



## **Mechanical Engineering Fall 2022 Student Orientation**

**Dr. Masoud Rais-Rohani**

Chair & Richard C. Hill Professor  
of Mechanical Engineering

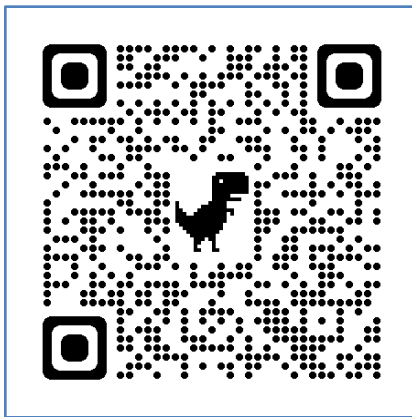
[masoud.raisrohani@maine.edu](mailto:masoud.raisrohani@maine.edu)  
(207) 581-4120

# Facilities

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# Mechanical Engineering at UMaine



**UMaine Campus Map**

**MEE Offices &  
Teaching Labs  
(Fall 2022)**

**MEE Research  
Labs**



# Ferland Engineering Education and Design Center

## A Multi-Use Academic and Laboratory Building

- Total Space ~100,000 ft<sup>2</sup>
- Modern Classrooms, Lab & Project Spaces, Student Hubs, Offices,...
- Grand Opening: August 24, 2022



**2<sup>nd</sup> floor will house MEE**



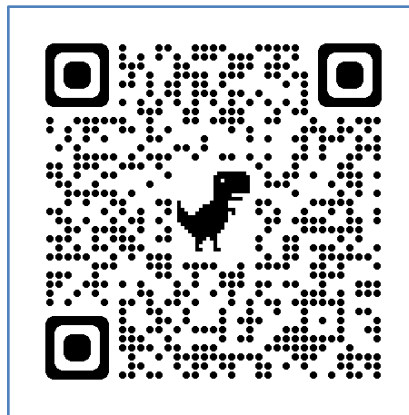
**June 7, 2022**



**June 7, 2021**

# MEE Faculty & Staff

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# Full-Time Faculty & Staff



Vince Caccese



Sheila Edalatpour



Alex Friess



Andy Goupee



Babak Hejrati



Zhihe Jin



Bashir Khoda



Rich Kimball



Justin Lapp



Eric Martin



Sharmila Mukhopadhyay



Olivier Putzeys



Masoud Rais-Rohani



Senthil Vel



Amrit Verma



Yingchao Yang



Meghan Honnell



Stephen Abbadessa



# Whom Should You Contact?

- Academic/professional matters → Faculty Advisor
- Course-specific matters → Course Instructor
- Computer / IT matters → IT ([umaine.edu/it/](http://umaine.edu/it/))
- Club membership → Club Officers / Advisor
- Crosby Lab matters → Mr. Stephen Abbadessa



- Routine questions about MEE
- Accounting questions
- Or if you are facing a deadline and cannot reach your advisor



Ms. Meghan Honnell  
[meghan.honnell@maine.edu](mailto:meghan.honnell@maine.edu)

# Your Faculty Advisor:

- Will be selected for you before registration for spring 2023
- Provides academic and professional advice
- Meets with you for academic advising
- Reviews course selections & monitors your progress toward graduation
- Maintains your up-to-date curriculum sheet on MEE Google drive

## **Do Your Part:**

- Review your curriculum sheet
- Identify planned courses a semester or year ahead
- Prepare a wish list prior to registration
- Follow proper email etiquette



# Email Communication

- Always begins with proper salutation → Dr./Prof./Ms./Mr. Smith,
- Email is not a text message → Proper English is important!
- Email is not a text message → Do not expect an immediate response!
- Specify action requested → I would like to set up a time to meet with you for advising. I am contacting you to ask about ...
- Relatively short, easy to read and understand
- Respectful language

# MEE Curriculum

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# Mechanical Engineering Curriculum

MECHANICAL ENGINEERING CURRICULUM  
4-Year Program (for students entering in Fall 2022)

Student: \_\_\_\_\_ ID: \_\_\_\_\_ Advisor: \_\_\_\_\_

## Summary

1st Year – FALL (17 cr)		Grade
ENG 101 <sup>C</sup>	College Composition (3 cr)	
MAT 126 <sup>C</sup>	Calculus I (4 cr)	
MEE 101	Intro to Mech. Eng. (1 cr)	
MEE 120	Eng. Graphics & CAD (2 cr)	
PHY 121 <sup>C</sup>	Physics for Eng. & Sci. I (4 cr)	
	HVSC Elective (3 cr)	

2nd Year – FALL (17 cr)		Grade
CHY 121/3	General Chemistry I/Lab (4 cr)	—/—
or CHY 131/3	Chemistry for Engineers/Lab (4 cr)	—/—
MAT 228 <sup>C</sup>	Calculus III (4 cr)	
MEE 230 <sup>C</sup>	Thermodynamics I (3 cr)	
MEE 251 <sup>C</sup>	Strength of Materials (3 cr)	
	HVSC Elective (3 cr)	

3rd Year – FALL (15 cr)		Grade
MEE 320	Materials (3 cr)	
or MEE 370	Controls (3 cr)	
MEE 330	Manufacturing Engineering (3 cr)	
or MEE 360	Fluid Mechanics (3 cr)	
MEE 341	Mechanical Lab I (3 cr)	
or MEE 380	Design I (3 cr)	
MEE 381	Design II (3 cr)	
or MEE 456	Finite Element Method (3 cr)	
STS 332	Statistics for Engineers (3 cr)	
or	Engineering Elective (3 cr)	

4th Year – FALL (15 cr)		Grade
MEE 432	Heat Transfer (3 cr)	
or MEE 471	Mechanical Vibrations (3 cr)	
MEE 442	Mechanical Lab II (2 cr)	
MEE 487	Capstone Design I (4 cr)	
	MEE Technical Elective (3 cr)	
	MEE Technical Elective (3 cr)	

1st Year – SPRING (17 cr)		Grade
MAT 127 <sup>C</sup>	Calculus II (4 cr)	
MEE 125	Computational Tools for MEs (3 cr)	
or COS 220	or ECE 177	
MEE 150 <sup>C</sup>	Statics (3 cr)	
PHY 122	Physics for Eng. & Sci. II (4 cr)	
	HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)		Grade
ECE 209	Fund of Electric Circuits (3 cr)	
ENG 320	Tech. Comm. for Engineering (3 cr)	
MAT 258	Diff. Eq. & Lin. Algebra (4 cr)	
MEE 231	Thermodynamics II (3 cr)	
MEE 270 <sup>C</sup>	Dynamics (3 cr)	

3rd Year – SPRING (15 cr)		Grade
MEE 320	Materials (3 cr)	
or MEE 370	Controls (3 cr)	
MEE 330	Manufacturing Engineering (3 cr)	
or MEE 360	Fluid Mechanics (3 cr)	
MEE 341	Mechanical Lab I (3 cr)	
or MEE 380	Design I (3 cr)	
MEE 381	Design II (3 cr)	
or MEE 456	Finite Element Method (3 cr)	
STS 332	Statistics for Engineers (3 cr)	
or	Engineering Elective (3 cr)	

4th Year – SPRING (17 cr)		Grade
MEE 432	Heat Transfer (3 cr)	
or MEE 471	Mechanical Vibrations (3 cr)	
MEE 443	Mechanical Lab III (2 cr)	
MEE 488	Capstone Design II (3 cr)	
	MEE Technical Elective (3 cr)	
	HVSC Elective (3 cr)	
	HVSC Elective (3 cr)	

<sup>C</sup> and <sup>C-</sup> indicate the minimum grade required in that course.

Engineering Elective (3 cr)	
Course	Grade

MEE Technical Electives (9 cr)	
Course	Grade

	Course	HVSC credits	Grade	Human Values and Social Context (HVSC) areas (18 cr)					Ethics (not part of HVSC)
				Western Cultural Tradition	Social Contexts & Institutions	Cultural Diversity & International Perspectives	Population & Environment	Artistic & Creative Expression	
1.	ENG 320	3			X				
2.									
3.									
4.									
5.									
6.									
(if needed) 7.									
(if needed) 8.									

Students must complete 18 credits in the HVSC areas, and each of the 5 HVSC areas must be satisfied at least once. Students must also take a course that satisfies the Ethics requirement. Note that some courses satisfy more than one category (e.g. Ethics and an HVSC area).

