THE UNIVERSITY OF MAINE

Mechanical Engineering
Fall 2024 Student Orientation

June 28, 2024

Dr. Olivier Putzeys
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Undergraduate Coordinator
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These slides will be posted on our department website:
https://umaine.edu/mecheng/undergraduate-program/
(or just Google “UMaine Mechanical Engineering” and click on “Undergraduate”)

Mechanical Engineering Facilities

UMaine Campus Map

Ferland Engineering Education & Design Center (EEDC):

- MEE department offices (2nd floor)
- MEE teaching labs (1st and 2nd)
- Capstone project design labs (1st)
- Active learning classrooms
- Student conference rooms
- Student club meeting rooms
- Student commons areas
- Café

Crosby: MEE Research Labs

MEE Faculty & Staff

Full-Time Faculty & Staff


Vince Caccese


Sheila Edalatpour


Alex Friess


Andy Goupee


Babak Hejrati


Zhihe Jin


Bashir Khoda


Rich Kimball


Philip King


Justin Lapp


Sharmila Mukhopadhyay


Olivier Putzeys


Masoud Rais-Rohani


Senthil Vel


Amrit Verma

And we have <u>5 new faculty</u> starting this Fall!


Meghan Honnell
(MEE Admin)


Stephen Abbadessa
(Crosby Lab Manager)

Whom Should You Contact?

- Academic/professional matters → Faculty Advisor (MEE faculty)
- Course selection/add/drop → Academic Advisor (staff in College)
- Course-specific matters → Course Instructor
- Computer / IT matters → IT (umaine.edu/it/)

- First semester registration
- Any other questions!

Ms. Meghan Honnell
meghan.honnell@maine.edu

MEE Curriculum

Mechanical Engineering Curriculum

MECHANICAL ENGINEERING CURRICULUM

4-Year Program (for students entering in Fall 2024)

Student: _____ ID: _____ Advisor: _____

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

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

2nd Year – FALL (17 cr)		
CHY 121&123 or CHY 131&133	General Chemistry I/Lab (4 cr) Chemistry for Engineers/Lab (4 cr)	__/__ /
MAT 228	Calculus III (4 cr)	
MEE 230[C]	Thermodynamics I (3 cr)	
MEE 251[C]	Strength of Materials (3 cr)	
	HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)		
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[C]	Dynamics (3 cr)	

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

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

4th Year – FALL (15 cr)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)	

[C] and [C-] 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): 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).

MEE Curriculum Sheet

Mechanical Engineering Curriculum

MECHANICAL ENGINEERING CURRICULUM

4-Year Program (for students entering in Fall 2024)

Student: _____ ID: _____ Advisor: _____

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

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

2nd Year – FALL (17 cr)		
CHY 121&123 or CHY 131&133	General Chemistry I/Lab (4 cr) Chemistry for Engineers/Lab (4 cr)	__/__ /
MAT 228	Calculus III (4 cr)	
MEE 230[C]	Thermodynamics I (3 cr)	
MEE 251[C]	Strength of Materials (3 cr)	
	HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)		
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[C]	Dynamics (3 cr)	

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

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

4th Year – FALL (15 cr)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)	

[C] and [C-] 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): 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).

Summary

Credit (cr)	Subject
• 56	MEE General Courses & Labs
• 12	Tech & Engineering Electives
• 19	Mathematics & Statistics
• 12	Physics & Chemistry
• 18	Humanities & Social Contexts
• 6	Comp Programming & Circuits
• 6	Writing Intensive

- **129** Total Credits 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 2024)

Student: _____ ID: _____ Advisor: _____

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

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

2nd Year – FALL (17 cr)		
CHY 121&123 or CHY 131&133	General Chemistry I/Lab (4 cr) Chemistry for Engineers/Lab (4 cr)	__/__ /
MAT 228	Calculus III (4 cr)	
MEE 230[C]	Thermodynamics I (3 cr)	
MEE 251[C]	Strength of Materials (3 cr)	
	HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)		
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[C]	Dynamics (3 cr)	

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

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

4th Year – FALL (15 cr)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)	

[C] and [C-] 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): 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).

Human Values and Social Context (HVSC) Electives

General Education including HVSC Courses

Human Values and Social Context (HVSC) Electives

- You must complete **18 credits** (typically 6 courses) in the HVSC areas.
- Each of the 5 HVSC categories must be satisfied at least once
- **The required ENG 320 course already satisfies 3 HVSC credits**
- Some courses satisfy more than one category
- You must also take one course that satisfies the Ethics requirement.

