

Mechanical Engineering Curriculum Sheet (2025—2026)

UF Mechanical and Aerospace Engineering (MAE) Department, MAEA-219, advising@mae.ufl.edu

Important notes: Your degree audit and the **model semester plan** for your catalog year ([Here](#)) take precedence over this curriculum sheet. Each course line below is required and must be satisfied independently. A single course cannot be used to satisfy two lines.

✓	Course	Cr	Course Title and Info	+ When	Prerequisites (Required)
Semester 1 (15-16 credits)					
	* CHM 2045 or CHM 2095	3	General Chemistry 1 or Chemistry for Engineers 1 (GE – P)	F S Su	CHM1025, MAC1147 or MAC1140 plus MAC1114 or higher MAC course (C or higher in all of these courses)
	§ CHM 2045L	1	General Chemistry Lab 1 (GE – P)	F S Su	(same as above)
	* MAC 2311	4	Analytical Geometry & Calculus 1 (GE – M)	F S Su	Mathematics Placement Exam (ALEKS)
	§ ENC 1101 or ENC 1102	3	Composition (GE – C) - [WR-6000]	F S Su	
	§ Quest 1 Course	3	Quest 1: Humanities (GE – H)	F S Su	https://catalog.ufl.edu/course-search/w/Quest1 + HUM
	EML 2920 or EGN 2020C	1,2	Dept & Professional Orientation or Engineering Design & Society	F S	
Semester 2 (17 credits)					
	* MAC 2312	4	Analytical Geometry & Calculus 2 (GE – M)	F S Su	MAC2311
	* PHY 2048	3	Physics with Calculus 1 (GE – P)	F S Su	MAC2311
	§ PHY 2048L/2053L	1	Physics Lab 1 (GE – P)	F S Su	
	* EML 2023	3	Computer Aided Graphics & Design (Laptop required)	F S Su	
	§ ENC 2256	3	Writing in the Disciplines - Engineering Focused (GE-C) [WR-6000]	F S Su	ENC1101 or ENC1102
	COP 2273	3	Python Programming for Engineers	F S Su	MAC2311
Semester 3 (18 credits)					
	§ Quest 2	3	Quest 2: Gen Ed Biological Sciences (GE-B) or Physical Sciences (GE-P) only	F S Su	https://catalog.ufl.edu/course-search/w/ Quest2 + (PHYSSCI or BIOSCI)
	* MAC 2313	4	Analytical Geometry & Calculus 3 (GE – M)	F S Su	MAC2312
	* PHY 2049	3	Physics with Calculus 2 (GE – P)	F S Su	MAC2312 & PHY2048
	§ PHY 2049L/2054L	1	Physics Lab 2 (GE – P)	F S Su	
	COP 2271 (Lab is optional)	2	Computer Programming for Engineers Matlab (no exceptions)	F S Su	MAC2312
	# EGM 2511	3	Engineering Mechanics - Statics	F S Su	PHY2048
	EML 2322L	2	Design & Manufacturing Lab	F S Su	EML2023, AE/ME majors only
Semester 4 (18 credits)					
	§ State Core GE – H	3	State Core Gen Ed Humanities (list in Degree Audit)	F S Su	See also: Here
	EMA 3010	3	Materials	F S Su	CHM2045
	* MAP 2302	3	Elementary Differential Equations	F S Su	MAC2312
	# EGM 3344	3	Intro to Numerical Methods of Eng. Analysis	F S	MAC2313 & COP2271-Matlab
	# EGM 3520	3	Mechanics of Materials	F S Su	EGM2511 & MAC2313
	# EML 3100	3	Thermodynamics	F S Su	CHM2045, MAC2313, PHY2048
Semester 5 (15 credits)					
	§ State Core GE – SS	3	State Core Gen Ed Social & Behavioral (list is in Degree Audit)	F S Su	See also: Here
	EEL 3003 or EEL 3111C	3	Elements Electrical Engineering or Circuits 1	F S Su	MAC2313 & PHY2049
	# EGM 3401	3	Engineering Mechanics - Dynamics	F S	EGM2511 & MAC2313
	EGN 3353C	3	Fluid Mechanics	F S	EGM2511, MAC2313, EML3100
	EML 3301C	3	Mechanics of Materials Lab - [WR-6000]	F S	EMA3010, COP2271, EGM3520, ENC2256

