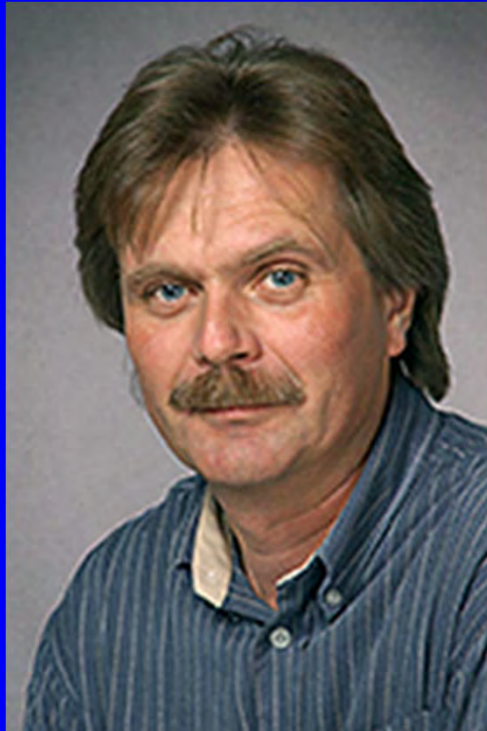


Department of Mechanical &  
Mechatronics Engineering



Welcome to 4A  
Mechanical Engineering!

# Some People in Mechanical Engineering You Should Know



Professor Jan Huissoon  
Department Chair



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

# Your Most Frequent Contact in 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> year Mechanical Engineering



Tanya Yoworski, ME Academic Advisor  
E5 – 3106, ext. 33625, [tyoworski@uwaterloo.ca](mailto:tyoworski@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 Tanya'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 Tanya know by Friday, Sept. 18<sup>th</sup>

First Lunch Meeting is Thursday, Sept. 24<sup>th</sup>  
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 32 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 1	Technical Elective 1	Technical Elective 2	Technical Elective 3	CSE #4	
4B	ME 482 Mech. Eng. Design Project 2	Technical Elective 4	Technical Elective 5	Technical Elective 6	Technical Elective 7	CSE #5

# Mechanical Engineering CSE's (5 Required)

1A	MATH 115 Linear Algebra for Engineering	MATH 116 Calculus for Engineering	PHYS 115 Mechanics	CHE 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 Project 1	Technical Elective 1	Technical Elective 2	Technical Elective 3	CSE #4	
4B	ME 481 Mech. Eng. Design Project 2	Technical Elective 4	Technical Elective 5	Technical Elective 6	Technical Elective 7	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 (7 Required)

1A	MATH 115 Linear Algebra for Engineering	MATH 116 Calculus for Engineering	PHYS 115 Mechanics	CHE 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 Project 1	Technical Elective 1	Technical Elective 2	Technical Elective 3	CSE #4	
4B	ME 482 Mech. Eng. Design Project 2	Technical Elective 4	Technical Elective 5	Technical Elective 6	Technical Elective 7	CSE #5

# Number of TE's Required

- A total of 7 TE's are required
- A minimum of 5 TE's must be from the Mechanical Engineering TE course list (ME TE's)
- Biomechanics and Mechatronics Option students must take at least 4 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 Project 1	<b>ME 435 Industrial Metallurgy</b>	<b>ME 436 Weld &amp; Join. Processes</b>	Technical Elective #3	CSE #4	
4B	ME 482 Mech. Eng. Design Project 2	<b>ME 526 Fatigue &amp; Fracture</b>	<b>ME 535 Welding Metallurgy</b>	<b>ME 538 Weld. Design, Fab. &amp; QC</b>	Technical Elective #7 or <b>ME 547</b>	CSE #5

# Be Careful !

- Some courses are not TE's although they may appear to be TEs. For example, ME 401, MSC1 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 Tanya Yoworski!

# Mechanical Engineering Curriculum

1A	MATH 115 Linear Algebra for Engineering	MATH 116 Calculus for Engineering	PHYS 115 Mechanics	CHE 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 Project 1	Technical Elective 1	Technical Elective 2	Technical Elective 3	CSE #4	
4B	ME 482 Mech. Eng. Design Project 2	Technical Elective 4	Technical Elective 5	Technical Elective 6	Technical Elective 7	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 32 required core courses
- Passed 5 CSE and 7 TE courses
- Passed 5 PD courses in total: PDEng 15, 25 and any 3 of PD 3....PD8, 22, etc.
- Cleared all failed courses
- Have CR for WHMIS & ELPE
- Have CR for 3 work term reports
- Have CR for 5 of 6 work terms



# Course Drop/Add Deadlines

- **Add:** Friday, Sept. 25<sup>th</sup>
- **Drop:** Friday, Oct. 2<sup>nd</sup>
- **Late Drop:** Oct. 3<sup>rd</sup> to Nov. 20<sup>th</sup> – WD grade
- **Late Drop with Penalty:** starts Nov. 21<sup>st</sup>
  - WF (withdraw/fail) grade shows
  - grade of 38% is included in average
- **CHECK YOUR COURSE LIST on QUEST!**

# Safety Lecture

## **The Safety Lecture is Compulsory**

The Safety Lecture by your Class Professor is  
Tuesday Sept. 29<sup>th</sup> 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 Tanya Yoworski by 4:00 pm – Monday, Sept. 21<sup>st</sup>
- 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.
- Note: there is a deadline for filing a request for relief via the Registrar's Office web pages.

# Final Exams

- Food or drink (other than water) are not permitted in midterm or final exams.
- First day of exams is **Tuesday, Dec. 8<sup>th</sup>**
- Last day of exams is **Tuesday, Dec. 22<sup>nd</sup>**
- Final Exam Emergency Day is **Wed. Dec. 23<sup>rd</sup>**
- 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 Tanya Yoworski **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 (Tanya Yoworski) immediately
- and be sure to obtain documentation right away (e.g., for illness, a UW Verification of Illness form filled out by Health Services or your doctor) and give it to Tanya Yoworski ASAP.



# Fourth-Year Study Room, E3-3111

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

**Main Door lock combination:**

**( See Tanya)**

- 1) Note: This study room will be shared with ~~the other half of your class and the~~ 4A Mechatronics Engineering students.
- 2) Please keep this room neat and tidy.
- 3) Report all computer problems to MME I.T. at [rt-mme-computing@rt.uwaterloo.ca](mailto:rt-mme-computing@rt.uwaterloo.ca)

# Mechanical & Mechatronics Engineering 4<sup>th</sup> year & MEng Computer Room, E2-2354

- There are 8 computers in E2-2354 for use by 4<sup>th</sup> year ME & MTE students.

**Door Lock Code: ( see Tanya)**

- 1) Please keep the back door closed and locked
- 2) Please keep this room neat and tidy.
- 3) Report all computer problems to MME I.T. at [rt-mme-computing@rt.uwaterloo.ca](mailto:rt-mme-computing@rt.uwaterloo.ca)

University of  
**Waterloo**



Welcome to Fourth-Year  
Mechanical Engineering !

Questions?