## Credit (cr) Subject

- 56 MEE General Courses & Labs
- 12 Tech & Engineering Electives
- 19 Mathematics & Statistics
- 12 Physics & Chemistry
- 18 Humanities & Social Sciences
- 6 Comp Programming & Circuits
- 6 Writing Intensive
- **129 Total Credit Hours for a BS Degree**

15-17 cr. / semester  
→ Graduate in 4 years!

# Mechanical Engineering Curriculum

## MECHANICAL ENGINEERING CURRICULUM

4-Year Program (for students entering in Fall 2022)

Student: \_\_\_\_\_ ID: \_\_\_\_\_ Advisor: \_\_\_\_\_

1st Year – FALL (17 cr)		Grade	1st Year – SPRING (17 cr)		Grade
ENG 101 <sup>C</sup>	College Composition (3 cr)		MAT 127 <sup>C</sup>	Calculus II (4 cr)	
MAT 126 <sup>C</sup>	Calculus I (4 cr)		MEE 125	Computational Tools for MEs (3 cr)	
MEE 101	Intro to Mech. Eng. (1 cr)		or COS 220 or ECE 177		
MEE 120	Eng. Graphics & CAD (2 cr)		MEE 150 <sup>C</sup>	Statics (3 cr)	
PHY 121 <sup>C</sup>	Physics for Eng. & Sci. I (4 cr)		PHY 122	Physics for Eng. & Sci. II (4 cr)	
	HVSC Elective (3 cr)			HVSC Elective (3 cr)	

2nd Year – FALL (17 cr)		Grade	2nd Year – SPRING (16 cr)		Grade
CHY 121/3	General Chemistry I/Lab (4 cr)	/	ECE 209	Fund of Electric Circuits (3 cr)	
or CHY 131/3	Chemistry for Engineers/Lab (4 cr)	/	ENG 320	Tech. Comm. for Engineering (3 cr)	
MAT 228 <sup>C</sup>	Calculus III (4 cr)		MAT 258	Diff. Eq. & Lin. Algebra (4 cr)	
MEE 230 <sup>C</sup>	Thermodynamics I (3 cr)		MEE 231	Thermodynamics II (3 cr)	
MEE 251 <sup>C</sup>	Strength of Materials (3 cr)		MEE 270 <sup>C</sup>	Dynamics (3 cr)	
	HVSC Elective (3 cr)				

3rd Year – FALL (15 cr)		Grade	3rd Year – SPRING (15 cr)		Grade
MEE 320	Materials (3 cr)		MEE 320	Materials (3 cr)	
or MEE 370	Controls (3 cr)		or MEE 370	Controls (3 cr)	
MEE 330	Manufacturing Engineering (3 cr)		MEE 330	Manufacturing Engineering (3 cr)	
or MEE 360	Fluid Mechanics (3 cr)		or MEE 360	Fluid Mechanics (3 cr)	
MEE 341	Mechanical Lab I (3 cr)		MEE 341	Mechanical Lab I (3 cr)	
or MEE 380	Design I (3 cr)		or MEE 380	Design I (3 cr)	
MEE 381	Design II (3 cr)		MEE 381	Design II (3 cr)	
or MEE 456	Finite Element Method (3 cr)		or MEE 456	Finite Element Method (3 cr)	
STS 332	Statistics for Engineers (3 cr)		STS 332	Statistics for Engineers (3 cr)	
	or Engineering Elective (3 cr)			or Engineering Elective (3 cr)	

4th Year – FALL (15 cr)		Grade	4th Year – SPRING (17 cr)		Grade
MEE 432	Heat Transfer (3 cr)		MEE 432	Heat Transfer (3 cr)	
or MEE 471	Mechanical Vibrations (3 cr)		or MEE 471	Mechanical Vibrations (3 cr)	
MEE 442	Mechanical Lab II (2 cr)		MEE 443	Mechanical Lab III (2 cr)	
MEE 487	Capstone Design I (4 cr)		MEE 488	Capstone Design II (3 cr)	
	MEE Technical Elective (3 cr)			MEE Technical Elective (3 cr)	
	MEE Technical Elective (3 cr)			HVSC Elective (3 cr)	
				HVSC Elective (3 cr)	

<sup>C</sup> and <sup>C-</sup> indicate the minimum grade required in that course.

Engineering Elective (3 cr)	
Course	Grade

MEE Technical Electives (9 cr)	
Course	Grade

		Human Values and Social Context (HVSC) areas (18 cr)						Ethics (not part of HVSC)
Course	HVSC credits	Grade	Western Cultural Tradition	Social Contexts & Institutions	Cultural Diversity & International Perspectives	Population & Environment	Artistic & Creative Expression	
1. ENG 320	3			X				
2.								
3.								
4.								
5.								
6.								
(if needed) 7.								
(if needed) 8.								

Students must complete 18 credits in the HVSC areas, and each of the 5 HVSC areas must be satisfied at least once. Students must also take a course that satisfies the Ethics requirement. Note that some courses satisfy more than one category (e.g. Ethics and an HVSC area).

**A curriculum sheet for every student  
showing courses completed, grades earned**



**MEE Curriculum Sheet**

# Mechanical Engineering Curriculum

## MECHANICAL ENGINEERING CURRICULUM

4-Year Program (for students entering in Fall 2022)

Student: \_\_\_\_\_ ID: \_\_\_\_\_ Advisor: \_\_\_\_\_

1st Year – FALL (17 cr)		Grade
ENG 101 <sup>C</sup>	College Composition (3 cr)	
MAT 126 <sup>C</sup>	Calculus I (4 cr)	
MEE 101	Intro to Mech. Eng. (1 cr)	
MEE 120	Eng. Graphics & CAD (2 cr)	
PHY 121 <sup>C</sup>	Physics for Eng. & Sci. I (4 cr)	
	HVSC Elective (3 cr)	

1st Year – SPRING (17 cr)		Grade
MAT 127 <sup>C</sup>	Calculus II (4 cr)	
MEE 125	Computational Tools for MEs (3 cr)	
or COS 220 or ECE 177		
MEE 150 <sup>C</sup>	Statics (3 cr)	
PHY 122	Physics for Eng. & Sci. II (4 cr)	
	HVSC Elective (3 cr)	

2nd Year – FALL (17 cr)		Grade
CHY 121/3	General Chemistry I/Lab (4 cr)	/
or CHY 131/3	Chemistry for Engineers/Lab (4 cr)	/
MAT 228 <sup>C</sup>	Calculus III (4 cr)	
MEE 230 <sup>C</sup>	Thermodynamics I (3 cr)	
MEE 251 <sup>C</sup>	Strength of Materials (3 cr)	
	HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)		Grade
ECE 209	Fund of Electric Circuits (3 cr)	
ENG 320	Tech. Comm. for Engineering (3 cr)	
MAT 258	Diff. Eq. & Lin. Algebra (4 cr)	
MEE 231	Thermodynamics II (3 cr)	
MEE 270 <sup>C</sup>	Dynamics (3 cr)	

3rd Year – FALL (15 cr)		Grade
MEE 320	Materials (3 cr)	
or MEE 370	Controls (3 cr)	
MEE 330	Manufacturing Engineering (3 cr)	
or MEE 360	Fluid Mechanics (3 cr)	
MEE 341	Mechanical Lab I (3 cr)	
or MEE 380	Design I (3 cr)	
MEE 381	Design II (3 cr)	
or MEE 456	Finite Element Method (3 cr)	
STS 332	Statistics for Engineers (3 cr)	
or	Engineering Elective (3 cr)	

3rd Year – SPRING (15 cr)		Grade
MEE 320	Materials (3 cr)	
or MEE 370	Controls (3 cr)	
MEE 330	Manufacturing Engineering (3 cr)	
or MEE 360	Fluid Mechanics (3 cr)	
MEE 341	Mechanical Lab I (3 cr)	
or MEE 380	Design I (3 cr)	
MEE 381	Design II (3 cr)	
or MEE 456	Finite Element Method (3 cr)	
STS 332	Statistics for Engineers (3 cr)	
or	Engineering Elective (3 cr)	

4th Year – FALL (15 cr)		Grade
MEE 432	Heat Transfer (3 cr)	
or MEE 471	Mechanical Vibrations (3 cr)	
MEE 442	Mechanical Lab II (2 cr)	
MEE 487	Capstone Design I (4 cr)	
	MEE Technical Elective (3 cr)	
	MEE Technical Elective (3 cr)	

4th Year – SPRING (17 cr)		Grade
MEE 432	Heat Transfer (3 cr)	
or MEE 471	Mechanical Vibrations (3 cr)	
MEE 443	Mechanical Lab III (2 cr)	
MEE 488	Capstone Design II (3 cr)	
	MEE Technical Elective (3 cr)	
	HVSC Elective (3 cr)	
	HVSC Elective (3 cr)	

<sup>C</sup> and <sup>C</sup> indicate the minimum grade required in that course.