Example:

General Education Requirements

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	
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).

MEE Undergraduate Curriculum

MECHANICAL ENGINEERING CURRICULUM

4-Year Program (for students entering in Fall 2024)

Student: _____ ID: _____ Advisor: _____

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

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

2nd Year – FALL (17 cr)		
CHY 121&123 or CHY 131&133	General Chemistry I/Lab (4 cr) Chemistry for Engineers/Lab (4 cr)	__/__ /
MAT 228	Calculus III (4 cr)	
MEE 230[C]	Thermodynamics I (3 cr)	
MEE 251[C]	Strength of Materials (3 cr)	
	HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)		
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[C]	Dynamics (3 cr)	

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

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

4th Year – FALL (15 cr)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)	

[C] and [C-] 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): 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).

Pick 1 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
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

Can satisfy the Engineering Elective requirement through a Summer Internship or Semester Co-Op!

umaine.edu/mecheng/ugcurriculum/

MEE Undergraduate Curriculum

MECHANICAL ENGINEERING CURRICULUM

4-Year Program (for students entering in Fall 2024)

Student: _____ ID: _____ Advisor: _____

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

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

2nd Year – FALL (17 cr)		
CHY 121&123 or CHY 131&133	General Chemistry I/Lab (4 cr) Chemistry for Engineers/Lab (4 cr)	__/__ /
MAT 228	Calculus III (4 cr)	
MEE 230[C]	Thermodynamics I (3 cr)	
MEE 251[C]	Strength of Materials (3 cr)	
	HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)		
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[C]	Dynamics (3 cr)	

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

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

4th Year – FALL (15 cr)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)	

[C] and [C-] 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): 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).

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 449	Aircraft Performance
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 477	Introduction to Structural Dynamics
MEE 480	Wind Energy Engineering
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

umaine.edu/mecheng/ugcurriculum/

First Semester Registration

You must first:

1. Complete your **Financial Terms and Conditions (FTC)** form on MaineStreet. https://mycampus.maine.edu

2. Take your **Math Placement Exam (MPE)** (this determines if you can start in Calculus I) 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

3. Complete the HVSC Elective preference Google Form (here), which was also emailed to you (unless you're in Honors program)

- If you have any AP credits, **you** must have them sent to the UMaine Office of Student Records via 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 2024)

Student: _____ ID: _____ Advisor: _____

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

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

2nd Year – FALL (17 cr)		
CHY 121&123 or CHY 131&133	General Chemistry I/Lab (4 cr) Chemistry for Engineers/Lab (4 cr)	__/__ /
MAT 228	Calculus III (4 cr)	
MEE 230[C]	Thermodynamics I (3 cr)	
MEE 251[C]	Strength of Materials (3 cr)	
	HVSC Elective (3 cr)	

2nd Year – SPRING (16 cr)		
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[C]	Dynamics (3 cr)	

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

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

4th Year – FALL (15 cr)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)	

[C] and [C-] 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): 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).

Fall Semester 2024

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

We will enroll you in all courses for your first semester.

You can see your Fall course schedule on MaineStreet: mycampus.maine.edu/

For questions, contact Ms. Honnell (meghan.honnell@maine.edu)

You need to check your @maine.edu email often!

- Go to gmail.maine.edu
- Login using your MaineStreet ID (“username”, typically FirstName.LastName) and password
- (Contact IT Help, 207-581-2506, for help with username/password)

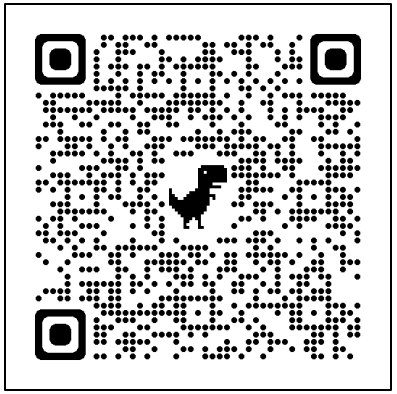
Important Dates in Fall Semester

Fall Semester 2024

No classes Labor Day	Monday, September 2
→ Classes begin	Tuesday, September 3
→ Last day to add classes	Monday, September 9
→ Last day to drop classes for refund*	Monday, September 16
Application for graduation filing deadline (Dec.)	Tuesday, October 1
Classes dropped on or before this date will not appear on transcript	Friday, October 4
Fall break begins	Monday, October 14
Classes resume	Wednesday, October 16
Enrollment for Spring 2025 begins	Monday, October 28
No classes Veterans Day	Monday, November 11
Last day to withdraw from a class and receive 'W' grade (Withdrawn classes after this date will receive failing grade.)	Friday, November 15, 4:30 p.m.
Thanksgiving break begins	Wednesday, November 27
Classes resume	Monday, December 2
Classes end	Friday, December 13
Final exams begin	Monday, December 16
Final exams end	Friday, December 20
Final grades due	Friday, December 27

