

# ME Undergraduate Curriculum (Catalog: 2017 - 2018)

<b>Freshman</b>	<b>Fall</b>	<b>CHEM 1310</b> General Chemistry (See Note 2) 3-3-4	<b>MATH 1551</b> Differential Calculus (Minimum Grade C) 2-0-2	<b>MATH 1553</b> Linear Algebra (Minimum Grade C) 2-0-2	<b>Legislative</b> HIST 2111, HIST 2112, POL 1101, INTA 1200, or PUBP 3000 [ Social Science ] 3-0-3	<b>ENGL 1101</b> English Composition 1 3-0-3	<b>Wellness</b> APPH 1040 or APPH 1050 2-0-2	
	<b>Spring</b>	<b>PHYS 2211</b> Physics 1 (Minimum Grade C) 3-3-4 MATH 1551, MATH 1552*	<b>MATH 1552</b> Integral Calculus (Minimum Grade C) 4-0-4 MATH 1551	<b>CS 1371</b> Computing for Engineers 3-0-3	<b>ME 1770</b> Intro to Engineering Graphics (See Note 3, No W's) 2-3-3	<b>ENGL 1102</b> English Composition 2 3-0-3 ENGL 1101	<b>= 16 hours</b> <b>= 17 hours</b>	
<b>Sophomore</b>	<b>Fall</b>	<b>PHYS 2212</b> Physics 2 3-3-4 PHYS 2211	<b>MATH 2551</b> Multivariable Calculus (Minimum Grade C) 4-0-4 MATH 1552, MATH 1553	<b>ME 2110</b> Creative Decisions and Design (See Note 3, No W's) 2-3-3 ME 1770, COE 2001*	<b>MSE 2001</b> Engineering Materials 3-0-3 CHEM 1310	<b>COE 2001</b> Statics (Minimum Grade C) 2-0-2 MATH 1552, PHYS 2211	<b>= 16 hours</b>	
	<b>Spring</b>	<b>ECE 3710</b> Circuits & Electronics 2-0-2 PHYS 2212	<b>MATH 2552</b> Differential Equations (Minimum Grade C) 4-0-4 MATH 1552, MATH 1553	<b>ME 2016</b> Computing Techniques 3-0-3 MATH 1552, MATH 1553, MATH 2552*, CS 1371	<b>ME 2202</b> Dynamics of Rigid Bodies 3-0-3 COE 2001, MATH 1553*	<b>Social Science Elective</b> (See Note 6) 3-0-3	<b>= 15 hours</b> <b>= 16 hours</b>	
<b>Junior</b>	<b>Fall</b>	<b>ECE 3741</b> Instrument & Electronics Lab 0-3-1 ECE 3710	<b>COE 3001</b> Mechanics of Deformable Bodies 3-0-3 COE 2001, MATH 2552*	<b>ME 3322</b> Thermodynamics 3-0-3 PHYS 2211, MATH 2552	<b>ME 3340</b> Fluid Mechanics 3-0-3 ME 2202, MATH 2551 MATH 2552, ME 3322*	<b>Economics</b> ECON 2100, 2101, 2105, or 2106 (See Note 5) 3-0-3	<b>Humanities Elective</b> (See Note 6) 3-0-3	
	<b>Spring</b>	<b>ME 3017</b> System Dynamics 3-0-3 ME 2202, ME 2016, MATH 2552, ECE 3710	<b>ME 3345</b> Heat Transfer 3-0-3 ME 3322, ME 3340, MATH 2552	<b>ME 3057</b> Experimental Methods Lab (See Note 3, No W's) 2-3-3 COE 3001, ME 3340, ME 3017*, ME 3345*, MATH 3670*	<b>ISYE 3025</b> Engineering Economics 1-0-1 ECON 2100, 2101, 2105 or 2106	<b>MATH 3670</b> Statistics & Applications 3-0-3 MATH 2551	<b>Social Science Elective</b> (See Note 6) 3-0-3	
<b>Senior</b>	<b>Fall</b>	<b>Design Elective</b> ME 3180 or ME 4315 3180: Machine Design 4315: Energy Sys Design 3-0-3 ME 2110, ME 3345 (for ME 4315 only), COE 3001 (for ME 3180 only)	<b>ME 3210</b> Design, Materials & Manufacture 3-0-3 MSE 2001, ME 2110	<b>ME 4056</b> ME Systems Lab (See Note 3, No W's) 2-3-3 ME 3057, ME 3345, ME 3017, MATH 3670	<b>Free Elective</b> 1000 Level or Above (See Note 1) 3-0-3	<b>Free Elective</b> 1000 Level or Above (See Note 1) 3-0-3	<b>= 16 hours</b> <b>= 15 hours</b> <b>= 18 hours</b>	
	<b>Spring</b>	<b>ME 4182</b> Capstone Design (See Note 3, No W's) 1-6-3 COE 3001, ME 3345, ME 2110, ME 3210, ME 3017, MATH 3670, Design Elective	<b>ME Elective</b> 3000 Level or Above ME Class (See Note 4) 3-0-3	<b>Humanities Elective</b> (See Note 6) 3-0-3	<b>Free Elective</b> 2000 Level or Above (See Note 1) 3-0-3	<b>Free Elective</b> 2000 Level or Above (See Note 1) 3-0-3	<b>Free Elective</b> 2000 Level or Above (See Note 1) 3-0-3	

