

MME 2200Q – Engineering Shop Safety Training

COURSE OUTLINE – 2018-2019

CALENDAR DESCRIPTION: This course will provide mechanical engineering undergraduate students with uniform training in the safe use of Engineering student shops.

COURSE INFORMATION:

Instructor: Professor Remus Tutunea-Fatan
Office: 3C+ 3462
Email: rtutunea@eng.uwo.ca
Course technician: Mr. Chris Vandelaar
Office: TEB 50
Email: cvandela@uwo.ca

Lecture: Tu 5:30-7:30 (SEB 2100)

Hands-on 002/003/004 – Tu 1:30-4:30 011/012/013 - Th 4:30-7:30
005/006/007 - W 12:30-3:30 014/015/016 - M 3:30-6:30
008/009/010 - F 3:30-6:30

PREREQUISITES: Entry into Year 2 of the Mechanical Engineering program.

SPECIFIC LEARNING OBJECTIVES: On successful completion of this course, the student will be able to:

- Recall emergency procedures appropriate for personal injury and fire in a shop setting
- Identify safety hazards present in a machine shop environment
- Understand and apply important concepts related to machining and working with different materials such as
- Demonstrate the safe operation of hand tools and stationary power equipment such as band saws, grinders, sanders and drill presses
- Understand the structural elements of conventional mill and lathe
- Understand the basic theory behind mill and lathe operations
- Understand the role of operation sheets in machining
- Perform simple machining operations on a knee mill

TOPICS:

Introduction (lecture)

- Course structure and requirements

Level 1 shop training (online OWL module)

- Emergency protocols
- General hazard identification: Electrical, pinching, entanglement, cutting and burning
- General identification of major considerations when cutting or working different materials:
- Tool sharpness and tools for different materials
- Cutting force and work piece fixturing
- Temperature and its effect on both cutting tool and work piece
- Cutting speed and its effects on tools and work piece

Level 2 shop training (laboratory session)

- Theoretical Level 1 shop training concepts will be reinforced through hands-on training in the machine shop

Machine tool training (five OWL modules)

- Cleanliness in the shops and the effects of minute particulate on machine tool fits, life and work quality
- Components of a mill and lathe
- Importance of mill setup and the flexibility of a knee-type mill

- Basic theory behind the operation of mills and lathes:
 - Different chips types of various materials: discontinuous and continuous and their associated dangers
 - Cutting tool forms, angles and their resultant cuts
 - Tool holders
 - Workpiece fixturing
 - Clamping basics
 - Indicating
 - Workpiece locating: setting machining datums
 - Speeds and feeds
 - Operation sheet

Machine tool training (lecture)

- Theory content is reviewed and applied in case study format

Machine tool training (laboratory session)

- Theoretical concepts emphasized in Machine tool training 1 and 2 sessions will be reinforced through hands-on training on conventional machine tools

CONTACT HOURS:

0.25 lecture hours/week, 0.75 lab hours/week, quarter course, non-credit

EVALUATION:

Successful completion of the course (*i.e.*, “Pass” in the academic record) is conditional on:

- Obtaining a minimum of 50% on each of the four OWL quizzes
- Obtaining a passing mark after completion of each of the two laboratory sessions of the course

Lectures, online OWL modules, quizzes and laboratory sessions will be carried out according to the following schedule:

- Introductory lecture date: Sep. 11, 2018
- Level 1 shop training OWL module to be completed by: TBA
- Level 2 shop training lab sessions dates*: TBA
- Four OWL quizzes on theoretical notions associated with machine tool training to be passed before: TBA
- Machine tool training lecture date: TBA
- Machine tool training lab session dates*: TBA

* Detailed lab session schedule will be distributed through OWL in advance; each student is required attend the lab session indicated in the master schedule. Please pay close attention to the posted schedule because otherwise course mark penalties will be applied (please refer to the upcoming section on “Course Policies” for details).

ATTENDANCE:

The attendance of all in-class course modules (lectures and lab sessions) is mandatory.

COURSE POLICIES

The following course-specific policies will be enforced throughout the course:

Lectures

- Missing of any lectures without academic consideration *i.e.*, with permission from Undergraduate Services (see staff in SEB 2097) or Mechanical Engineering program (see Ms. Claire Naudi in SEB 3002) will attract automatic course failure.
- No make-up lectures will be offered.

Online quizzes

- Failure to obtain **by the assigned deadline** a minimum of 50% on each of the course quizzes will attract automatic course failure.