Engineering Elective (3 cr)	
Course	Grade

MEE Technical Electives (9 cr)	
Course	Grade

			Human Values and Social Context (HVSC) areas (18 cr)					Ethics (not part of HVSC)
Course	HVSC credits	Grade	Western Cultural Tradition	Social Contexts & Institutions	Cultural Diversity & International Perspectives	Population & Environment	Artistic & Creative Expression	
1. ENG 320	3			X				
2.								
3.								
4.								
5.								
6.								
(if needed) 7.								
(if needed) 8.								

Students must complete 18 credits in the HVSC areas, and each of the 5 HVSC areas must be satisfied at least once. Students must also take a course that satisfies the Ethics requirement. Note that some courses satisfy more than one category (e.g. Ethics and an HVSC area).

## Human Values and Social Context (HVSC) Electives



General Education including HVSC Courses

# Human Values and Social Context (HVSC) Electives

- You must complete **18 credits** in the HVSC areas.
- Each of the 5 HVSC categories must be satisfied at least once
- The required ENG 320 already satisfies 3 HVSC credits**
- Some courses satisfy more than one category
- You must also take one course that satisfies the Ethics requirement.
- List of HVSC electives:
  - HVSC (“Gen. Ed.”) courses
  - In the Orientation materials mailed to you

## **Example:**

### General Education Requirements

Course	HVSC credits	Grade	<u>Human Values and Social Context (HVSC) areas (18 cr.)</u>					Ethics (not part of HVSC)
			Western Cultural Tradition	Social Contexts & Institutions	Cultural Diversity & International Perspectives	Population & Environment	Artistic & Creative Expression	
ENG 320	3			X				
HTY 103	3		X	X				
ANT 101	3			X	X			
ART 120	3						X	
NAS 101	3		X	X				
PHI 232	3			X		X		X

Students must complete 18 credits in the HVSC areas, and each of the five HVSC areas must be satisfied at least once. Students must also take a course that satisfies the Ethics requirement. Note that some courses satisfy more than one category (e.g. Ethics and one of the HVSC areas).



# Mechanical Engineering Curriculum

## MECHANICAL ENGINEERING CURRICULUM 4-Year Program (for students entering in Fall 2022)

Student: \_\_\_\_\_ ID: \_\_\_\_\_ Advisor: \_\_\_\_\_

1st Year – FALL (17 cr)		Grade
ENG 101 <sup>C</sup>	College Composition (3 cr)	
MAT 126 <sup>C</sup>	Calculus I (4 cr)	
MEE 101	Intro to Mech. Eng. (1 cr)	
MEE 120	Eng. Graphics & CAD (2 cr)	
PHY 121 <sup>C</sup>	Physics for Eng. & Sci. I (4 cr)	
	HVSC Elective (3 cr)	

2nd Year – FALL (17 cr)		Grade
CHY 121/3	General Chemistry I/Lab (4 cr)	/
or CHY 131/3	Chemistry for Engineers/Lab (4 cr)	/
MAT 228 <sup>C</sup>	Calculus III (4 cr)	
MEE 230 <sup>C</sup>	Thermodynamics I (3 cr)	
MEE 251 <sup>C</sup>	Strength of Materials (3 cr)	
	HVSC Elective (3 cr)	

3rd Year – FALL (15 cr)		Grade
MEE 320	Materials (3 cr)	
or MEE 370	Controls (3 cr)	
MEE 330	Manufacturing Engineering (3 cr)	
or MEE 360	Fluid Mechanics (3 cr)	
MEE 341	Mechanical Lab I (3 cr)	
or MEE 380	Design I (3 cr)	
MEE 381	Design II (3 cr)	
or MEE 456	Finite Element Method (3 cr)	
STS 332	Statistics for Engineers (3 cr)	
or	Engineering Elective (3 cr)	

4th Year – FALL (15 cr)		Grade
MEE 432	Heat Transfer (3 cr)	
or MEE 471	Mechanical Vibrations (3 cr)	
MEE 442	Mechanical Lab II (2 cr)	
MEE 487	Capstone Design I (4 cr)	
	MEE Technical Elective (3 cr)	
	MEE Technical Elective (3 cr)	

1st Year – SPRING (17 cr)		Grade
MAT 127 <sup>C</sup>	Calculus II (4 cr)	
MEE 125	Computational Tools for MEs (3 cr)	
or COS 220	or ECE 177	
MEE 150 <sup>C</sup>	Statics (3 cr)	
PHY 122	Physics for Eng. & Sci. II (4 cr)	
	HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)		Grade
ECE 209	Fund of Electric Circuits (3 cr)	
ENG 320	Tech. Comm. for Engineering (3 cr)	
MAT 258	Diff. Eq. & Lin. Algebra (4 cr)	
MEE 231	Thermodynamics II (3 cr)	
MEE 270 <sup>C</sup>	Dynamics (3 cr)	

3rd Year – SPRING (15 cr)		Grade
MEE 320	Materials (3 cr)	
or MEE 370	Controls (3 cr)	
MEE 330	Manufacturing Engineering (3 cr)	
or MEE 360	Fluid Mechanics (3 cr)	
MEE 341	Mechanical Lab I (3 cr)	
or MEE 380	Design I (3 cr)	
MEE 381	Design II (3 cr)	
or MEE 456	Finite Element Method (3 cr)	
STS 332	Statistics for Engineers (3 cr)	
or	Engineering Elective (3 cr)	

4th Year – SPRING (17 cr)		Grade
MEE 432	Heat Transfer (3 cr)	
or MEE 471	Mechanical Vibrations (3 cr)	
MEE 443	Mechanical Lab III (2 cr)	
MEE 488	Capstone Design II (3 cr)	
	MEE Technical Elective (3 cr)	
	HVSC Elective (3 cr)	
	HVSC Elective (3 cr)	

<sup>C</sup> and <sup>C</sup> indicate the minimum grade required in that course.

Engineering Elective (3 cr)	
Course	Grade

MEE Technical Electives (9 cr)	
Course	Grade

		Human Values and Social Context (HVSC) areas (18 cr)						Ethics (not part of HVSC)
Course	HVSC credits	Grade	Western Cultural Tradition	Social Contexts & Institutions	Cultural Diversity & International Perspectives	Population & Environment	Artistic & Creative Expression	
1. ENG 320	3			X				
2.								
3.								
4.								
5.								
6.								
(if needed) 7.								
(if needed) 8.								

Students must complete 18 credits in the HVSC areas, and each of the 5 HVSC areas must be satisfied at least once. Students must also take a course that satisfies the Ethics requirement. Note that some courses satisfy more than one category (e.g. Ethics and an HVSC area).