You can:

- Add a class within 1st week
- Drop a class (for a refund) within the first two weeks.



Laptop Requirement

- The MEE Dept requires that you own a laptop computer (Windows PC)
- Minimum and recommended specs: 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.

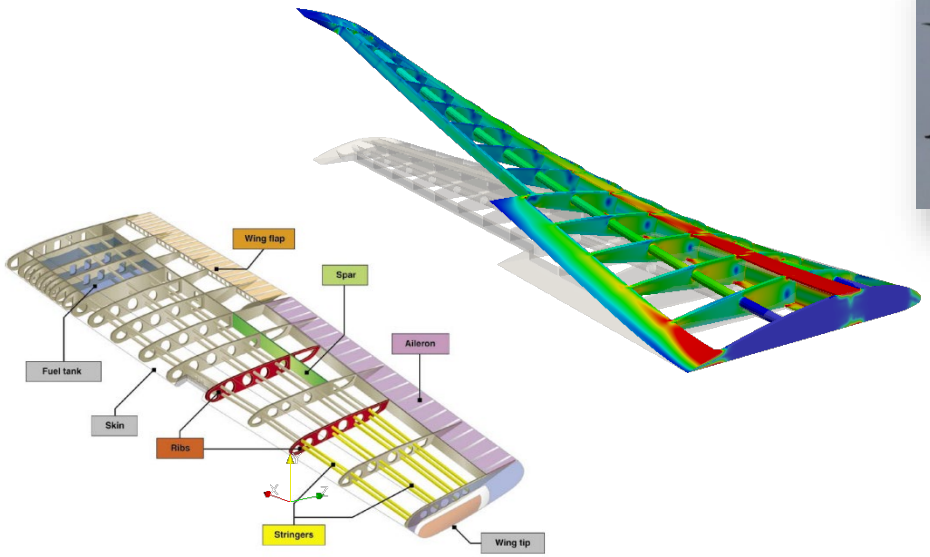
Opportunities to Enrich your Education

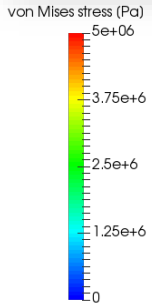
Concentration in Aerospace Engineering

Complete three aerospace courses with grade of C or better:

- MEE 348 – Introduction to Flight (Counts as Engr. Elective)
- MEE 448 – Aircraft Design
- MEE 449 – Aircraft Performance
- MEE 452 – Aircraft and Automobile Structures
- MEE 462 – Dynamics of Fluid Flows
- MEE 463 – Applied Computational Fluid Dynamics
- MEE 477 – Intro to Structural Dynamics

} Count as Tech Electives





(New!) Concentration in Offshore Wind Energy

Complete two Core Courses:

- MEE 480 – Wind Energy Engineering
- MEE 489 – Offshore Floating System Design
- MEE 491 – Offshore Wind Farm Engineering

ALL of these courses also count as Tech Electives!

Complete one Supporting Course:

- MEE 441 – Manufacturing and Testing of Composites
- MEE 450 – Mechanics of Composite Structures
- MEE 491 – Offshore Wind Farm Engineering
- MEE 459 – Engineering Optimization
- MEE 463 – Applied Computational Fluid Dynamics
- MEE 477 – Introduction to Structural Dynamics
- MEE 490 – Modern Control Theory & Applications

Study Abroad in Valencia, Spain

UNIVERSIDAD POLITECNICA DE VALENCIA

- MEE majors can attend *La Universidad Politècnica de València* (through USAC) in Fall semester of sophomore year
- Classes taught in English
- >25 MEE students since 2019
- Application deadlines in Feb/March

- https://umaine.edu/mecheng/study-abroad-in-valencia-spain/
- https://umaine.edu/studyabroad/
- https://umaine.abroadoffice.net/getting-started.html
- https://usac.edu/study-abroad-programs/spain/valencia
- https://blog.usac.edu/university-makes-it-easy-for-stem-students-to-study-abroad/

