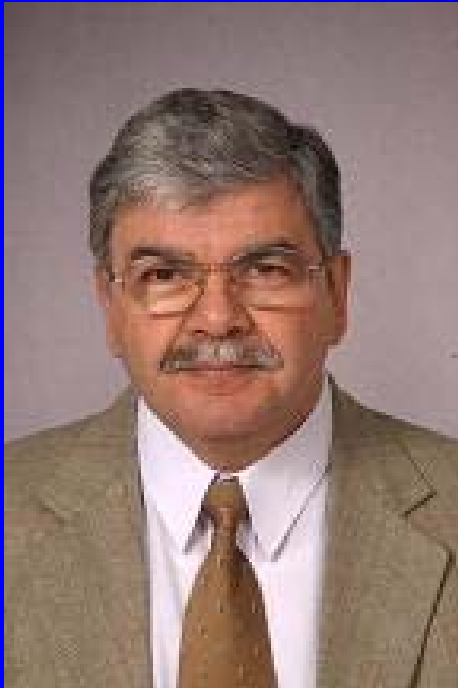


Department of Mechanical & Mechatronics Engineering



Welcome to 4A Mechanical Engineering!

Some People in Mechanical Engineering You Should Know



Professor Fathy Ismail
Interim Department Chair



Professor David Weckman
Associate Chair U/G Studies, ME
Welding & Joining Specialization
Coordinator

Other People in Mechanical Engineering You Should Know



Mr. Oscar Nespoli
ME 481 – Mechanical
Engineering Design Project
Section 1 Coordinator



Dr. Peter Teertstra
ME 481 – Mechanical
Engineering Design Project
Section 2 Coordinator

Academic Advisor for Mechanical Engineering Students



Lynn Crema, ME Academic Advisor
E5 – 3106, ext. 33625 lcrema@uwaterloo.ca

Communication is Important !

For term and course schedules, important deadlines and other important notes for this term, please review:

Information for Current ME Students web page at:

<http://www.mme.uwaterloo.ca>

- > Undergraduate Students
- > Mechanical Engineering
 - > Current Students

(Schedules are also available in Lynn's office.)

Student / Faculty Committee

- Student/Faculty Committee meets regularly during the term to gather and distribute information
- Your class should elect:
 - 1) one Class-Professor
 - 2) 2 Student Class Representatives
(co-chairs of the Committee)

Please let Lynn know by Friday Sept. 14th
First Lunch Meeting is Thursday, Sept. 20th
at 11:30 am in E5-3101

The Mechanical Engineering Curriculum

- Meets Canadian Engineering Accreditation Board (CEAB) requirements
- Graduation from a CEAB certified Engineering program satisfies one of the major requirements for registration as a Professional Engineer in Ontario

Mechanical Engineering Core Courses

1A

MATH 115
Linear Algebra
for Engineering

MATH 116
Calculus for
Engineering

PHYS 115
Mechanics

CH E 102
Chemistry for
Engineers

ME 100
Commun'n &
Profess'ism

1B

MATH 118
Calculus 2

GENE 121
Digital
Computation

PHYS 125
Physics for
Engineers

GENE 123
Elec. Eng. for
Mech. Eng's.

ME 115
Materials 1

M SCI 261
Managerial &
Eng. Econ'ics

2A

ME 201
Advanced
Calculus

ME 230
Materials 2

ME 202
Statistics for
Engineers

ME 269
Elec'mech Dev
Power Proc'ing

ME 219
Deformable
Solids 1

CSE #2

2B

ME 203
Ordinary Diff'l
Equations

ME 212
Dynamics

ME 220
Deformable
Solids 2

ME 262
Microproc's &
Digital Logic

ME 250
Thermo-
dynamics 1

3A

ME 303
Advanced
Eng. Math

ME 354
Thermo-
dynamics 2

ME 351
Fluid
Mechanics 1

ME 321
Kinematics and
Dynamics

ME 340
Manufacturing
Processes

3B

ME 322
Mechanical
Design 1

ME 353
Heat Transfer 1

ME 360
Control
Systems

ME 362
Fluid
Mechanics 2

ME 380
Mech. Eng.
Design Work'p

CSE #3

4A

ME 481
Mech. Eng.
Design Project

Technical
Elective 1

Technical
Elective 2

Technical
Elective 3

CSE #4

4B

TE #4 or
ME 482 Mech.
Eng. Project

Technical
Elective 5

Technical
Elective 6

Technical
Elective 7

Technical
Elective 8

CSE #5

Note: new 8-month capstone design project for Section 2

Mechanical Engineering CSE's (5 Required)