## Pick an Engineering Elective

Course	Course Name
MEE 348	Introduction to Flight
MEE 394	Mechanical Engineering Practice
MEE 4xx	Any MEE Technical Elective
CHE 350	Statistical Process Control and Analysis
CHE 461	Combustion and Fuel Processing
CIE 340	Introduction to Structural Analysis
CIE 365	Soil Mechanics
ECE 316	Random Signal Analysis
ECE 417	Introduction to Robotics
ECE 457	Nanoscience
ECE 462	Intro. to Basic Semiconductor Devices and Assoc. Circuit Models
ECE 464	Microelectronics Science and Engineering
ECE 465	Introduction to Sensors
ECE 467	Solar Cells and Their Applications
EET 386	Project Management
EET 460	Renewable Energy and Electricity Production
INV 392	Commercialize: Innovation Engineering II
MET 321	Industrial Vibrations
MET 391	Heating, Ventilating and Air Conditioning (not allowed if MEE 486 “Refrig. and A.C. System Design” is used as MEE Tech. Elective)
MET 440	Lean Six Sigma
PPA 466	Paper Technology
SVT 475	Small Business Management

# Mechanical Engineering Curriculum

## MECHANICAL ENGINEERING CURRICULUM 4-Year Program (for students entering in Fall 2022)

Student: \_\_\_\_\_ ID: \_\_\_\_\_ Advisor: \_\_\_\_\_

1st Year – FALL (17 cr)		Grade
ENG 101 <sup>C</sup>	College Composition (3 cr)	
MAT 126 <sup>C</sup>	Calculus I (4 cr)	
MEE 101	Intro to Mech. Eng. (1 cr)	
MEE 120	Eng. Graphics & CAD (2 cr)	
PHY 121 <sup>C</sup>	Physics for Eng. & Sci. I (4 cr)	
	HVSC Elective (3 cr)	

2nd Year – FALL (17 cr)		Grade
CHY 121/3	General Chemistry I/Lab (4 cr)	/
or CHY 131/3	Chemistry for Engineers/Lab (4 cr)	/
MAT 228 <sup>C</sup>	Calculus III (4 cr)	
MEE 230 <sup>C</sup>	Thermodynamics I (3 cr)	
MEE 251 <sup>C</sup>	Strength of Materials (3 cr)	
	HVSC Elective (3 cr)	

3rd Year – FALL (15 cr)		Grade
MEE 320	Materials (3 cr)	
or MEE 370	Controls (3 cr)	
MEE 330	Manufacturing Engineering (3 cr)	
or MEE 360	Fluid Mechanics (3 cr)	
MEE 341	Mechanical Lab I (3 cr)	
or MEE 380	Design I (3 cr)	
MEE 381	Design II (3 cr)	
or MEE 456	Finite Element Method (3 cr)	
STS 332	Statistics for Engineers (3 cr)	
or	Engineering Elective (3 cr)	

4th Year – FALL (15 cr)		Grade
MEE 432	Heat Transfer (3 cr)	
or MEE 471	Mechanical Vibrations (3 cr)	
MEE 442	Mechanical Lab II (2 cr)	
MEE 487	Capstone Design I (4 cr)	
	MEE Technical Elective (3 cr)	
	MEE Technical Elective (3 cr)	

<sup>C</sup> and <sup>C</sup> indicate the minimum grade required in that course.

Engineering Elective (3 cr)	
Course	Grade

1st Year – SPRING (17 cr)		Grade
MAT 127 <sup>C</sup>	Calculus II (4 cr)	
MEE 125	Computational Tools for MEs (3 cr)	
or COS 220	or ECE 177	
MEE 150 <sup>C</sup>	Statics (3 cr)	
PHY 122	Physics for Eng. & Sci. II (4 cr)	
	HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)		Grade
ECE 209	Fund of Electric Circuits (3 cr)	
ENG 320	Tech. Comm. for Engineering (3 cr)	
MAT 258	Diff. Eq. & Lin. Algebra (4 cr)	
MEE 231	Thermodynamics II (3 cr)	
MEE 270 <sup>C</sup>	Dynamics (3 cr)	

3rd Year – SPRING (15 cr)		Grade
MEE 320	Materials (3 cr)	
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MEE 330	Manufacturing Engineering (3 cr)	
or MEE 360	Fluid Mechanics (3 cr)	
MEE 341	Mechanical Lab I (3 cr)	
or MEE 380	Design I (3 cr)	
MEE 381	Design II (3 cr)	
or MEE 456	Finite Element Method (3 cr)	
STS 332	Statistics for Engineers (3 cr)	
or	Engineering Elective (3 cr)	

4th Year – SPRING (17 cr)		Grade
MEE 432	Heat Transfer (3 cr)	
or MEE 471	Mechanical Vibrations (3 cr)	
MEE 443	Mechanical Lab III (2 cr)	
MEE 488	Capstone Design II (3 cr)	
	MEE Technical Elective (3 cr)	
	HVSC Elective (3 cr)	
	HVSC Elective (3 cr)	

MEE Technical Electives (9 cr)	
Course	Grade

		<b>Human Values and Social Context (HVSC) areas (18 cr)</b>						Ethics (not part of HVSC)
Course	HVSC credits	Grade	Western Cultural Tradition	Social Contexts & Institutions	Cultural Diversity & International Perspectives	Population & Environment	Artistic & Creative Expression	
1. ENG 320	3			X				
2.								
3.								
4.								
5.								
6.								
(if needed) 7.								
(if needed) 8.								

Students must complete 18 credits in the HVSC areas, and each of the 5 HVSC areas must be satisfied at least once. Students must also take a course that satisfies the Ethics requirement. Note that some courses satisfy more than one category (e.g. Ethics and an HVSC area).

## Pick 3 MEE Technical Electives

MEE 430	Digital Manufacturing
MEE 433	Solar-Thermal Engineering
MEE 434	Thermodynamic Design of Engines
MEE 441	Manufacturing and Testing of Composites
MEE 444	Robot Dynamics and Control
MEE 448	Aircraft Design
MEE 450	Mechanics of Composite Materials
MEE 452	Aircraft and Automobile Structures
MEE 453	Experimental Mechanics
MEE 455	Advanced Strength of Materials
MEE 459	Engineering Optimization
MEE 462	Dynamics of Fluid Flows
MEE 463	Applied Computational Fluid Dynamics
MEE 475	Fuel Cell Science and Technology
MEE 480	Wind Energy Engineering
MEE 483	Turbomachine Design
MEE 484	Power Plant Design and Engineering
MEE 486	Refrig. and Air Cond. System Design
MEE 489	Offshore Floating System Design
MEE 490	Modern Control Theory and Applications
MEE 491	Offshore Wind Farm Engineering

# First Semester Registration

## Before you can register:

1. Complete your **Financial Terms and Conditions (FTC)** form on MaineStreet.  
<https://mycampus.maine.edu>
2. Take your **Math Placement Exam (MPE)**  
<https://umaine.edu/clasadvisingcenter/math-placement-exam/>
  - You are exempted if you scored:
    - 670 or higher on math portion of SAT
    - or 29 or higher on math portion of ACT
- If you have any AP credits, **you** must have them sent to the UMaine Office of Student Records via [collegeboard.com](https://collegeboard.com)
- Transfer students: Must transfer courses through the **Office of Student Records**  
*Even if prior courses were taken within the University of Maine System (UMS), you must still request a transfer credit evaluation from Office of Student Records*

# First Semester Registration

MECHANICAL ENGINEERING CURRICULUM  
4-Year Program (for students entering in Fall 2022)

Student: \_\_\_\_\_ ID: \_\_\_\_\_ Advisor: \_\_\_\_\_

1st Year – FALL (17 cr)		Grade
ENG 101 <sup>C</sup>	College Composition (3 cr)	
MAT 126 <sup>C</sup>	Calculus I (4 cr)	
MEE 101	Intro to Mech. Eng. (1 cr)	
MEE 120	Eng. Graphics & CAD (2 cr)	
PHY 121 <sup>C</sup>	Physics for Eng. & Sci. I (4 cr)	
	HVSC Elective (3 cr)	

1st Year – SPRING (17 cr)		Grade
MAT 127 <sup>C</sup>	Calculus II (4 cr)	
MEE 125	Computational Tools for MEs (3 cr)	
	or COS 220 or ECE 177	
MEE 150 <sup>C</sup>	Statics (3 cr)	
PHY 122	Physics for Eng. & Sci. II (4 cr)	
	HVSC Elective (3 cr)	

## Fall Semester 2022

1st Year – FALL (17 cr)		Grade
ENG 101 <sup>C</sup>	College Composition (3 cr)	
MAT 126 <sup>C</sup>	Calculus I (4 cr)	
MEE 101	Intro to Mech. Eng. (1 cr)	
MEE 120	Eng. Graphics & CAD (2 cr)	
PHY 121 <sup>C</sup>	Physics for Eng. & Sci. I (4 cr)	
	HVSC Elective (3 cr)	