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- Please note that quizzes can be retaken an unlimited number of times.

Laboratory sessions

- Failure to pass the laboratory component of the course will attract automatic course failure.
- Missing of any laboratory sessions without academic consideration will attract automatic course failure.
- If any laboratory session is missed with academic consideration, please contact Mr. Vandelaar (cvandela@uwo.ca) in maximum one week after the approval of the academic consideration to schedule the make-up lab session.
- Students can only attend the laboratory session to which they are assigned. No lab session swaps are permitted without written permission from Mr. Vandelaar.

General comments

- Students who have completed in advance any course components (*i.e.*, lectures or hands-on training) are required to obtain written permissions from Mr. Vandelaar at least one week in advance of the scheduled course component.
- Failure to obtain advance attendance exemptions will attract automatic course failure since a certain course component will be missed without academic consideration.

TEXT: None. All lecture notes will be provided through OWL.

Revised: September 6, 2018

***INSTRUCTIONS FOR STUDENTS UNABLE TO WRITE TESTS
OR EXAMINATIONS OR SUBMIT ASSIGNMENTS AS SCHEDULED***

If, on medical or compassionate grounds, you are unable to write term tests or final examinations or complete course work by the due date, you should follow the instructions listed below. You should understand that academic accommodation will not be granted automatically on request. You must demonstrate to your department (or the Undergraduate Services office if you are in first year) that there are compelling medical or compassionate grounds that can be documented before academic accommodation will be considered. Different regulations apply to term tests, final examinations and late assignments. Read the instructions carefully. (see the 2018 Western [Academic Calendar](#)).

A. GENERAL REGULATIONS & PROCEDURES

1. All first year students will report to the Undergraduate Services Office, SEB 2097, for all instances.
2. If you are an upper year student and you are missing a test/assignment/lab or examination that is worth LESS THAN 10% of your mark, you should report to your department office to request relief. If your course work is MORE THAN 10% of your final grade, you will report to the Undergraduate Services Office, SEB 2097.
3. Check the course outline to see if the instructor has a policy for missed tests, examinations, late assignments or attendance.
4. Documentation must be provided as soon as possible. If no one is available in your department office or the Undergraduate Services Office, leave a message clearly stating your name & student number and reason for your call. The department telephone numbers are given at the end of these instructions.
5. If you decide to write a test or an examination you should be prepared to accept the mark you earn. Rewriting tests or examinations or having the value of a test or examination reweighted on a retroactive basis is not permitted.

B. TERM TESTS

1. If you are in first year and you are unable to write a term test, contact the Undergraduate Services Office, SEB 2097 PRIOR to the scheduled date of the test.
2. If you are an upper year student and you are unable to write a term test, inform your instructor PRIOR to the scheduled date of the test. If the instructor is not available, leave a message for him/her at the department office. If the test is worth LESS THAN 10% of your mark, you should report to your department office to request relief. If the test is worth MORE THAN 10% of your final grade you will report to the Undergraduate Services Office, SEB 2097 to request relief.
3. Be prepared to provide supporting documentation to the Department Chair and/or the Undergraduate Services Office (see next page for information on documentation).
4. Discuss with the instructor if and when the test can be rescheduled. **N.B.** The approval of the Chair or the Undergraduate Services Office is required when rescheduling term tests.

C. FINAL EXAMINATIONS

1. If you are unable to write a final examination, contact the Undergraduate Services Office PRIOR TO THE SCHEDULED EXAMINATION TIME to request permission to write a Special Final Examination. If no one is available in the Undergraduate Services Office, leave a message clearly stating your name & student number (please spell your full name).
2. Be prepared to provide the Undergraduate Services Office with supporting documentation (see next page for information on documentation) the next day, or as soon as possible (in cases where students are hospitalized). The following circumstances are not considered grounds for missing a final examination or requesting special examinations: common cold, sleeping in, misreading timetable and travel arrangements.
3. In order to receive permission to write a special examination, you must obtain the approval of the Chair of the Department **and** the Associate Dean and in order to apply you must sign a "Recommendation for a Special Examination Form" available in the Undergraduate Services Office. The Undergraduate Services Office will then notify the course instructor(s) and reschedule the examination on your behalf.

PLEASE NOTE: It is the student's responsibility to check the date, time and location of the Special Examination.