1A	MATH 115 Linear Algebra for Engineering	MATH 116 Calculus for Engineering	PHYS 115 Mechanics	CH E 102 Chemistry for Engineers	ME 100 Commun'n & Profess'ism	
1B	MATH 118 Calculus 2	GEN E 121 Digital Computation	PHYS 125 Physics for Engineers	ME 123 Elec. Eng. for Mech. Eng's.	ME 215 Materials 1	M SCI 261 Managerial & Eng. Econ'ics
2A	ME 201 Advanced Calculus	ME 230 Materials 2	ME 202 Statistics for Engineers	ME 269 Elec'mech Dev Power Proc'ing	ME 219 Deformable Solids 1	CSE #2
2B	ME 203 Ordinary Diff'l Equations	ME 212 Dynamics	ME 220 Deformable Solids 2	ME 262 Microproc's & Digital Logic	ME 250 Thermo- dynamics 1	
3A	ME 303 Advanced Eng. Math	ME 354 Thermo- dynamics 2	ME 351 Fluid Mechanics 1	ME 321 Kinematics and Dynamics	ME 340 Manufacturing Processes	
3B	ME 322 Mechanical Design 1	ME 353 Heat Transfer 1	ME 360 Control Systems	ME 362 Fluid Mechanics 2	ME 380 Mech. Eng. Design Work'p	CSE #3
4A	ME 481 Mech. Eng. Design Projects	Technical Elective 1	Technical Elective 2	Technical Elective 3	CSE #4	
4B	Technical Elective 4	Technical Elective 5	Technical Elective 6	Technical Elective 7	Technical Elective 8	CSE #5

5 CSE's are Required

- At least 1 “List A” course (Impact)
- At least 1 “List B” course (Economics)*
- At least 2 “List C” courses
(Humanities and Social Sciences)
- One additional CSE (List A, B, C or D)

* M SCI 261 is a “List B” CORE course

Mechanical Engineering TE's (8 Required)

1A	MATH 115 Linear Algebra for Engineering	MATH 116 Calculus for Engineering	PHYS 115 Mechanics	CH E 102 Chemistry for Engineers	ME 100 Commun'n & Profess'ism	
1B	MATH 118 Calculus 2	GEN E 121 Digital Computation	PHYS 125 Physics for Engineers	ME 123 Elec. Eng. for Mech. Eng's.	ME 215 Materials 1	M SCI 261 Managerial & Eng. Econ'ics
2A	ME 201 Advanced Calculus	ME 230 Materials 2	ME 202 Statistics for Engineers	ME 269 Elec'mech Dev Power Proc'ing	ME 219 Deformable Solids 1	CSE #2
2B	ME 203 Ordinary Diff'l Equations	ME 212 Dynamics	ME 220 Deformable Solids 2	ME 262 Microproc's & Digital Logic	ME 250 Thermo- dynamics 1	
3A	ME 303 Advanced Eng. Math	ME 354 Thermo- dynamics 2	ME 351 Fluid Mechanics 1	ME 321 Kinematics and Dynamics	ME 340 Manufacturing Processes	
3B	ME 322 Mechanical Design 1	ME 353 Heat Transfer 1	ME 360 Control Systems	ME 362 Fluid Mechanics 2	ME 380 Mech. Eng. Design Work'p	CSE #3
4A	ME 481 Mech. Eng. Design Projects	Technical Elective 1	Technical Elective 2	Technical Elective 3	CSE #4	
4B	TE #4 <u>or</u> ME 482 Mech. Eng. Project	Technical Elective 5	Technical Elective 6	Technical Elective 7	Technical Elective 8	CSE #5