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: _____

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

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

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

2nd Year – SPRING (16 cr)		
~~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[C]	Strength of Materials(3 cr)	

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

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

4th Year – FALL (15 cr)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)		
MEE 432 or MEE 471	Heat Transfer (3 cr) 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)	

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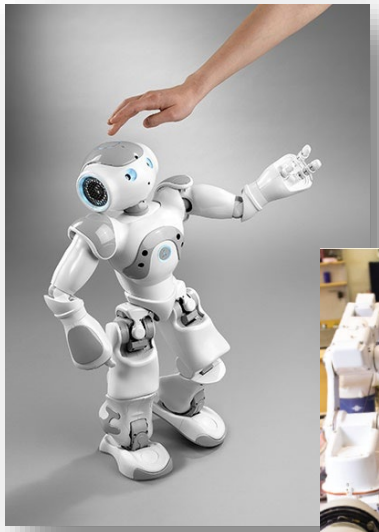
Students must complete 18 credits in the HVSC areas, and each of the 5 HVSC areas must be satisfied at least once. Students must also take a course that satisfies the Ethics requirement. Note that some courses satisfy more than one category (e.g. Ethics and an HVSC area).

UNIVERSIDAD POLITECNICA DE VALENCIA

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

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
- Descriptions available at: UMaine Catalog
- Earning a Minor can improve your career opportunities



Composite Materials & Structures Certificate

- Requires completion of 12 Credits (4 Courses)
- Two Required Courses (6 credits)
  - MEE 441/541 Manufacturing and Testing of Composites
  - MEE 450 Mechanics of Composite Materials or CIE 543 Intro to Composite Materials in Civil Engineering
- Two Elective Courses (any two for 6 credits)
  - MEE 550 Mechanics of Laminated Composite Structures
  - CIE 644 Advanced Composite Materials in Civil Engineering
  - SFR 531 Mechanics of Wood and Wood Composites
  - SFR 545 Adhesion and Adhesives Technology
  - SFR 550 Wood-Polymer Hybrid Composites
  - SFR 570 Cellulose Nanomaterials and Their Composites
- **All the engineering courses can also be used as Tech Electives**

https://dll.umaine.edu/composite-materials-and-structures-certificate/

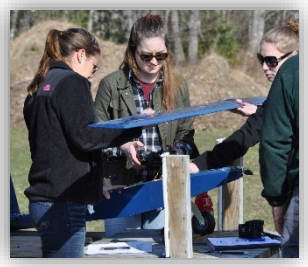
Student Organizations & Clubs

- American Society of Mechanical Engineers (ASME)

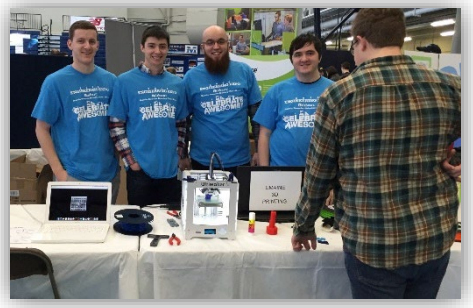


- American Institute of Aeronautics and Astronautics (AIAA)





- Society of Automotive Engineers (SAE)
- 3D Printing Club
- Engineers for a Sustainable World (ESW)
- Society of Women Engineers
- Black Bear Robotics




Where to Find Help

Free Tutoring at UMaine
(scheduled through Knack app)

To request a tutor, follow these steps:

1. Download the **Knack** app for Android or Apple devices, or visit UMaine's **Knack** site in your web browser:

   https://www.joinknack.com/school/university-of-maine.

1. First time using the new **Knack** app? If so, create an account by using your MaineStreet account.
2. Select the course in which you wish to request tutoring from the dropdown menu in **Knack**. You will be able to include how often you'd like to meet and exactly what you would like to cover!
3. Tutors will review your request and respond with their offers of help. For best results, plan ahead (to give several tutors the time to respond).
4. Review tutor offers to determine which tutor is best for you.
5. Message through the app to schedule a tutoring session with your preferred tutor.

Frequently Asked Questions:

How much does tutoring cost?

Tutoring is completely free to UMaine students.

Which courses have tutors available?

Tutors are available in a wide variety of undergraduate courses and we are recruiting new tutors all the time. If you can't find a tutor in your course, email um.osas@maine.edu, call us at (207) 581-2351,or stop by our office in 104 Dunn Hall during business hours and we'll add that course to our recruitment list.