D. LATE ASSIGNMENTS

1. Advise the instructor if you are having problems completing the assignment on time (**prior** to the due date of the assignment).
2. Be prepared to provide documentation if requested by the instructor (see reverse side for information on documentation).
3. If you are granted an extension, establish a due date. The approval of the Chair of your Department (or the Associate Dean if you are in first year) is not required if assignments will be completed prior to the last day of classes.
4.
 - i) Extensions beyond the end of classes must have the consent of the instructor, the department Chair and the Associate Dean. Documentation is mandatory.
 - ii) A Recommendation of Incomplete Form must be filled out indicating the work to be completed and the date by which it is due. This form must be signed by the student, the instructor, the department Chair and the Associate Dean.

E. SHORT ABSENCES

If you miss a class due to a minor illness or other problems, check your course outlines for information regarding attendance requirements and make sure you are not missing a test or assignment. Cover any readings and arrange to borrow notes from a classmate.

F. EXTENDED ABSENCES

If you are absent more than one week or if you get too far behind to catch up, you should consider reducing your workload by dropping one or more courses. (Note drop deadlines listed below). You may want to seek advice from the academic counsellor in your Department or the counsellors in the Undergraduate Services Office if you are in first year.

G. DOCUMENTATION

If you consulted an off-campus doctor or Student Health Services regarding your illness or personal problem, **you must provide the doctor with a Student Medical Certificate** to complete at the time of your visit and then bring it to the Department (or the Undergraduate Services Office if you are in first year). **This note must contain the following information: severity of illness, effect on academic studies and duration of absence. Regular doctor's notes will not be accepted; only the Student Medical Certificate will be accepted.**

In Case of Serious Illness of a Family Member: Provide a Student Medical Certificate to your family member's physician to complete and bring it to the Department (or the Undergraduate Services Office if you are in first year).

In Case of a Death: Obtain a copy of the death certificate or the notice provided by the funeral director's office. You must include your relationship to the deceased and bring it to the Department (or the Undergraduate Services Office if you are in first year).

For Other Extenuating Circumstances: If you are not sure what documentation to provide, ask the Departmental Office (or the Undergraduate Services Office if you are in first year) for direction.

Note: Forged notes and certificates will be dealt with severely. To submit a forged document is a scholastic offence (see below).

H. ACADEMIC CONCERNS

1. You need to know if your instructors have a policy on late penalties, missed tests, etc. This information may be included on the course outlines. If not, ask your instructor(s).
2. **You should also be aware of attendance requirements in some courses. You can be debarred from writing the final examination if your attendance is not satisfactory.**
3. If you are in academic difficulty, check out the minimum requirements for progression in the calendar. If in doubt, see your academic counsellor.

Calendar References: Check these regulations in your 2016 Western Academic Calendar available at www.westerncalendar.uwo.ca.

[Absences Due to Illness](#)
[Academic Accommodations for Students with Disabilities](#)
[Academic Accommodations for Religious Holidays](#)
[Course Withdrawals](#)
[Examinations](#)
[Scheduling of Term Assignments](#)
[Scholastic Offences](#)
[Student Medical Certificate](#)
[Engineering Academic Regulations](#)

Note: These instructions apply to all students registered in the Faculty of Engineering regardless of whether the courses are offered by the Faculty of Engineering or other faculties in the University.

Add Deadlines:

First term half course (i.e. "A" or "F") September 14, 2018
Full courses and full-year half course (i.e. "E", "Y" or no suffix) September 14, 2018
Second term half course (i.e. "B" or "G") January 15, 2019

Drop Deadlines:

First term half course (i.e. "A" or "F"): November 12, 2018
Full courses and full-year half courses (i.e. "E", "Y" or no suffix): November 30, 2018
Second term half or second term full course (i.e. "B" or "G"): March 7, 2019

Undergraduate Services Office:	SEB	2097	Tel: (519) 661-2130	E-mail: engugrad@uwo.ca
Dept. of Chemical and Biochemical Engineering:	TEB	477	Tel: (519) 661-2131	E-mail: cbeugrad@uwo.ca
Dept. of Civil and Environmental Engineering:	SEB	3005	Tel: (519) 661-2139	E-mail: civil@uwo.ca
Dept. of Electrical and Computer Engineering, Software Engineering Mechatronics Engineering	TEB	279	Tel: (519) 661-3758	E-mail: eceugrad@uwo.ca
Dept. of Mechanical and Materials Engineering:	SEB	3002	Tel: (519) 661-4122	E-mail: mmeundergraduate@uwo.ca