NOTES: \* Class co-requisites have an asterisk (\*) after it. These classes can be taken prior to or at the same time.

**129 Total Hours**

- Free Electives:** See page 2 for free elective requirements.
- CHEM 1310:** CHEM 1211K can substitute for CHEM 1310. CHEM 1211K & 1212K are recommended for pre-health students.
- ME 1770, 2110, 3057, 4056 & 4182 cannot be dropped after phase 2 registration closes without documented medical reasons.
- ME Elective:** Any ME class that is 3000 level or above, excluding ME 3141, 3700, 3720, 3743, 3744, 4699, 4741, 4742, 4753 and 4903. See backside for ME Elective requirements and a link to class options.
- Economics:** Students can receive credit for only one of ECON 2100, ECON 2101, ECON 2105 & ECON 2106. The only exception is that students can receive 6 hours credit for both ECON 2105 and ECON 2106.
- Humanities Electives and Social Science Electives:** See backside for a link to the list of classes.
- Ethics Overlay** is taken as part of the curriculum as a free elective, humanities or social science elective. See backside for details.

<http://www.me.gatech.edu/undergraduate/ug-curr>

**Overlay Area**

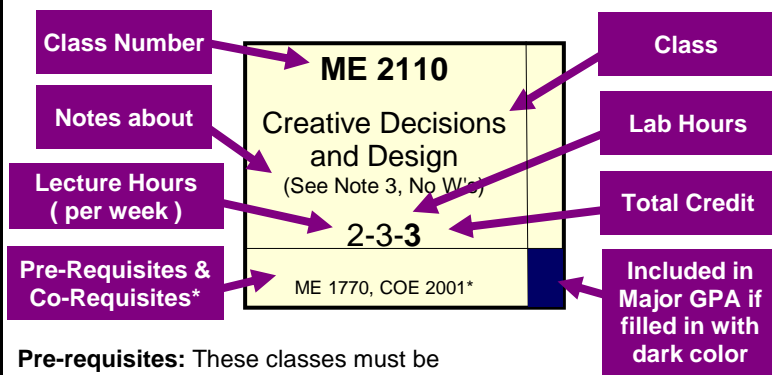
**Ethics**

(See Note 7)

3-0-3

## Undergraduate Curriculum Sheet Explanation - Page 2

### Understanding the Curriculum Guide



**Pre-requisites:** These classes must be completed before you can take the class.

**\*Co-requisites:** These classes can be taken at the same time or before the class. You must register for the co-req first to avoid registration errors.