Number of TE's Required

- A total of 8 TE's are required
- A minimum of 6 TE's must be from the Mechanical Engineering TE course list (ME TE's)
- Biomechanics and Mechatronics Option students must take at least 5 ME TE's


Mechanical Engineering TE's

- A wide variety of TE courses are available in the general theme areas of:
 - Automation and Control
 - Fluid Mechanics
 - Machine Design and Solid Mechanics
 - Materials Engineering and Processing
 - Thermal Engineering
- Designated Faculty Options or
- Welding & Joining Specialization (Mech. Eng. Only)

Mechanical Engineering Curriculum with the Welding & Joining Specialization

1A	Math 117 Calculus 1	Math 115 Algebra and Vector Geom.	Phys 115 Mechanics	CH E 102 Chemistry for Engineers	ME 100 Commun'n & Profess'ism	
1B	Math 118 Calculus 2	GEN E 121 Digital Computation	PHYS 125 Physics for Engineers	ME 123 Elec. Eng. for Mech. Eng's.	ME 215 Materials 1	M SCI 261 Managerial & Eng. Econ'ics
2A	ME 201 Advanced Calculus	ME 230 Materials 2	ME 202 Statistics for Engineers	ME 269 Elec'mech Dev Power Proc'ing	ME 219 Deformable Solids 1	CSE #2
2B	ME 203 Ordinary Diff'l Equations	ME 212 Dynamics	ME 220 Deformable Solids 2	ME 262 Microproc's & Digital Logic	ME 250 Thermo- dynamics 1	
3A	ME 303 Advanced Eng. Math	ME 354 Thermo- dynamics 2	ME 351 Fluid Mechanics 1	ME 321 Kinematics and Dynamics	ME 340 Manufacturing Processes	
3B	ME 322 Mechanical Design 1	ME 353 Heat Transfer 1	ME 360 Intro. Control Systems	ME 362 Fluid Mechanics 2	ME 380 Mech. Eng. Design Work'p	CSE #3
4A	ME 481 Mech. Eng. Design Projects	ME 435 Industrial Metallurgy	ME 436 Weld & Join. Processes	Technical Elective #3	CSE #4	
4B	ME 526 Fatigue & Fracture	ME 535 Welding Metallurgy	ME 538 Weld. Design, Fab. & QC	Technical Elective #7 or ME 547	Technical Elective #8	CSE #5

Be Careful !

- Some courses are not TE's although they may appear to be TEs. For example, ME 401, MSCI 441 and GENE 412, GENE 452 are CSEs – not TEs
- It is YOUR responsibility to make sure you satisfy all degree requirements; i.e., do you have the correct number of TE's & CSE's, transfer conditions, have you cleared failed courses by supplemental exams or retaking, etc. (note: special 1A failed course rules)
- If you are not sure?  Ask Lynn Crema!

Mechanical Engineering Curriculum

1A	MATH 115 Linear Algebra for Engineering	MATH 116 Calculus for Engineering	PHYS 115 Mechanics	CH E 102 Chemistry for Engineers	ME 100 Commun'n & Profess'ism	
1B	MATH 118 Calculus 2	GEN E 121 Digital Computation	PHYS 125 Physics for Engineers	ME 123 Elec. Eng. for Mech. Eng's.	ME 215 Materials 1	M SCI 261 Managerial & Eng. Econ'ics
2A	ME 201 Advanced Calculus	ME 230 Materials 2	ME 202 Statistics for Engineers	ME 269 Elec'mech Dev Power Proc'ing	ME 219 Deformable Solids 1	CSE #2
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3B	ME 322 Mechanical Design 1	ME 353 Heat Transfer 1	ME 360 Control Systems	ME 362 Fluid Mechanics 2	ME 380 Mech. Eng. Design Work'p	CSE #3
4A	ME 481 Mech. Eng. Design Projects	Technical Elective 1	Technical Elective 2	Technical Elective 3	CSE #4	
4B	TE #4 or ME 482 Mech. Eng. Project	Technical Elective 5	Technical Elective 6	Technical Elective 7	Technical Elective 8	CSE #5

This is Your Last Chance to Satisfy All Mechanical Engineering Curriculum Requirements

Before you graduate at the end of this term, you must have:

- Passed all 31 required core courses
- Passed 5 CSE and 8 TE courses
- Passed PDEng 15, 25, 35, 45, and 55 or
PDEng 15, 25 and any 3 of PD 3....PD7, etc.
- Cleared all failed courses (note: special 1A rules)
- Have CR for WHMIS & ELPE
- Have CR for 4 work term reports
- Have CR for 5 of 6 work terms

Course Drop/Add Deadlines

- **Add:** Friday, September 21st
- **Drop:** Friday, September 28th
- **Late Drop:** Sept. 29th to Nov. 16th – WD grade
- **Late Drop with Penalty:** starts Nov. 17th
 - WF (withdraw/fail) grade shows
 - grade of 38% is included in average
- **CHECK YOUR COURSE LIST on QUEST!**

ME 481 Organizational Meeting

- ME 481 is a core course. You must be registered for ME 481 on QUEST. Verify this on QUEST.
- You must be in either:
 - ME 481 Section 1 with Oscar Nespoli (1 term project only)
 - ME 481 Section 2 with Peter Teertstra if you will be doing a 2-term capstone team project with ME 482 in W/13 (use course a override form to switch to Section 2 → Lynn Crema)
- Your ME 481 Project Registration Form is due to Lynn Crema before: **Friday Sept. 21st, 4:00 pm**

Safety Lecture

The Safety Lecture is Compulsory

The Safety Lecture by your Class Professor is
Tuesday Sept. 25th at 11:30 am in your
Class/Professor Hour

You will be required to sign a form
acknowledging that you have read the
Department of Mechanical Engineering &
Mechatronics Engineering Lab. Safety
Manual and have attended the Safety lecture.

Work Report Submission

Take Note:

- Work reports are due in to Lynn Crema by 4:00 pm – Monday, Sept. 17th
- Late work reports will be marked during the next W/13 term.
- Late work reports will show as a failed grade on your transcript (38%)

Some University of Waterloo Examinations Regulations

- Examinations, test, or lectures are not permitted between the last day of lectures and the first day of exams.
- Final exams are not allowed during the formal lecture period.
- Major term tests ($>25\%$) normally may not be held in the last five days of lectures.

Final Exam Scheduling Rules

- There are four (4) – 2.5 hour final examination time slots/day
- Final exam scheduling rules:
 - No back-to-back exams.
 - No last slot (evening) – first slot (next morning) exams.
 - No more than two (2) exams in one day.

Final Exams

- First day of exams is Thursday, Dec. 6th
- Last day of exams is Thursday, Dec. 20th
- Final Exam Emergency Day is Fri., Dec 21st
- Remember, after this is when you can book:
 - plane tickets,
 - holidays,
 - anything else you like !

Missed Exams

- Little will be done to accommodate students who miss Midterm or Final Exams without a legitimate reason conveyed with documentation to the instructor and to Lynn Crema **prior** to the exam.
- A **DNW** (**D**id **N**ot **W**rite) course grade can lead to a **RWE** (**R**equired to **W**ithdraw from **E**ngineering) academic decision

Sickness or Unusual Difficulties

If you have a difficulty such as a serious illness, injury or a death in the family:

- make sure you inform your instructor(s) and the Undergraduate Office (Lynn Crema) immediately
- and be sure to obtain documentation right away (e.g., for illness, a UW Verification of Illness form filled out from your doctor) and give it to Lynn Crema ASAP.

Fourth-Year Study Room, E3-3111

(Upstairs above the Structures Lab, opposite the Wind Tunnel)

Main Door lock combination:
(See Lynn Crema)

- 1) Note: This study room will be shared with the other half of your class and the 4th year Mechatronics students in 4B, W/13
- 2) Please keep this room neat and tidy.
- 3) Report all computer problems on the NEXUS login screen

Mechanical & Mechatronics Engineering 4th year & MEng Computer Room, E2-2354

- There are 8 computers in E2-2354 for use by 4th year ME students and MEng graduate students

Door Lock Code: (See Lynn Crema)

- 1) Please keep the back door closed and locked
- 2) Please keep this room neat and tidy.
- 3) Report all computer problems on the NEXUS login screen

Welcome to Fourth-Year
Mechanical Engineering !

Questions?