

RECOMMENDED ENGINEERING MECHANICS CURRICULUM FLOWCHART

Effective for Students Entering EM Fall 2023 or later

Semesters							
Fall 1	Spring 1	Fall 2	Spring 2	Fall 3	Spring 3	Fall 4	Spring 4
3 Comm A	3 EMA 201 Statics/ (Math 222 or concur)	C 3 EMA 202 Dynamics (EMA 201)	C 3 EMA 303 Mechanics of Materials (EMA 201)	3 EMA 506(F) Adv Mech of Materials (EMA 303)	3 EMA 405 Finite Ele- ments (EMA 303)	3 EMA 469(F) Design Prob in Engr (EMA 303)	3 EMA 569(S) Senior De- sign Project (EMA 469)
		5 Physics 202 Gen Physics (EMA 201)	1 EMA 307 Mechanics Lab (EMA 303 or concur)	3 EMA 542(F) Adv Dy- namics/ EMA 545(S) Vibrations (EMA 202)	D 3 Experimental Mechanics	G 3 EMA 521(F) Aerody- namics (EMA 202 & ME 363)	
		3 EP 271(F) Engr Prob- lem Solving (EMA 201 or concur)	3 ME 361 Thermody- namics (Chem 103 & EMA 201)		3 ME 363 Fluid Dynamics (ME 361 & Math 320)	3-4 ECE 376/ Physics 321 Circuits (Physics 202)	3 ME 364 Heat Transfer (ME 363 or concur)
5 Math 221 Calculus	4 Math 222 Calculus & Analytic Geometry (Math 221)	4 Math 234 Multi-Var Calculus (Math 222)	3 Math 320 Linear Alge- bra & Diff Eqns (Math 222)	3 Math 321 Applied Math Analysis (Math 234 & 320)			
A 5 Chem 109 Gen Chem	3 MSE 350 Intro to Mat Sci (Chem 103/109)		3 Tech elective	3 Stats 324 Statistics (Math 221)	E 3 Advanced computer science	3 EMA elective	3 EMA elective
	3 ME 231 Graphics			3 InterEgr 397 Technical Comm (Jr stand- ing)	2 Tech elective		3 EMA elective
B 3 ME 201 Intro to Mech Engr	3 Liberal studies	2 EPD 275 Public Speaking (Soph standing)	3 Liberal studies	3 Liberal studies		4 Liberal studies	3 Liberal studies
16 credits	16 credits	17 credits	16 credits	18 credits	14 credits	16-17 credits	15 credits

Prerequisites are listed in parentheses under each course. Please see next page for additional notes.

Notes:

A: It is recommended that students take Chem 109. However, depending on their high school chemistry experience, students may substitute this with Chem 103 and 104 for a total of 9 credits.

B: Students may take ME 201 either in the fall or spring semester of their first year.

C: After completing EMA 201, students may take EMA 202 and EMA 303 in either order or concurrently.

D: EMA 522(S), 540(F), 570(F), or 611(S).

E: CS 300 or 412, or EMA/EP 471(S), or EMA 476(S).

G: ME 563 may be substituted for EMA 521. Note that ME 563 is offered in the spring semester only.

(F) = Fall-only course; (S) = Spring-only course

RECOMMENDED ENGR MECH WITH AEROSPACE ENGINEERING OPTION CURRICULUM FLOWCHART

Effective for Students Entering EMA Fall 2023 or later

Semesters							
Fall 1	Spring 1	Fall 2	Spring 2	Fall 3	Spring 3	Fall 4	Spring 4
Comm A 3	EMA 201 Statics/ (Math 222 or concur) 3	C EMA 202 Dynamics (EMA 201) 3	C EMA 303 Mechanics of Materials (EMA 201) 3	EMA 506(F) Adv Mech of Materials (EMA 303) 3	D Experimental Mechanics 3	EMA 469(F) Design Prob in Engr (EMA 303) 3	EMA 569(S) Senior Design Project (EMA 469) 3
		5 Physics 202 Gen Physics (EMA 201)	1 EMA 307 Mechanics Lab (EMA 303 or concur)	3 EMA 542 (F) Adv Dynamics/ (EMA 202)	3 EMA 545 (S) Vibrations (EMA 202)	G EMA 521(F) Aerodynamics (EMA 202 & ME 363) 3	H Spacecraft & Structural Dynamics 3
		3 EP 271(F) Engr Problem Solving (EMA 201 or concur)	3 ME 361 Thermodynamics (Chem 103 & EMA 201)	3 ME 363 Fluid Dynamics (ME 361 & Math 320)	3 ME 364 Heat Transfer (ME 363 or concur)	3-4 ECE 376/ Physics 321 Circuits (Physics 202)	3 EMA 524(F) Rocket Prop/ EMA 523(S) Flight Dyn (ME 363)/ (EMA 521 & 542)
Math 221 Calculus 5	Math 222 Calculus & Analytic Geometry (Math 221) 4	Math 234 Multi-Var Calculus (Math 222) 4	Math 320 Linear Algebra & Diff Eqns (Math 222) 3	Math 321 Applied Math Analysis (Math 234 & 319) 3	Stats 324 Statistics (Math 221) 3		
A Chem 109 Gen Chem 5	ME 231 Graphics 3		Tech elective 3	EMA 405 Finite Elements (EMA 303) 3	E Advanced computer science 3	ECE 332/ ME 446 Control Systems 3	Tech elective 2
	Liberal studies 3						
B ME 201 Intro to Mech Engr 3	Liberal studies 3	EPD 275 Public Speaking (Soph standing) 2	Liberal studies 3		InterEgr 397 Technical Comm (Jr standing) 3	Liberal studies 4	Liberal studies 3
16 credits	16 credits	17 credits	16 credits	15 credits	18 credits	16-17 credits	14 credits

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Notes:

A: It is recommended that students take Chem 109. However, depending on their high school chemistry experience, students may substitute this with Chem 103 and 104 for a total of 9 credits.

B: Students may take ME 201 either in the fall or spring semester of their first year.

C: After completing EMA 201, students may take EMA 202 and EMA 303 in either order or concurrently.

D: EMA 522(S), 540(F), 570(F), or 611(S).

E: CS 300 or 412, or EMA/EP 471(S), or EMA 476(S).

G: ME 563 may be substituted for EMA 521. Note that ME 563 is offered in the spring semester only.

H: EMA 550(S), 610(S), or 642(S).

(F) = Fall-only course; (S) = Spring-only course