### GPA & Grade Requirements

- All classes taken for the BSME degree must be taken LETTER GRADE. This includes all electives.
- Overall GPA:** Must be 2.00 or above (truncated) at graduation.
- Required Grades:**
  - Minimum grade of a D or better is required except as noted.
  - If a pre-requisite for an ME class requires a C or better, the C is required before taking the next class. Ex: A grade of C or better is required in COE 2001 before taking ME 2202.
- Major GPA:**
  - Must be 2.00 or above (truncated) at graduation.
  - Classes used to calculate it are all ME and COE classes required by name and number plus MSE 2001, ECE 3710, ECE 3741, ISYE 3025, Design Elective and ME Elective.
  - Among the courses used to compute this, all courses must be completed with a C-or-better with the exception up to 9 credit hours, that can be satisfied with a grade of D.

### Humanities, Social Sciences and Overlay Requirement (Ethics)

- Humanities Electives:** See <http://catalog.gatech.edu/academics/undergraduate/core-curriculum/core-area-c/>
- Social Science Electives:** See <http://catalog.gatech.edu/academics/undergraduate/core-curriculum/core-area-e/>
- Ethics Overlay:** A 3 hour class selected from <http://catalog.gatech.edu/academics/undergraduate/core-curriculum/ethics/>

### ME Electives

- A list of ME Electives offered each semester is at <http://www.me.gatech.edu/undergraduate/registration#sp>
- ME electives are 3000-level or above ME classes, excluding ME 3141, 3700, 3720, 3743, 3744, 4699, 4741, 4742, 4753 & 4903. Other excluded classes may be added to the list throughout the year as new courses are created.
- ME electives cannot duplicate any material taken in other classes used for your BSME degree.
- Design Electives:** Students may take both design electives. One class will satisfy the design elective and the other class can satisfy an ME Elective or Free Elective.

### Free Electives

- Students can use either a max of 6 credits of VIP courses (ECE 2811, 381X, 481X) or a max of 6 credits of research / special problems courses (2699, 4699 & 4903) as free electives. If doing both types of courses, a total of 9 credits is allowed.
- At least 9 hours of free electives must be at the 2000 level or above with the exception of 4 hours that may be satisfied with one of the following: BIOL 1510, BIOL 1520, or CHEM 1212K.
- Free electives may not duplicate any material taken in other classes used for your BSME degree.

### Concentrations (Optional - Not Required)

**Concentrations:** \*Automation & Robotics \*Thermal, Fluid & Energy Systems \*Manufacturing \*Mechanics of Materials \*Nuclear Energy \*Design \*Micro- & Nano-Engineering \*Automotive Engineering **Details at:** [www.me.gatech.edu/undergraduate/ug-curr/concentrations](http://www.me.gatech.edu/undergraduate/ug-curr/concentrations)

### Pre-Requisites

- The ME curriculum has a 7 or 8 semester pre-requisite chain, depending on the design class selected.
- Students can select either ME 3180 or ME 4315 for the design elective. More students select ME 3180.
- Pre-reqs are strictly enforced in ME. Carefully plan your schedule in advance and have it checked by an advisor!**

**Upon completion of these classes, you will have a minimum of (...) semesters remaining until graduation.**

Machine Design (ME 3180) for the Design Elective	Minimum # of Semesters	Energy Systems Design (ME 4315) for the Design Elective
	7	MATH 1551
MATH 1551	6	MATH 1552, PHYS 2211
MATH 1552, PHYS 2211	5	COE 2001, MATH 1553
COE 2001, MATH 1553	4	ME 2202, MATH 2551, MATH 2552
MATH 2551, MATH 2552, PHYS 2212, ME 2202, CS 1371, ME 1770, CHEM 1310	3	ME 1770, ME 3322, ME 3340, CS 1371, PHYS 2212, CHEM 1310
ME 2110, ME 3322, ME 3340, ME 2016 ECE 3710, COE 3001, MSE 2001	2	COE 3001, ME 2110, ME 3345, ME 2016, ECE 3710, MSE 2001
<b>ME 3180</b> , ME 3057, ME 3345, ME 3017 ME 3210, MATH 3670	1	<b>ME 4315</b> , ME 3017, ME 3057, ME 3210, MATH 3670
ME Elect, ME 4182, ME 4056, ECE 3741, ISYE 3025	0	ME Elect, ME 4182, ME 4056, ISYE 3025, ECE 3741