Mechanical Engineering - Bachelor of Science Curriculum ~ (Catalog Year: 2016-2018)

*Although this is a suggested outline - **All** courses listed below are **REQUIRED** for this degree. Refer to the Undergraduate Catalog for verification*

Student's Name:_____ **UFID:**_____ **Today's Date:**_____

①The tracking courses for MAE are: MAC2311, MAC2312, MAC2313, MAP2302, PHY2048, PHY2049, CHM2045 & Sci Elec: (CHM2046, BSC2010, PHY3101 or AST3018/3019) ②All undergraduate students *(except those transferring to UF with an A.A. degree from a Florida State/Community College or University)* are required to satisfy: 15cr-Humanities/Social Science(H/SS); 3cr-Diversity(D); 3cr-International(N). *{Some (D/N) courses will double count with H/SS courses, check the undergraduate catalog for further explanation, under "General Education Requirement"}.* ③Writing Requirement-24,000 words(WR). ④Summer Requirement-9cr *{Must be taken at any State of Florida **University** not State/Community Colleges}.* ⑤***asterisk**-*(tracking course)* or **#hashtag**-*(MAE core)* ~ **(requires a Grade of "C' or better).**

✔	Course Prefix and Number	Cr	Course Title	Projected Offer	Pre-Requisites
Semester 1 (15cr)					
	CHM 2045/2095 **(Tracking course "**C**" required)*	3	General Chemistry 1 / Chemistry for Engineers 1 *(GE – P)*	F S Su	Chemistry Readiness Assessment
	CHM 2045L	1	General Chemistry Lab 1 *(GE – P)*	F S Su	
	MAC 2311 **(Tracking course "**C**" required)*	4	Analytical Geometry & Calculus 1 *(GE – M)*	F S Su	Mathematics Placement Exam (ALEKS)
	GE – C	3	Composition - [WR-6000]	F S Su	ACT/SAT scores do not exempt this requirement
	IUF 1000	3	What Is The Good Life *(GE – H)*	F S Su	All incoming freshmen w/out an AA degree
	EML 2920	1	Departmental & Professional Orientation	F S	
Semester 2 (17cr)					
	MAC 2312 **(Tracking course "**C**" required)*	4	Analytical Geometry & Calculus 2 *(GE – M)*	F S Su	MAC2311
	PHY 2048 **(Tracking course "**C**" required)*	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 3246	3	Professional Communication for Engineers - *(GE–C)* [WR-6000]	F S Su	ENC1101 or test score equivalency
	Science Elective *(Pick 1)* **(Tracking course "**C**" required)*	3	❑CHM2046/2096 ❑BSC2010 ❑PHY3101 ❑AST3018/3019	F S Su	*Check catalog for Pre-requisites*
Semester 3 (18cr)					
	GE – SS	3	Social & Behavioral Sciences	F S Su	
	MAC 2313 **(Tracking course "**C**" required)*	4	Analytical Geometry & Calculus 3 *(GE – M)*	F S Su	MAC2312
	PHY 2049 **(Tracking course "**C**" required)*	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 *#(MAE core - "**C**" required)*	3	Engineering Mechanics - Statics	F S Su	PHY2048
	EML 2322L	2	Design & Manufacturing Lab	F S Su	EML2023 & ENC3246 & ASE/ME majors only
Semester 4 (18cr)					
	GE – H	3	Humanities	F S Su	
	EMA 3010	3	Materials	F S Su	CHM2045
	MAP 2302 **(Tracking course "**C**" required)*	3	Elementary Differential Equations	F S Su	MAC2312
	EGM 3344 *#(MAE core - "**C**" required)*	3	Intro to Numerical Methods of Eng. Analysis	F S	MAC2313 & COP2271-Matlab
	EGM 3520 *#(MAE core - "**C**" required)*	3	Mechanics of Materials	F S Su	EGM2511 & MAC2313
	EML 3100 *#(MAE core - "**C**" required)*	3	Thermodynamics	F S Su	CHM2045 & MAC2313 & PHY2048
Semester 5 (15cr)					
	GE – SS	3	Social & Behavioral Sciences	F S Su	
	EEL 3003	3	Elements of Electrical Engineering *(can sub-EEL 3111C)*	F S Su	MAC2313 & PHY2049
	EGM 3401 *#(MAE core - "**C**" required)*	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	EGM3344 & EGM3520 & ENC3246
Semester 6 (15cr)					
	GE – H or GE – SS	3	Humanities or Social & Behavioral Sciences	F S Su	
	EML 3005	3	Mechanical Engineering Design 1	F S	COP2271-Matlab & EGM3520 & EML2322L
	EML 4140	3	Heat Transfer	F S	(EAS4101 or EGN3353C) & MAP2302
	EML 4220	3	Vibrations	F S	EGM3401 & EGM3520 & EGM3344 & MAP2302
	EML 4312	3	Control of Mechanical Eng. Systems	F S	EGM3401 & EGM3344 & MAP2302
Semester 7 (15cr)					
	EML 4147C	3	Thermal Systems Design & Lab	F S	EML3100 & EML3301C & EML4140
	EML 4501 or EML 4912	3	Mechanical System Design 2 or IPPD 1	F S	EGM3401 & EGN3353C & EML2322L & EML3005
	EML 4507	3	Finite Element Analysis & Design	F S	COP2271-Matlab & EGM3520 & EGM3344
	Tech Elective_____	3	*See back page for some approved courses (others will require a petition)*		*Check catalog for Pre-requisites*
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Semester 8 (15cr)					
	EML 4321	3	Manufacturing Engineering	F S	EMA3010, EML2322L & EML3005
	EML 4314C	3	Dynamics & Controls System Design Lab	F S	EML3301C & EML4312
	EML 4502 or EML 4913	3	Mechanical Engineering Design 3 or IPPD2	F S	EML4501 or EAS4700 or EAS4710
	Specialization Elective	3	*Choose any 4000, 5000 or 6000 level course with an EAS, EGM or EML prefix)*	F S Su	*Engineering Research, Individual Study, Internship and Co-op credits will **not** count*
	Tech Elective_____	3	*See back page for some approved courses (others will require a petition)*		*Check Catalog for Pre-requisites*
	Total Hours	**128**			

