

#169

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

**COURSE OUTLINE**

**COURSE TITLE:** MECHANICS OF MACHINES

**CODE NO.:** MCH 205-4 **SEMESTER:** 4

**PROGRAM:** MECHANICAL TECHNOLOGY

**AUTHOR:** W. MACQUARRIE

**DATE:** SEPTEMBER 1990

**PREVIOUS OUTLINE DATED:** MAY 1979

APPROVED:

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MECHANICS OF MACHINES

MCH 205

\_\_\_\_ COURSE NAME \_\_\_\_\_

CODE NO.

TOTAL CREDIT HOURS 64

PREREQUISITES ) :

MCH 204 - MECHANICS OF MACHINES

**I. PHILOSOPHY/GOALS:**

**II- STUDENT PERFORMANCE OBJECTIVES:**

Upon successful completion of this course the student will:

1) \_\_\_\_\_

3) \_\_\_\_\_

4) \_\_\_\_\_

**III. TOPICS TO BE COVERED:**

- 1) Relative Acceleration and the Acceleration Polygon
- 2) Static Force Analysis of Machinery, With and Without Friction
- 3) Review of Dynamics
- 4) inertial Force Analysis of Four-Bar Mechanisms

IV. LEARNING ACTIVITIES	REQUIRED RESOURCES
1) Relative Acceleration and the Acceleration Polygon <ul style="list-style-type: none"><li>- analytical procedure</li><li>- graphical procedure</li><li>- slider-crank accel-time analysis</li><li>- Ritterhaus Construction</li></ul>	
2) Static Force Analysis of Machinery, With and without Friction <ul style="list-style-type: none"><li>- lubrication theory</li><li>- bell crank analysis</li><li>- efficiency of mechanisms</li></ul>	
3) Review of Dynamics <ul style="list-style-type: none"><li>- Inertia forces on bodies in translation, rotation, and any combination of plane motion</li></ul>	
4) inertia Force Analysis of Four-Bar Mechanisms <ul style="list-style-type: none"><li>- resultant shaking force</li><li>- accelerating couple</li></ul>	

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

The following grades are in effect:

A+	*	90	100%
		75	89%
A		65	74%
B		55	64%
C		0	54%

There will be no rewrites or supplementary exams this semester.

All drawings and assignments are to be handed in on the date that they are due. Late drawings may be accepted on verifiable compassionate grounds only.

ATTENDANCE

It is your responsibility to attend all classes during the semester. Attendance will be taken and is NOT used to determine any final grade. If a class is missed, it is your responsibility to acquire any notes and to have finished any assigned homework BEFORE attending the next class. Poor attendance usually reflects in inferior or failing grades.

METHOD OF ASSESSMENT

There will be a mid-term and a final two hour test, on large blocks of subject matter during the semester, worth 100 marks each and announced one week in advance. There may also be several small quizzes and/or drawings from time to time and these may or may not be announced. In addition, several major drawing projects may be assigned. A grade is determined from the average of the results of all the above, first as a percent, and then converted to a letter grade according to the above table.

TEST ABSENCE

An unexcused absence from a scheduled test will result in a zero mark. To avoid this situation, a student, who is ill or going to be absent on compassionate grounds (family illness or death) MUST NOTIFY the college (759-6774) and contact either the teacher (ext. 561) or the department secretary (ext. 687) by 9:00 a.m. of the day of the test. Further, upon his/her return to classes, the student must contact his/her instructor, within ONE day, to schedule a writing of the missed test. Failure to carry out these procedures is considered to be an unexcused absence.

A doctor's certificate or a signed note from the college nurse verifying your illness, must be presented to your instructor on your return to classes.

**REQUIRED STUDENT RESOURCES**

TEXT: "Mechanics of Machinery" - Ham, Crane & Rogers  
(McGraw Hill)

**ADDITIONAL RESOURCE MATERIALS AVAILABLE IN THE COLLEGE LIBRARY:**

Any text containing Mechanisms and/or Kinematics of Machines

**SPECIAL NOTES**

Students with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.