Who will my tutor be?

Tutors are UMaine students—peers who have earned a B+ or better in the course for which you are seeking tutoring. They are paid, trained tutors.

Where will tutoring take place?

Students will work with their tutor to determine where the tutoring session will be held. Typically, tutoring sessions are held on campus in a common area such as the library, a study lounge, or a classroom. In addition, there is the option to meet online through the **Knack** virtual platform. Tutoring sessions may not occur in a dorm room or an off-campus residence.

How do I contact my tutor?

Communication will take place through the **Knack** app. Students and tutors will be able to message each other through the app to plan tutoring sessions and send each other updates.

Counseling Center

- Support available in person or via Zoom

Worried about...


Anxiety?


Depression?


Gender & Sexual Identity?


Eating?


A Friend?

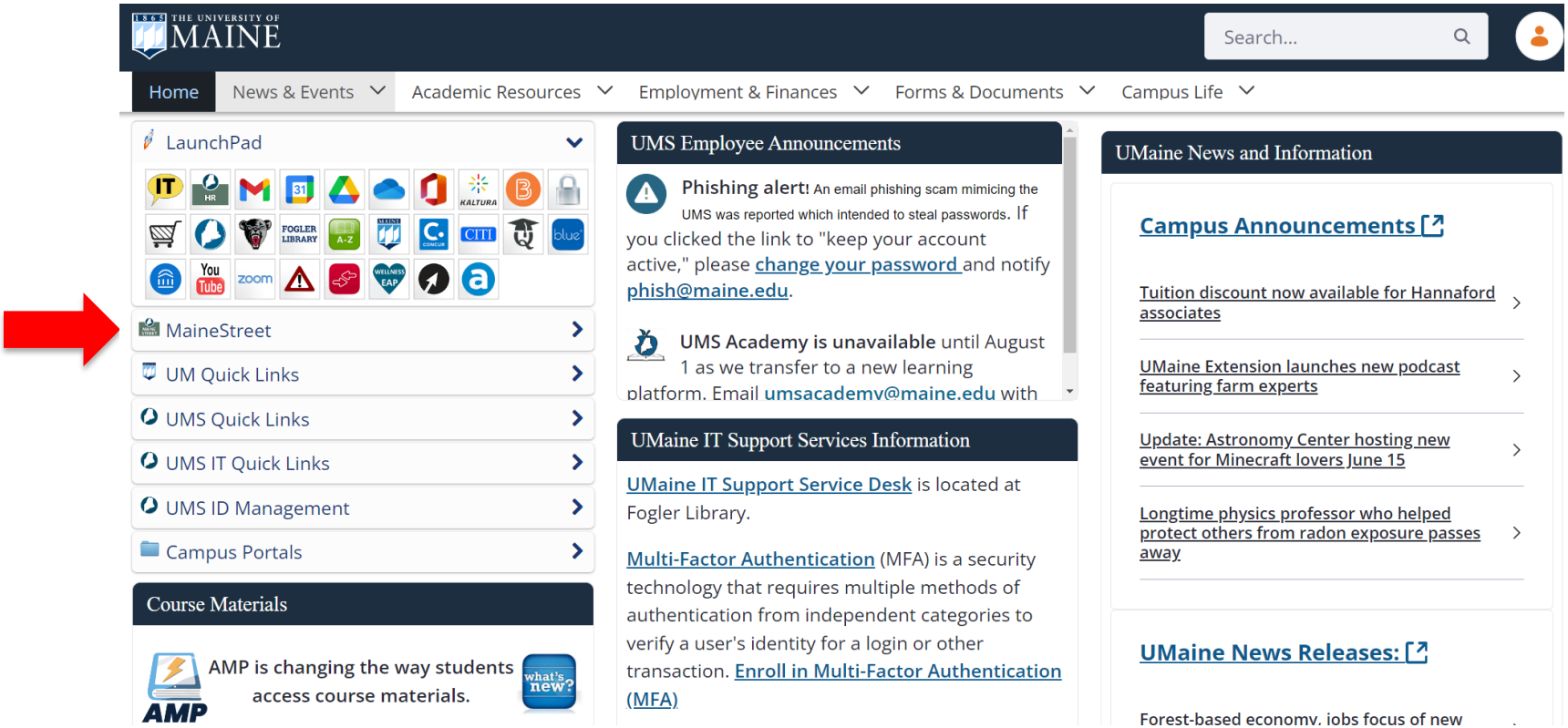
Stress?