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MAE Approved Technical Electives for Mechanical Engineering (BSME)

(Check the catalog for the appropriate pre-requisites @ https://catalog.ufl.edu/ugrad/current/courses/Pages/course-descriptions.aspx)

The courses on this page **WILL NOT** double count for the **Science Elective** or the **Specialization Elective**, but will double count for the Minors below

If you want to take a course that is not listed on this page, you must complete a **"Petition To Substitute For A Required Course"** form

✔	COURSE	CR	COURSE TITLE
	BME 5580	3	Microfluids and BioMEMS
	EAS 4132	3	Compressible Flow
	EAS 4101	3	Aerodynamics
	EAS 4200C	3	Aerospace Structures
	EAS 4240	3	Aerospace Structural Composites 1
	EAS 4300	3	Aerospace Propulsion
	EAS 4400	3	Stability and Control of Aircraft
	EAS 4412	3	Dynamics and Control of Space Vehicles
	EAS 4510	3	Astrodynamics
	EAS 4530	3	Space Systems Design
	EAS 4700	3	Aerospace Design 1
	EAS 4710	3	Aerospace Design 2
	EAS 4939	var	Special Topics
	EGM 4473	3	Experimental Optimum Engineering Design
	EGM 4590	3	Biodynamics
	EGM 4592	3	Bio-Solid Mechanics
	EGM 4853	3	Bio-Fluid Mechanics and Bio-Heat Transfer
	EML 3262	3	Kinematics/Dynamics of Machinery
	EML 3806	3	Geometric Modeling of Robotic Manipulators
	EML 4410	3	Combustion Engineering
	EML 4416	3	Solar Energy
	EML 4450	3	Energy Conversion
	EML 4600	3	Refrigeration Air Conditioning Fundamentals
	EML 4601	3	Heat & Air Conditioning System Design
	EML 4737	3	Hydronics & Pneumatics
	EML 4738	3	Hydraulic & Mechanical Power Transmission
	EML 4912	3	Integrated Product & Process Design 1 (IPPD 1)
	EML 4926	3	Mechanical Consulting Practice
	EML 4930	3	Electronic Packaging / Special Topics
	*EGN 4912	var	Engineering Research
	*EML 4945 *EAS/EML 4949	1 1	Internship/Co-op Work Experience ***3 cr** total **combined** will count towards degree* **(*Note: A max of 8cr total for 4912/4945/4949 will count towards your degree)**
	EAS/EGM/EML	---	All 5000 and 6000 level courses offered by MAE
	ABE 3612C	4	Heat & Mass Transfer in Biological Systems
	APK 2100C	4	Applied Human Anatomy with Lab
	APK 2105C	4	Applied Human Physiology & Lab
	APK 3220C	3	Biomechanical Basis of Movement
	ART 3807C	3	Media Experiments in Art & Technology
	AST 3018	3	Astronomy and Astrophysics 1
	AST 3019	3	Astronomy and Astrophysics 2
	BCH 4024	4	Intro to Biochemistry and Molecular Biology
	BSC 2010	3	Integrated Principles of Biology 1
	BSC 2010L	1	Integrated Principles of Biology 1 Lab
	BSC 2011	3	Integrated Principles of Biology 2
	BSC 2011L	1	Integrated Principles of Biology 2 Lab
	BSC 2044L	2	Accelerated, Integrated Principles of Biology Lab
	CDA 3101	3	Intro to Computer Organization
	CGN 4101	3	Civil Engineering Cost Analysis
	CHM 2046	3	General Chemistry 2
	CHM 2046L	1	General Chemistry 2 Lab
	CHM 2054L	2	Accelerated General Chemistry Laboratory
	CHM 2096	3	Chemistry for Engineers 2
	CHM 2200	3	Basic Organic Chemistry
	CHM 2200L	1	Basic Organic Chemistry Lab
	CHM 2210	3	Organic Chemistry 1
	CHM 2210L	1	Organic Chemistry 1 Lab
	CHM 3120	3	Analytical Chemistry
	CHM 3120L	1	Analytical Chemistry Lab
	CHM 3217	4	Organic Chemistry/Biochemistry 1
	CHM 3218	4	Organic Chemistry/Biochemistry 2