Semester 6					(15 credits)
	§ GE – SS	3	Gen. Ed. Social & Behavioral Sciences – [WR-6000]	F S Su	https://catalog.ufl.edu/course-search/w/ SOCSCI + 6000
	EML 3005	3	Mechanical Engineering Design 1	F S	COP2271, EGM3520, EML2322L, EGM3401
	EML 4140	3	Heat Transfer	F S	EGN3353C & MAP2302
	EML 4220	3	Vibrations	F S	EGM3401, EGM3520, EGM3344, MAP2302
	EML 4312	3	Control of Dynamic Systems	F S	EGM3401, EGM3344, MAP2302
Semester 7					(15 credits)
	EML 4147C	3	Thermal Systems Design & Lab	F S	EML3100, EML3301C, EML4140
	Choose one:	3	Capstone Design Course		
	EML 4501		Mechanical Eng Design 2	F S	EML4140, EGN 3353C, EML 2322L, EML3005, EGM 3401
	EGN 4951		IPPD 1 (<i>must also do IPPD 2</i>)	F	(same as above)
	EAS 4700		Aero Design 1 (e.g. dual ME/AE majors)	F	EAS4510, EML4312, EGM3520
	EAS 4710		Aero Design 2 (e.g. dual ME/AE majors)	S	EAS4400, EGM3520
	EML 4507	3	Finite Element Analysis & Design	F S	MAP2302, EGM3520, EGM3344
	¶ Tech Elective 1 of 3	3	See list of Technical Electives: Here	-	See list for prereqs and restrictions.
	¶ Tech Elective 2 of 3	3	See list of Technical Electives: Here	-	See list for prereqs and restrictions.
Semester 8					(15 credits)
	EML 4321	3	Manufacturing Engineering	F S	EMA3010, EML2322L & EML3005
	EML 4314C	3	Dynamics & Controls System Design Lab	F S	EML3301C, EML4312
	Choose one:	3	Realization Course		
	EML 4502		Mechanical Eng Design 3	F S Su	EML4501 or EAS 4700 or EAS 4710
	EML 4535C		Automation in Production Engineering	TBD	EML4501
	EML 4914		Undergraduate Realization Thesis	-	EML4501 or EAS 4700 or EAS 4710
	EML 4842		Autonomous Vehicles	TBD	EML4501 or EAS 4700 or EAS 4710
	EGN 4952		IPPD 2 (<i>must have done IPPD 1</i>)	S	EGN4951
	¶ Specialization Elective	3	See list of Specialization Electives: Here	-	See list for prereqs and restrictions.
	¶ Tech Elective 3 of 3	3	See list of Technical Electives: Here	-	See list for prereqs and restrictions.
ME Program Total					(128 credits)

- +: **Projected Terms.** Terms are projected by best effort and could change. Review updated [Schedule of Courses](#) once published.
- *: **Critical Tracking (CT).** Eight MAE CT courses function as a barometer of future success in the major. Students must earn a C or better within two attempts of each CT course, including drops, by end of CT semester five, typically Fall of the Junior year. Students must earn the required grade to use a course as a prerequisite. Students who do not pass a CT course upon first attempt are placed on probation. Per MAE policy, a second attempt cannot be transient. Note: *Change of Major is Necessary Under Any of the Following Circumstances*--second unsuccessful CT attempt; repeat of three CT courses; unsuccessful completion of all eight CT courses within first five CT semesters; completion of all eight CT courses below a 2.80 GPA. Changing majors within the first five semesters is feasible and offers the best opportunity for success in an alternate major. Change of major after CT5 is rare. Additional notes: **Grade forgiveness** occurs in the calculation of CT GPA (only GPA with this feature). Students may use “pass by exam” for a first course as a prerequisite; however, once the second course is passed, credit cannot be gained for retaking the first course in an effort to boost CT GPA.
- #: **Five MAE Core Courses.** Each MAE core course requires a C or better, which is needed before the course can serve as a prerequisite. Unlimited attempts of core courses (or any non-critical tracking course) are permitted; however, students must maintain at least a 2.00 GPA.
- S: **General Education Courses.** Incoming students w/out an articulated AA degree must satisfy UF Gen. Ed. requirements. Each course requires a C or better. Additionally, students must complete the three-hour GE-N “International” requirement, which must be earned concurrently with another area. For example, a course designated as Humanities/International can count toward both the Humanities and International requirements. Go: <https://catalog.ufl.edu/course-search/>; select desired Gen. Ed. category in the dropdown menu to find courses; select desired Quest level if appropriate.
- WR: **Writing Requirement.** The above plan satisfies completion of a total of 24,000 words. Writing course grades assigned by the instructor have two components: the writing component and a course grade. To receive writing credit, students must satisfactorily complete the writing component and earn a C or better. It is possible to earn a C in a class and fail to meet the Writing Requirement, so students should review their degree audit to verify receipt of credit for the writing component.
- ¶: **Technical Electives and Specialization Elective.** Electives allow pursuit of a desired technical affinity. An acceptable specialization elective is generally a MAE 4000-level course or above with an EML, EGM, or EAS prefix. Pay attention to projected semester of course offerings, e.g., specialization electives are typically **not** offered in Summer. Technical electives offer more options. See the two lists: [Here](#).