2nd Year – FALL (17 cr)		Grade
CHY 121/3	General Chemistry I/Lab (4 cr)	—/—
or CHY 131/3	Chemistry for Engineers/Lab (4 cr)	—/—
MAT 228 <sup>C</sup>	Calculus III (4 cr)	
MEE 230 <sup>C</sup>	Thermodynamics I (3 cr)	
MEE 251 <sup>C</sup>	Strength of Materials (3 cr)	
	HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)		Grade
ECE 209	Fund of Electric Circuits (3 cr)	
ENG 320	Tech. Comm. for Engineering (3 cr)	
MAT 258	Diff. Eq. & Lin. Algebra (4 cr)	
MEE 231	Thermodynamics II (3 cr)	
MEE 270 <sup>C</sup>	Dynamics (3 cr)	

3rd Year – FALL (15 cr)		Grade
MEE 320	Materials (3 cr)	
or MEE 370	Controls (3 cr)	
MEE 330	Manufacturing Engineering (3 cr)	
or MEE 360	Fluid Mechanics (3 cr)	
MEE 341	Mechanical Lab I (3 cr)	
or MEE 380	Design I (3 cr)	
MEE 381	Design II (3 cr)	
or MEE 456	Finite Element Method (3 cr)	
STS 332	Statistics for Engineers (3 cr)	
	or Engineering Elective (3 cr)	

3rd Year – SPRING (15 cr)		Grade
MEE 320	Materials (3 cr)	
or MEE 370	Controls (3 cr)	
MEE 330	Manufacturing Engineering (3 cr)	
or MEE 360	Fluid Mechanics (3 cr)	
MEE 341	Mechanical Lab I (3 cr)	
or MEE 380	Design I (3 cr)	
MEE 381	Design II (3 cr)	
or MEE 456	Finite Element Method (3 cr)	
STS 332	Statistics for Engineers (3 cr)	
	or Engineering Elective (3 cr)	

4th Year – FALL (15 cr)		Grade
MEE 432	Heat Transfer (3 cr)	
or MEE 471	Mechanical Vibrations (3 cr)	
MEE 442	Mechanical Lab II (2 cr)	
MEE 487	Capstone Design I (4 cr)	
	MEE Technical Elective (3 cr)	
	MEE Technical Elective (3 cr)	

4th Year – SPRING (17 cr)		Grade
MEE 432	Heat Transfer (3 cr)	
or MEE 471	Mechanical Vibrations (3 cr)	
MEE 443	Mechanical Lab III (2 cr)	
MEE 488	Capstone Design II (3 cr)	
	MEE Technical Elective (3 cr)	
	HVSC Elective (3 cr)	
	HVSC Elective (3 cr)	

<sup>C</sup> and <sup>C-</sup> indicate the minimum grade required in that course.

Engineering Elective (3 cr)	
Course	Grade

MEE Technical Electives (9 cr)	
Course	Grade

		Human Values and Social Context (HVSC) areas (18 cr)						Ethics (not part of HVSC)
Course	HVSC credits	Grade	Western Cultural Tradition	Social Contexts & Institutions	Cultural Diversity & International Perspectives	Population & Environment	Artistic & Creative Expression	
1. ENG 320	3			X				
2.								
3.								
4.								
5.								
6.								
(if needed) 7.								
(if needed) 8.								

Students must complete 18 credits in the HVSC areas, and each of the 5 HVSC areas must be satisfied at least once. Students must also take a course that satisfies the Ethics requirement. Note that some courses satisfy more than one category (e.g. Ethics and an HVSC area).

Staff will enroll you in all courses in your first semester.

For questions, contact Ms. Honnell  
([meghan.honnell@maine.edu](mailto:meghan.honnell@maine.edu))

# Important Dates in Fall Semester 2022

Office of Student Records



5781 Wingate Hall  
Orono, Maine 04469-5781  
Tel: 207-581-1290  
Fax: 207-581-1314  
[umrecord@maine.edu](mailto:umrecord@maine.edu)  
<http://studentrecords.umaine.edu>  
[www.umaine.edu](http://www.umaine.edu)

## 2022-2023 ACADEMIC YEAR CALENDAR

### Fall Semester 2022

Classes begin	Monday, August 29
Last day to add classes	Sunday, September 4
No classes Labor Day	Monday, September 5
Last day to drop classes for refund**	Monday, September 12
Classes dropped on or before this date will not appear on transcript	Wednesday, September 28, 4:30 p.m.
Application for graduation filing deadline (Dec.)	Saturday, October 1
Fall break begins	Monday, October 10
Classes resume	Wednesday, October 12
Enrollment for Spring 2023 begins (tentative)	Monday, October 24
Last day to withdraw from a class and receive 'W' grade (Withdrawn classes after this date will receive failing grade.)	Thursday, November 10, 4:30 p.m.
No classes Veterans Day	Friday, November 11
Thanksgiving break begins	Wednesday, November 23
Classes resume	Monday, November 28
Classes end	Friday, December 9
Final exams begin	Monday, December 12
Final exams end	Friday, December 16
Final grades due	Friday, December 23



# Laptop Requirement



- The MEE Dept requires that you own a laptop computer (Windows PC)
- Minimum and recommended specs: [umaine.edu/mecheng/computer-policy/](http://umaine.edu/mecheng/computer-policy/)
- The video card needs to be compatible with SolidWorks.
- You can purchase a laptop that is specifically configured for MEE students from the University Bookstore.







# Other Things You Need to Know!

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# Concentration in Aerospace Engineering

Complete three aerospace courses with grade of C or better:

MEE 348 – Intro to Flight

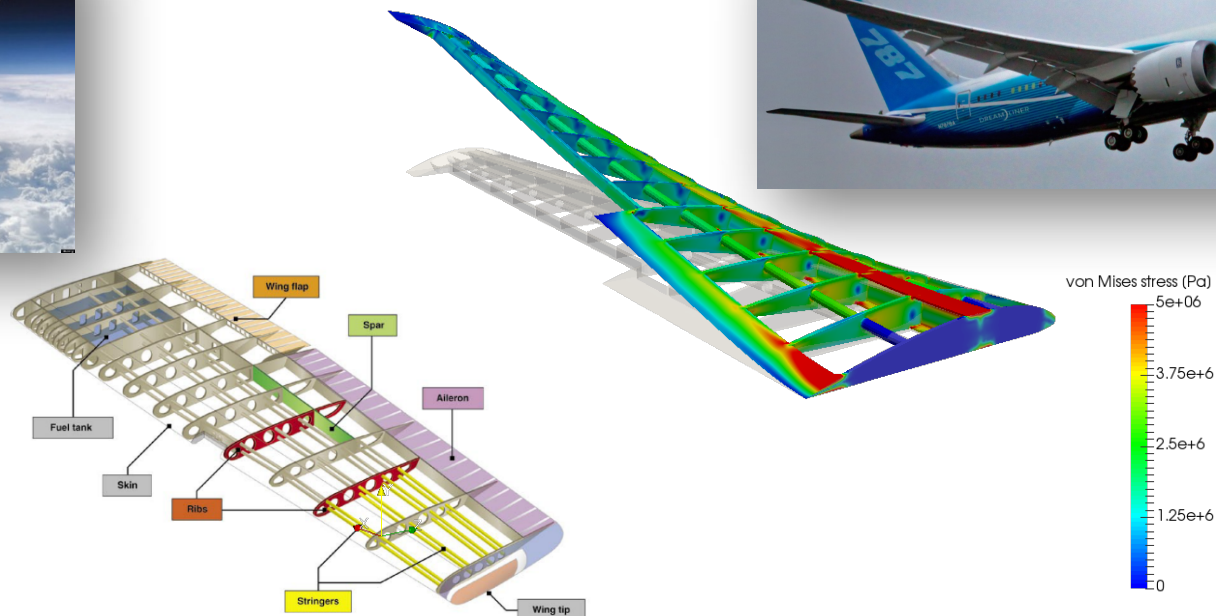
MEE 448 – Aircraft Design

MEE 452 – Aircraft and Automobile Structures

MEE 462 – Dynamics of Fluid Flows

MEE 463 – Applied Computational Fluid Dynamics

Count as Tech  
Electives



# Study Abroad in Valencia, Spain



UNIVERSIDAD  
POLITECNICA  
DE VALENCIA



University of Maine Study Abroad Advisement Center

- *La Universidad Politècnica de València*
- **Fall semester of 2<sup>nd</sup> year**
- Classes taught in English
- Fall 2019: First MEE Student Cohort
- **Fall 2023: Must enroll by March 2023!**