- For additional information:

Important Websites

Logging into Campus Portal and MaineStreet

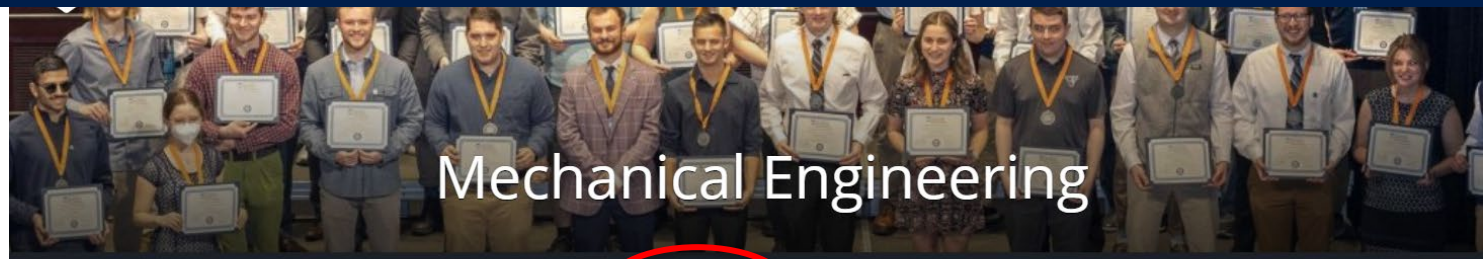
- To see your course schedule, Transfer Credit Report, etc.:
  mycampus.maine.edu/
- Username is typically “FirstName.LastName”



THE UNIVERSITY OF MAINE

https://umaine.edu/mecheng/

Mechanical Engineering



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- Scholarships
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News

Press Herald, News Center cover first statewide AI conference
Published: June 18, 2024

News Center covers soil liquefaction research from UMaine
Published: June 18, 2024

News Center highlights ASCC's wood fiber insulation R & D
Published: June 3, 2024

VEMI Lab research on autonomous vehicles featured by BDN
Published: May 29, 2024

Celebrating Student Excellence

We are proud to announce that UMaine 2024 Co-Valedictorian is Lydia Gilmore, a graduating senior in mechanical engineering. She is joined by two of her peers, Sam Morton as the Outstanding Senior and Aaron Howell as the Hovey award recipient. We also celebrate the achievements of our graduating master's and PhD students with Dariush Bodaghi (PhD) as the 2024 Outstanding Graduate Student in mechanical engineering. Pictured L-R (Lydia, Sam, Aaron, and Dariush). Read More

Senior Capstone Projects on Display

Many members of the Mechanical Engineering Advisory Board were on campus to judge the posters and presentations of the year-long capstone projects by nearly 100 seniors. Twenty teams showcased their projects ranging from Underwater Camera Drones to Two-Phase-Flow Wind Tunnel, and Rainwater Energy Harvesting.

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https://umaine.edu/mecheng/

Mechanical Engineering

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Published: May 29, 2024

Android co-founder headlining Maine Innovation Exchange
Published: May 28, 2024

The Verge interviews Ranasinghe on taste simulation in virtual reality

Scroll down

↓

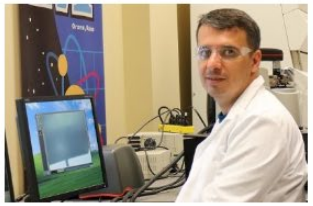
Undergraduate Program

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.

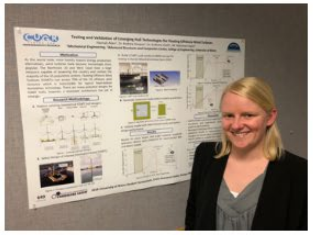
- Program Educational Objectives and Student Outcomes
- Mechanical Engineering Enrollment and Degrees Awarded

- **Undergraduate Curriculum**
- Undergraduate Catalog – MEE courses
- Engineering Electives
- Technical Electives
- Schedule of Technical Electives and Graduate-Level Courses
- List of General Education Courses and Categories

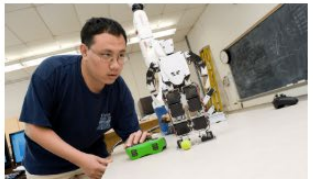
Educational Opportunities Beyond a BS Degree



