  
(Optional)

**REQUIRED RESOURCES**

**2) FORCE AND MOTION**

- Newton's second law of motion
- mass and weight
- force
- dynamic equilibrium
- accelerating forces
  - horizontal and vertical motion
- Newton's third law of motion
- inertia-force method of analysis

Chapter 11  
Introduction to Mechanics  
by Irving J. Levinson

**3) WORK, ENERGY AND POWER**

- the concepts of work
- work done by constant and variable forces
- elastic springs
- energy
- kinetic energy
- potential energy
- conservation of energy
- power
- efficiency

Chapter 12  
Introduction to Mechanics  
by Irving J. Levinson

**4) ROTATION MOTION**

- angular displacement
- revolutions, degrees and radians
- angular velocity
- angular acceleration
- relationship between linear and angular motion
- moment of inertia of bodies
- kinetic energy of rotation
- torque
- angular momentum

APPLIED MECHANICS

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**III. EVALUATION METHODS: (INCLUDES ASSIGNMENTS, ATTENDANCE REQUIREMENTS ETC.)**

Your final grade in MCH 200 will be determined on the basis of four tests, to be administered during the semester. Each test will examine your knowledge of a number of topics and will be administered within one week of completing those topics. The topics covered in each of the four tests are as follows:

Test #1\_\_\_\_\_Topic Number 1  
 Test #2\_\_\_\_\_Topic Number 2  
 Test #3\_\_\_\_\_Topic Number 3  
 Test #4\_\_\_\_\_Topic Number 4

The four tests are of equal weight (i.e. each of the four tests is worth 25% of your final grade). As a result, provided you have received a passing grade in each of the four tests, your final grade will simply be an average of your four test results. In order to obtain your letter grade the following percentage-letter grade equivalents will be used.

A+	:	90% - 100%	(Consistently outstanding achievement)
A	:	76% - 89%	(Outstanding achievement)
B	:	66% - 75%	(Consistently above average achievement)
C	:	55% - <b>65%</b>	(Satisfactory or acceptable achievement)
X or R	:	0% - 54%	(Incomplete or Repeat)

If your final average is below 55%, or if you have received a failing grade in one or more of the unit tests, whether you receive an X (Incomplete) or an R (Repeat) grade is entirely at the instructor's discretion. The decision will be based upon your final average (e.g. 32% would result in an R grade while 50% might result in an X grade); your attendance during the semester; your attitude while in the classroom; your perceived level of effort during the semester; etc.

In any case, should you find yourself with an X grade at the end of the semester, in order to upgrade your mark to a passing grade you will be required to write a make-up examination covering the entire course content. Should you receive a passing grade on the make-up examination (55% or higher) your X grade will be upgraded. The best you can do after receiving an X grade as a result of a failing average is a C! If you were required to write the make-up examination as a result of having failed on test you may substitute the exam result for this test result.

Prior to administering any test, you will be notified a full week in advance. Should you for any reason not be able to be in attendance on a day for which a test has been scheduled it is your responsibility to notify the instructor prior to the test! If your reasons are acceptable a date will be set during which you may write a substitute test for the one you have missed.