# 4-Year Program with Study Abroad in Valencia

## MECHANICAL ENGINEERING CURRICULUM

4-Year Program (for students starting in Fall 2022 with 2nd Year – FALL in Valencia, Spain)

Student: \_\_\_\_\_ ID: \_\_\_\_\_ Advisor: \_\_\_\_\_



UNIVERSIDAD  
POLITECNICA  
DE VALENCIA

1st Year – FALL (17 cr)	Grade
ENG 101 <sup>C</sup> College Composition (3 cr)	
MAT 126 <sup>C</sup> Calculus I (4 cr)	
MEE 101 Intro to Mech. Eng. (1 cr)	
MEE 120 Eng. Graphics & CAD (2 cr)	
PHY 121 <sup>C</sup> Physics for Eng. & Sci. I (4 cr)	
HVSC Elective (3 cr)	

1st Year – SPRING (17 cr)	Grade
MAT 127 <sup>C</sup> Calculus II (4 cr)	
MEE 125 Computational Tools for MEs (3 cr) or COS 220 or ECE 177	
MEE 150 <sup>C</sup> Statics (3 cr)	
PHY 122 Physics for Eng. & Sci. II (4 cr)	
HVSC Elective (3 cr)	

2nd Year – FALL (17 cr)	Grade
CHY 121/3 General Chemistry I/Lab (4 cr) or CHY 131/3 Chemistry for Engineers/Lab (4 cr)	/
MAT 228 <sup>C</sup> Calculus III (4 cr)	
MEE 230 <sup>C</sup> Thermodynamics I (3 cr)	
MEE 270 <sup>C</sup> Dynamics (3 cr)	
HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)	Grade
ECE 209 Fund of Electric Circuits (3 cr)	
ENG 320 Tech. Comm. for Engineering (3 cr)	
MAT 258 Diff. Eq. & Lin. Algebra (4 cr)	
MEE 231 Thermodynamics II (3 cr)	
MEE 251 <sup>C</sup> Strength of Materials (3 cr)	

### 2nd Year – FALL (17 cr)

CHY 121/3 General Chemistry I/Lab (4 cr) or CHY 131/3 Chemistry for Engineers/Lab (4 cr)	/
MAT 228 <sup>C</sup> Calculus III (4 cr)	
MEE 230 <sup>C</sup> Thermodynamics I (3 cr)	
MEE 270 <sup>C</sup> Dynamics (3 cr)	
HVSC Elective (3 cr)	

3rd Year – FALL (15 cr)	Grade
MEE 320 Materials (3 cr) or MEE 370 Controls (3 cr)	
MEE 330 Manufacturing Engineering (3 cr) or MEE 360 Fluid Mechanics (3 cr)	
MEE 341 Mechanical Lab I (3 cr) or MEE 380 Design I (3 cr)	
MEE 381 Design II (3 cr) or MEE 456 Finite Element Method (3 cr)	
STS 332 Statistics for Engineers (3 cr) or Engineering Elective (3 cr)	

3rd Year – SPRING (15 cr)	Grade
MEE 320 Materials (3 cr) or MEE 370 Controls (3 cr)	
MEE 330 Manufacturing Engineering (3 cr) or MEE 360 Fluid Mechanics (3 cr)	
MEE 341 Mechanical Lab I (3 cr) or MEE 380 Design I (3 cr)	
MEE 381 Design II (3 cr) or MEE 456 Finite Element Method (3 cr)	
STS 332 Statistics for Engineers (3 cr) or Engineering Elective (3 cr)	

4th Year – FALL (15 cr)	Grade
MEE 432 Heat Transfer (3 cr) or MEE 471 Mechanical Vibrations (3 cr)	
MEE 442 Mechanical Lab II (2 cr)	
MEE 487 Capstone Design I (4 cr)	
MEE Technical Elective (3 cr)	
MEE Technical Elective (3 cr)	

4th Year – SPRING (17 cr)	Grade
MEE 432 Heat Transfer (3 cr) or MEE 471 Mechanical Vibrations (3 cr)	
MEE 443 Mechanical Lab III (2 cr)	
MEE 488 Capstone Design II (3 cr)	
MEE Technical Elective (3 cr)	
HVSC Elective (3 cr)	
HVSC Elective (3 cr)	

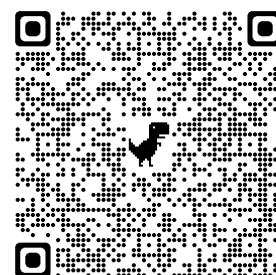
<sup>C</sup> and <sup>C</sup> indicate the minimum grade required in that course.

Engineering Elective (3 cr)	
Course	Grade

MEE Technical Electives (9 cr)	
Course	Grade

				Human Values and Social Context (HVSC) areas (18 cr)					
	Course	HVSC credits	Grade	Western Cultural Tradition	Social Contexts & Institutions	Cultural Diversity & International Perspectives	Population & Environment	Artistic & Creative Expression	Ethics (not part of HVSC)
1.	ENG 320	3			X				
2.									
3.									
4.									
5.									
6.									
(if needed) 7.									
(if needed) 8.									

Students must complete 18 credits in the HVSC areas, and each of the 5 HVSC areas must be satisfied at least once. Students must also take a course that satisfies the Ethics requirement. Note that some courses satisfy more than one category (e.g. Ethics and an HVSC area).



# Expand your skills through a *Minor*!

- A Minor can be selected in addition to a Major (MEE)
- It requires 18 to 24 credit hours (6 – 8 courses)
- Some courses overlap with required or elective courses
- Examples include:
  - Mathematics
  - Innovation Engineering
  - Biomedical Engineering
  - Ocean & Marine Engineering
  - Robotics
  - Renewable Energy
- Earning a Minor can improve your career opportunities



# Honors College

- To graduate with Honors, a student must successfully
  - complete Honors Civilizations four-semester sequence (HON 111, 112, 211, 212)
  - complete one Honors Tutorial (HON 308-347) or Tutorial Alternative (HON 349)
  - complete HON 170: Currents & Contexts
  - complete HON 180: A Cultural Odyssey or HON 188: Cultural Connections
  - complete the Honors Thesis: HON 498 and HON 499 including the thesis defense
  - attain an overall cumulative GPA of 3.30 or greater at the time of graduation.
- The Honors curriculum satisfies the HVSC and ENG 101 requirements.
- Note: You will need to do an Honors thesis in your senior year in addition to your Mechanical Engineering Capstone Design project.
- For additional information: [honors.umaine.edu/](https://honors.umaine.edu/)



# Student Organizations & Clubs

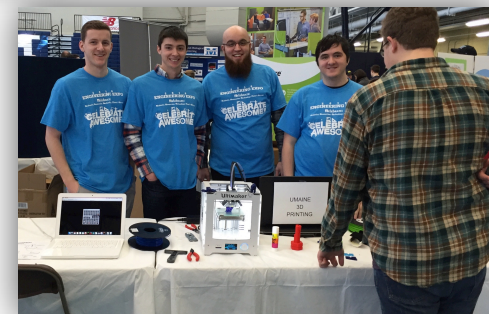
- American Society of Mechanical Engineers (ASME)



- American Institute of Aeronautics and Astronautics (AIAA)



- Society of Automotive Engineers (SAE)
- 3D Printing Club
- Engineers Without Borders
- Society of Women Engineers



# Undergraduate Research Experience

- Study faculty profiles at ([umaine.edu/mecheng/mee-faculty-staff](http://umaine.edu/mecheng/mee-faculty-staff))
- Contact faculty who work in your area(s) of interest
- Study their research, meet and ask questions
- Get engaged to improve your future career opportunities



**Mechanical Engineering**

Home Faculty & Staff Undergraduate Graduate Research Contact Us

Chair's Message  
Mission & Goals  
Concentration in Aerospace Engineering  
Open Positions in Mechanical Engineering  
Student Chapters & Clubs  
Career, Internship, & Co-op  
Sponsor a Capstone Project  
Scholarships  
Facilities  
Campus Resources  
FE & PE Exams

**Sheila Edalatpour, Ph.D.**  
Assistant Professor of Mechanical Engineering  
The University of Maine  
5711 Boardman Hall, Room 203  
Orono, ME 04469-5711  
(207) 581-2375; [sheila.edalatpour@umaine.edu](mailto:sheila.edalatpour@umaine.edu)  
*Ph.D. in Mechanical Engineering from University of Utah, 2016*