✔	COURSE	CR	COURSE TITLE
	CHM 4411	4	Physical Chemistry
	EEE 3396	3	Solid State Electronic Devices
	COP 2271L	1	Computer Prog for Engineers Matlab Lab
	EEL 3112	4	Circuits, Systems and Signals
	EEL 3211	3	Basic Electric Energy Engineering
	EEL 3701C	4	Digital Logic and Computer Systems
	EEL 3744C	4	Microprocessor Applications
	EEL 5666C	4	Intelligent Machine Design Lab
	EES 4201	3	Water Chemistry
	EIN 4354	3	Engineering Economy
	EGN 4641	3	Engineering Entrepreneurship
	EGN 4643	3	Engineering Innovation
	EGS 4038	3	Engineering Leadership
	EMA 3123	3	Metallurgical Engineering
	EMA 4121	3	Interfacial Engineering
	EMA 4223	3	Mechanical Behavior of Materials
	EMA 4714	3	Materials Selection and Failure Analysis
	ENU 4001	4	Nuclear Engineering Analysis 1
	ESI 4161	3	Industrial Application of Microprocessors
	ESI 4221C	3	Industrial Quality Control
	ESI 4327C	4	Matrix & Numerical Methods in Systems Eng
	MAA 4102	3	Intro Adv Calculus for Eng & Phys Scientists 1
	MAA 4211	3	Advanced Calculus 1
	MAA 4212	3	Advanced Calculus 2
	MAP 4305	3	Diff Equations for Eng & Physical Scientists
	MAS 3114	3	Computational Linear Algebra
	MAS 4105	4	Linear Algebra 1
	MAS 4107	3	Linear Algebra 2
	MAS 4156	3	Intro Vector Analysis
	NSC 2121	3	Naval Ships Systems 2 - Weapons
	NSC 2122	3	Naval Ships Systems 1 - Engineering
	OTH 3413C	3	Applied Kinesiology
	OTH 4412L	2	Musculoskeletal Anatomy Lab
	PHY 3101	3	Intro to Modern Physics
	PHY 4550	3	Cryogenics
	PHZ 4710	3	Intro to Biophysics
	PKG 3001	3	Principles of Packaging
	STA 3032	3	Engineering Statistics
	If you are getting a Minor from a department in the College of Engineering (see below) those courses would double count towards your Tech Electives		
	BIO		Biomechanics
	BMO		Biomolecular Engineering
	CIS		Computer and Information Science and Engineering
	EE		Electrical Engineering
	MTL		Materials Science and Engineering
	NE		Nuclear and Radiological Engineering
	PKS		Packaging Science

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