

I. COURSE DESCRIPTION:

The objective of this course is to introduce the student to a number of fundamental concepts of statics which should prove useful to the civil, architectural and construction technician student. Every effort will be made not to dwell on the theory of these concepts but, to instead, stress practical applications through the extensive use of problem solving.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. MATHEMATICS OF MECHANICS

Potential Elements of the Performance:

Mathematics of Mechanics
Conversions of Units

2. Fundamentals of Statics

Potential Elements of the Performance:

Newton's Laws
Forces
Vector Mathematics
Moment of a Force and Couple

3. EQUILIBRIUM OF FORCES IN TWO DIMENSIONS

Potential Elements of the Performance:

Three conditions of equilibrium
Analysis and quantification of forces in equilibrium

4. Analysis of Selected Determinate Structural Systems

Potential Elements of the Performance:

Planar Trusses
Pinned Frames with Multi-Force Members
Flexible Cables With Concentrated Loads

Retaining Walls5. **The Laws of Friction****Potential Elements of the Performance:****Identify and quantify various frictional forces****Coefficients of Static and Kinetic Friction****Impending Motion****Sliding versus Tipping Motion****III. TOPICS:**

1. **Mathematics of Mechanics**
2. **Fundamentals of Statics**
3. **Equilibrium**
4. **Structural Analysis**
5. **Friction**

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Onouye, Barry, *STATICS AND STRENGTH OF MATERIALS*, Foundations For Structural Design. Pearson-Prentice Hall. Toronto. 1988. ISBN 0-13-111837-4

Scientific Calculator

V. EVALUATION PROCESS/GRADING SYSTEM:

Your final grade in MCH100 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 -----	Topics Number I & II	15%
Test #2 -----	Topic Number III	15%
Test #3 ----	Topic Number IV	15%
Test #4 ----	Topic Number V	15%
Quizzes: 8		40%

Each of the four tests is worth 15% of your final grade. Each quiz will be counted at 5% each. Quizzes are intended to monitor your progress and may be administered without prior announcement or warning. In order to obtain your letter grade the percentage-letter grade equivalents shown on page 4 will be used. If your final average is below 50%, or if you have received a failing grade in one or more of the unit tests, whether you receive an 'X' (Incomplete) or an 'F' (Fail) grade is entirely at the professor's discretion. The decision will be based upon your final average (e.g. 32% would result in an 'F' grade while 48% 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 exam (50% or higher) your X grade will be upgraded. The best you can do after having received 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 or missed one 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 (within reason of course), not be able to be in attendance on a day for which the test has been scheduled it is your responsibility to notify the professor 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.

The following semester grades will be assigned to students:

Grade	<u>Definition</u>	<i>Grade Point Equivalent</i>
A+	90 – 100%	
A	80 – 89%	4.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

VI. SPECIAL NOTES:

Disability Services:

If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Retention of Course Outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Communication:

The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:

Students should refer to the definition of “academic dishonesty” in *Student Code of Conduct*. Students who engage in academic dishonesty will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course Outline Amendments:

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.