**External Engagements:**

- Energy Auditor, National Iranian Gas Company, 2009 – 2011
- Maintenance Planning Engineer, National Iranian Gas Company, 2007 – 2009

**Teaching Areas: (More Information)**  
Thermodynamics I & II, Refrigeration & Air Conditioning Systems

**Research Areas: (More Information)**

- Near- and far-field radiative energy transfer
- Computational heat transfer
- Electromagnetic light scattering
- High performance computing
- Thermal energy transport at micro/nanoscale

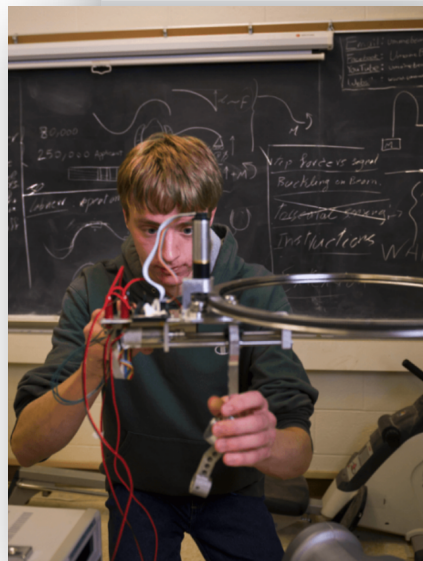
**Principal Sponsors:**

- University of Maine

**Select Research / Collaboration Activities:**

- Near-field Thermal Radiation Spectroscopy
- Large Scale Computations of Near-field Thermal Radiation in Complex Geometries
- Designing Man-made Structures with Tailored Radiative Properties
- Remote Sensing of Water Quality

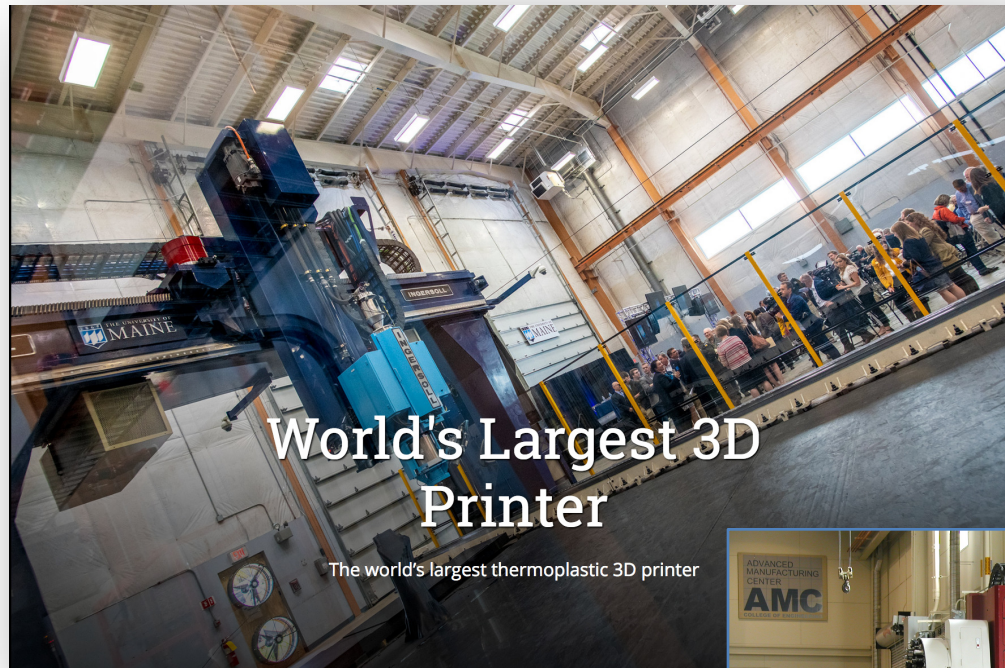
**2021 NSF CAREER Awardee!**





# Undergraduate Research Experience

## Advanced Structures and Composites Center



## Frontier Institute for Research in Sensor Technologies



## Advanced Manufacturing Center

# Internship and Co-op

- A great way to gain hands-on experience
- Improve your prospects for better job placement after graduation
- MEE 394 accepted as an Engineering Elective

## 3<sup>rd</sup> Year – FALL (15 cr)

MEE 320 Materials (3 cr) or MEE 370 Controls (3 cr)	_____
MEE 330 Manufacturing Engineering (3 cr) or MEE 360 Fluid Mechanics (3 cr)	_____
MEE 341 Mechanical Lab I (3 cr) or MEE 380 Design I (3 cr)	_____
MEE 381 Design II (3 cr) or MEE 456 Finite Element Method (3 cr)	_____
STS 332 Statistics for Engineers (3 cr) or <b>Engineering Elective (3 cr)</b>	_____

## 3<sup>rd</sup> Year – SPRING (15 cr)

MEE 320 Materials (3 cr) or MEE 370 Controls (3 cr)	_____
MEE 330 Manufacturing Engineering (3 cr) or MEE 360 Fluid Mechanics (3 cr)	_____
MEE 341 Mechanical Lab I (3 cr) or MEE 380 Design I (3 cr)	_____
MEE 381 Design II (3 cr) or MEE 456 Finite Element Method (3 cr)	_____
STS 332 Statistics for Engineers (3 cr) or <b>Engineering Elective (3 cr)</b>	_____

## 4<sup>th</sup> Year – FALL (15 cr)

MEE 432 Heat Transfer (3 cr) or MEE 471 Mechanical Vibrations (3 cr)	_____
MEE 442 Mechanical Lab II (2 cr)	
MEE 487 Capstone Design I (4 cr)	
MEE Technical Elective (3 cr)	
MEE Technical Elective (3 cr)	

## 4<sup>th</sup> Year – SPRING (17 cr)

MEE 432 Heat Transfer (3 cr) or MEE 471 Mechanical Vibrations (3 cr)	_____
MEE 443 Mechanical Lab III (2 cr)	
MEE 488 Capstone Design II (3 cr)	
MEE Technical Elective (3 cr)	
HVSC Elective (3 cr)	
HVSC Elective (3 cr)	

# Do You Need Help?

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# Engineering Tutoring Center

- Available to all engineering students
- Monday through Thursday (4 to 8 pm)
- 100- and 200-level MEE courses (MEE 150, 230, 251, 252, 270)
- Calculus I & II (MAT 126 & 127)

Room 36,  
Boardman Hall Basement





# Student Accessibility Services

- You can request different accommodations
- If approved, accommodation can be used for any academic work, including exams and assignments
- You need to notify your instructor in each course
- For additional information: <https://umaine.edu/studentaccessibility/>



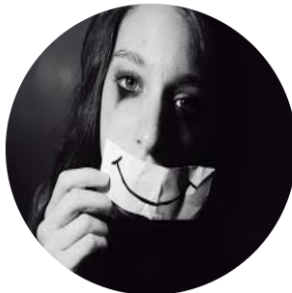
# Counseling Center

- Support available in person or via Zoom

Worried about...



Anxiety?



Depression?



Gender & Sexual  
Identity?



Eating?

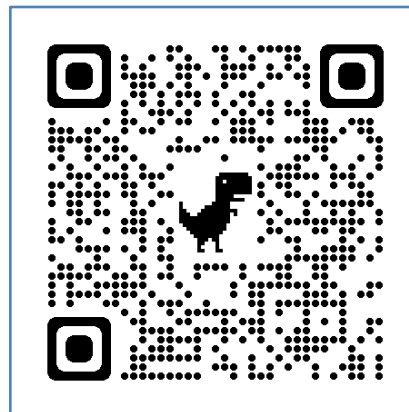


A Friend?



Stress?