Master's and PhD Degrees in MEE



MS Degree in MEE – Accelerated Track, Application



- Concentrations:

Aerospace Engineering

UMaine receives award from Governor's Energy Office to launch new programs and courses on offshore wind

Offshore Wind Energy

Experiential Learning

- Study Abroad in Valencia, Spain (All Classes Taught in English)
- Job, Co-Op and Internship Opportunities

Keep scrolling down

↓

Professional Science Master's Degree in Engineering and Business

Undergraduate Composites Certificate

5-Year MBA

Prospective Undergraduate Students

In addition to pursuing an ABET-accredited program in mechanical engineering, our students can also select a Concentration in Aerospace Engineering or Offshore Wind Energy. They can also pursue a minor in Robotics, Biomedical Engineering, or Ocean and Marine Engineering among many minor options at UMaine.

- What will you learn in Mechanical Engineering? (by YouTube Channel: *Becoming an Engineer*)
- What Do Our Students Say?
- General Admission Guidelines for Engineering
- Scholarships
- Apply for Admission to UMaine
- Computer Policy
- Fall 2023 Orientation

These 2024 Orientation slides will be posted here →

Reminder: Required Tasks to complete ASAP

1. Complete your **Financial Terms and Conditions (FTC)** form on MaineStreet. https://mycampus.maine.edu

2. Take your **Math Placement Exam (MPE)** (this determines if you can start in Calculus I) 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

3. Complete the HVSC Elective preference Google Form (here), which was also emailed to you (unless you're in Honors program)

Questions?

What's next?

Your "Team Mainer" group leader will bring you to the next event (Orientation Small Groups)

Additional slides

Your Faculty Advisor:

- Will be assigned to you in late August (or early September)
- Provides academic and professional advice
- Meets with you for academic advising
- Reviews course selections & monitors your progress toward graduation

You should:

- Review your curriculum sheet (on Google Drive) each semester
- Plan your courses a semester or year ahead

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

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/

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.

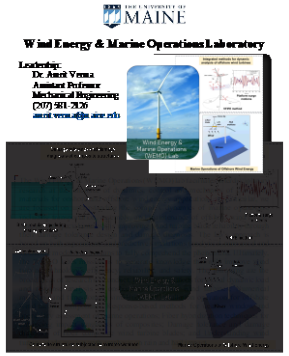
- For additional information: honors.umaine.edu/

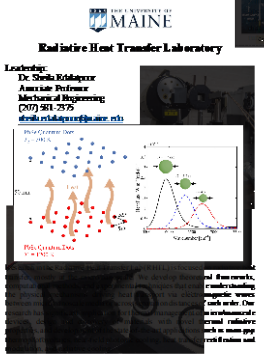
Undergraduate Research Experience

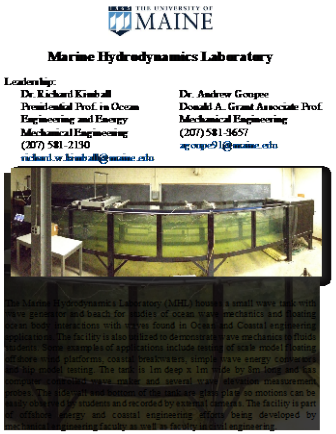
- Study faculty profiles at (umaine.edu/mecheng/mee-faculty-staff)
- Contact faculty who work in your area(s) of interest
- Study their research, meet and ask questions
- Get engaged to improve your future career opportunities

MEE Research Labs in Crosby Hall

- Additive & Digital Manufacturing Lab
- Aerospace Lab
- Biorobotics & Biomechanics Lab
- Marine Hydrodynamics Lab
- Nanomaterials Innovation Lab
- Radiative Heat Transfer Lab
- Solar Thermal Energy Lab
- Vibrations & Impact Testing Lab
- Wind Energy & Marine Operations Lab