- For additional information:

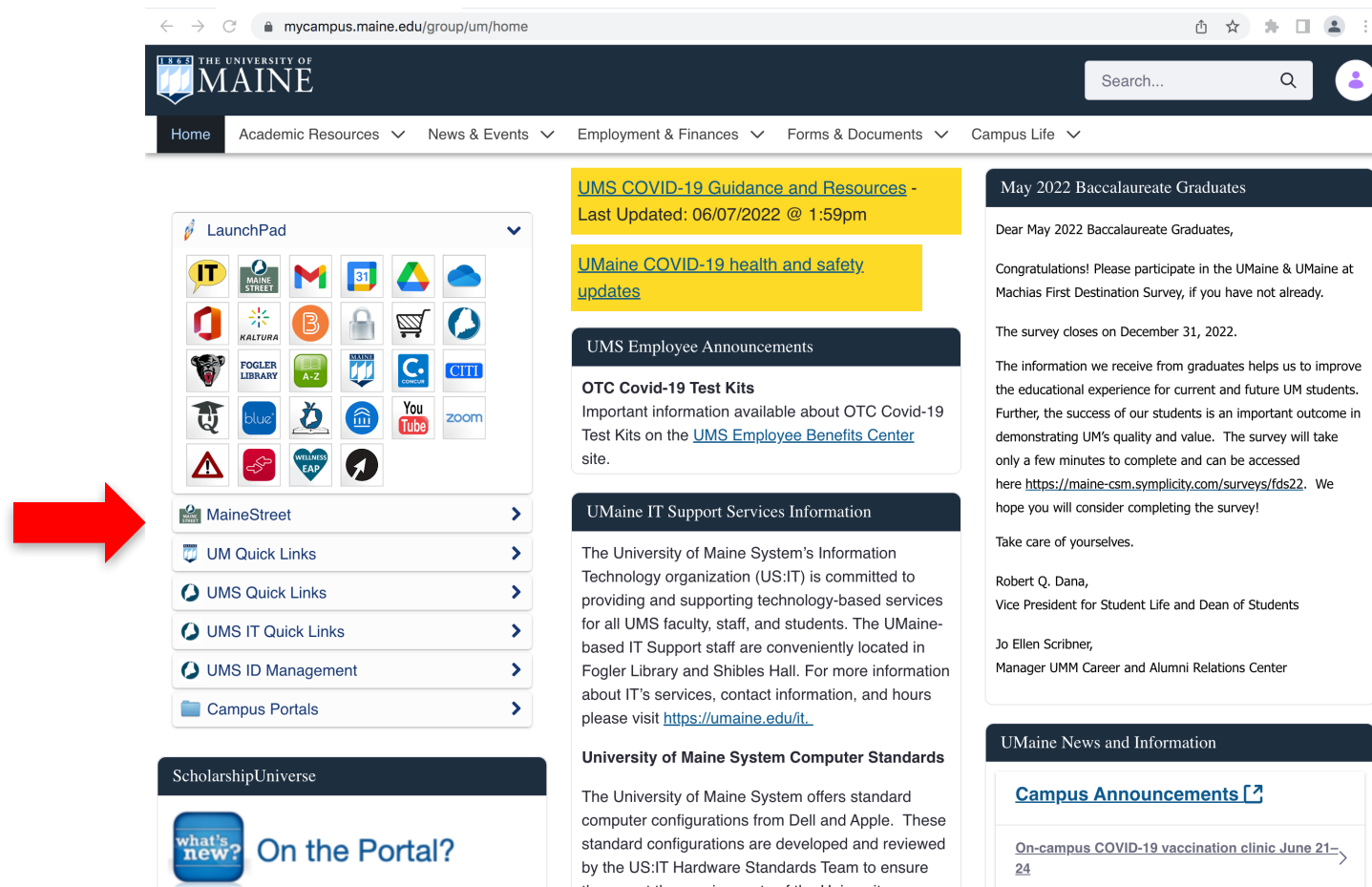


## More Information

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# Logging into Campus Portal and MaineStreet

- [mycampus.maine.edu/](https://mycampus.maine.edu/)
- Username is typically “first name.last name”
- Your email address is [first.last@maine.edu](mailto:first.last@maine.edu)



The screenshot shows the mycampus.maine.edu website. A red arrow points to the 'MaineStreet' link in the 'LaunchPad' menu. The website features a navigation bar with links to Home, Academic Resources, News & Events, Employment & Finances, Forms & Documents, and Campus Life. The main content area includes sections for COVID-19 guidance, UMaine COVID-19 health and safety updates, UMS Employee Announcements (including OTC Covid-19 Test Kits), UMaine IT Support Services Information, and UMaine News and Information (including Campus Announcements).



# Mechanical Engineering

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[Graduate](#)

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[Mission & Goals](#)

[Virtual Tour of Engineering Laboratories](#)

[Concentration in Aerospace Engineering](#)

[Open Positions in Mechanical Engineering](#)

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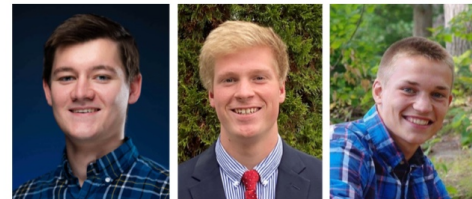
## News



**UMaine 2021 virtual commencement will honor two years of graduates**

Published: May 7, 2021

## Celebrating Our Students' Achievements



As we approach the end of the 2020-21 academic year, we pause to celebrate the achievements of all of our students who are completing their academic journey with a bright future ahead of them. Three of our graduating students deserve special recognition for their achievements: Drew Bennett, [2021 UMaine Salutatorian](#), Matthew Ingram, Outstanding MEE Senior, and Benjamin Steva, Hovey award recipient.

## NSF CAREER Award

Through a \$520,000 CAREER Award from the National Science Foundation, [Dr. Sheila Edalatpour](#) and her team will establish a theoretical framework for modeling radiative heat transfer in quantum materials and in presence of electron tunneling for the first time. They plan to develop experimental techniques to demonstrate quantum size effects on the magnitude and spectrum of thermal radiation. Radiative heat transfer across quantum-sized gaps can play a significant role in thermal management of devices such as transistors and ultra-compact electronics. [Read more](#)



*"The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education and to lead advances in the mission of their department or organization." [NSF]*





[Chair's Message](#)

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## News



**UMaine 2021 virtual commencement will honor two years of graduates**

Published: May 7, 2021

**Berube speaks with WABI about donation of Mars rover model to Challenger Center**

Published: May 5, 2021



**UMaine seniors create 3D-printed bicycle frame for Orono High School**

Published: May 3, 2021

## Undergraduate Program

The Mechanical Engineering Program is accredited by the [Engineering Accreditation Commission of ABET](#). This program leads to a Bachelor of Science degree in mechanical engineering.



- [Program Educational Objectives and Student Outcomes](#)
- [Undergraduate Mechanical Engineering Curriculum](#)
- [Basic Science & Technical Electives](#)
- [Engineering Electives](#)
- [Schedule of Technical Electives](#)
- [Undergraduate Catalog – MEE courses](#)
- [List of General Education Courses and Categories](#)
- [Study Abroad in Valencia, Spain](#) (All Classes Taught in English)
- [Mechanical Engineering Enrollment and Degrees Awarded](#)

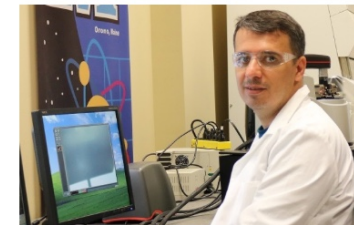


[Scholarships](#)

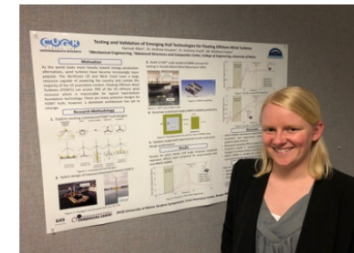


[Concentration in Aerospace](#)

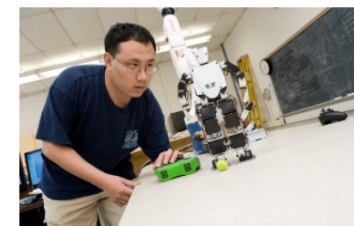
## Educational Opportunities Beyond a BS Degree



[Master's and PhD Degrees in MEE](#)



[MS Degree in MEE – Accelerated Track, Application](#)



[Professional Science Master's Degree in Engineering and Business](#)



# Prepare to Succeed in MEE

- Keep a positive attitude
- Be respectful and professional with all around you
- Take ownership of your college education
- Never miss class
- Do your assignments in full and submit them on time
- Don't be satisfied with shallow understanding of course materials
- Don't be shy about asking questions or for help in general
- Don't be tempted to cheat in any shape or form
- Don't be deterred by challenges

Welcome to Mechanical Engineering at  
UMaine!

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