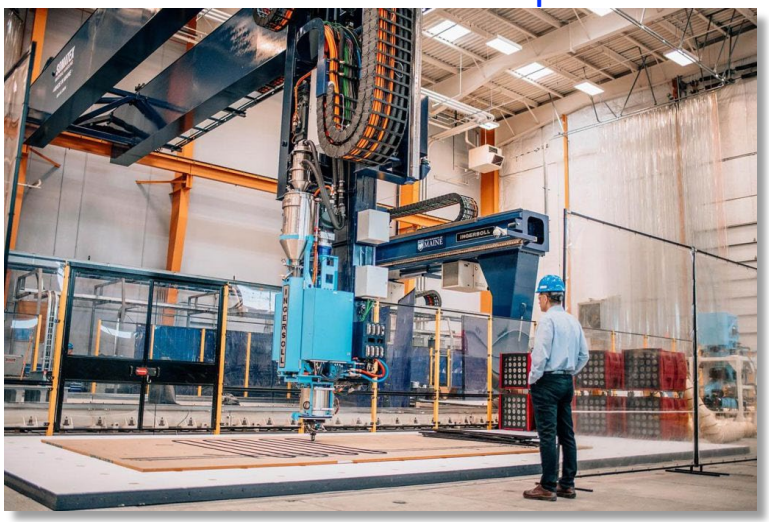




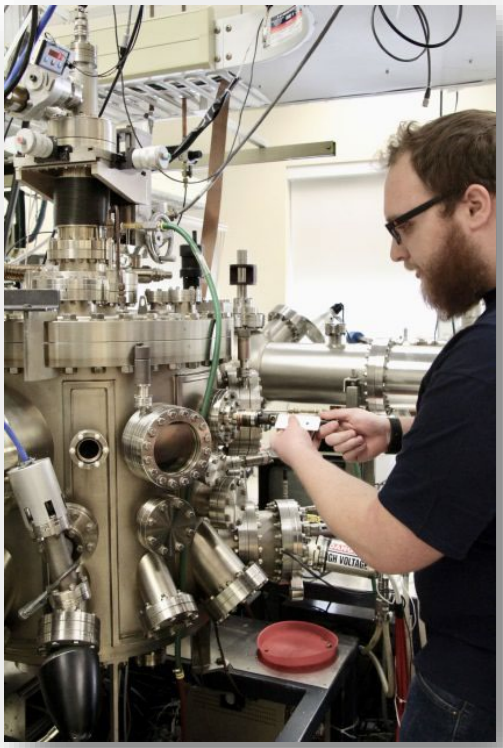


Access to Exceptional Research Laboratories

Advanced Structures and Composites Center



Frontier Institute for Research in Sensor Technologies



Advanced Manufacturing Center

Accelerated Master's Degree in MEE

- Eligibility Requirements
  - Engineering or engineering physics major
  - Can start the program in junior year
  - Must have completed 60 to 100 credits toward BS degree
  - A cumulative GPA ≥ 3.3 in BS degree for final admission to grad school

- Key Advantages
  - **Take up to 3 grad-level courses (9 credits) and double count them for both BS (tech electives) and MS degrees**
  - Reduce time to MS degree by at least one semester
  - Pursue MS degree with thesis or non-thesis option
  - Identify graduate advisor and start research early (thesis option)

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

Test Your Knowledge

1. On average, U.S. workers earn nearly $62,000 annually. According to the Bureau of Labor Statistics, mechanical engineers earn more than the average. **What is the median annual wage of MEs?**

   a) $72,700
   b) $85,560
   ✓ c) $96,310
   d) $106,520

2. This state not only has the largest number of working mechanical engineers in the nation, but also tops the list of number of MEs per 1,000 people employed. **Which state has nearly 32,000 working MEs within its borders?**

   ✓ a) Michigan, due to the automotive industry
   b) California, because of infrastructure needs
   c) Georgia, since MEs graduate from Georgia Institute of Technology and stay
   d) Texas, as a result of jobs in oil and gas

Source: ASME

Test Your Knowledge

3. According to the most recent information from the Bureau of Labor Statistics, **in which state do mechanical engineers earn the most?**

   a) Maryland at $104,000
   b) California at $108,000
   c) New York at $118,000
   ✓ d) New Mexico at $128,000

4. According to the latest government data, despite losing population, **the most mechanical engineers work in this city**?

   a) Philadelphia at 8,500
   b) Los Angeles at 8,400
   ✓ c) Detroit at 21,000
   d) Chicago at 8,300

Source: ASME

Test Your Knowledge

5. More mechanical engineers work within federal, state, and local governments than any other sector. But when it comes to paying top dollar, **which three industries pay MEs the most?**

a) Natural Gas Distribution, Utilities, and Manufacturing Petroleum Products
✓ b) Oil and Gas Extraction, Natural Gas Distribution, and Pipeline Transport
c) Electric Generation, Nuclear Power, and Oil and Gas Extraction
d) Chemical Manufacturing, Oil and Gas Extraction, and Nuclear Power

Source: ASME