

Department of Aerospace Engineering & Mechanics

BSAE Program – 123 credit hours | Version A: ENGR 103 in the Fall Semester/ Based on FAC MEETING MINUTES 16.11.29.1 and 17.04.04.1.

FRESHMAN YEAR

Fall
15 credit hours

placement	MATH 125 Calculus I MATH 4	AEM 201 AEM 249 MATH 126 PH 105

placement	CH 101 Chemistry NS 4	

	ENGR 103 Engineering Foundations ENGR 3	AEM 201 ENGR 161
MATH 125		

	AEM 121 Intro to Aerospace ES 1	
MATH 125		

placement or EN 099	EN 101 English Comp I FC 3	EN 102

Spring
15 credit hours

MATH 125	MATH 126 Calculus II MATH 4	AEM 250 AEM 264 PH 106 MATH 227 MATH 237 ME 215

MATH 125	PH 105 Physics I NS 4	PH 106 AEM 201

placement or MATH 100	EC 110 Microeconomics SB 3	

EN 101	EN 102 English Comp II FC 3	

ENGR 103	ENGR 161 Small-Scale Engr Graphics ENGR 1	

SOPHOMORE YEAR

Fall
16 credit hours

MATH 126	MATH 227 Calculus III MATH 4	AEM 311 MATH 238

MATH 126 PH 105	PH 106 Physics II NS 4	

PH 105 MATH 125 ENGR 103	AEM 201 Statics ES 3	AEM 250 AEM 264 AEM 311

	AEM 249 C++/Algorithms ES 2 (see note 1)	AEM 341 AEM 349 AEM 368
MATH 125		

MATH 126	MATH 237 Intro to Linear Algebra MATH 3	AEM 349 AEM 368
MATH 227		

Spring
16 credit hours

MATH 227	MATH 238 App. Differential Equations I MATH 3	AEM 313 AEM 349 AEM 360 AEM 368

AEM 201 MATH 126	AEM 250/251 Mechanics of Materials I/Lab ES 3/1	AEM 341

AEM 201 MATH 126	AEM 264 Dynamics ES 3	AEM 313 AEM 368

AEM 201 MATH 227	AEM 311 Fluid Mechanics ES 3	AEM 313 AEM 360

HU/L/FA Elective HU/L/FA 3 (see note 2)
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Legend	
C	Computer Requirement
ES	Engineering Science
FC	Freshman Composition
HI/SB	History/Social & Behavioral Sciences
HU/L/FA	Humanities/Literature/Fine Arts
MATH	Mathematics
NS	Natural Science Requirement
W	Writing Requirement

Key		
Pre-requisites	Course # Title	Downward Dependencies
Co-requisites	Area & Credits	

Notes:

- A student may substitute CS 100 (4 semester hours) or CBH 101/102 (8 semester hours) for AEM 249.
- For more information, consult: <http://registrar.ua.edu/core-curriculum>

Go to http://aem.eng.ua.edu/wp-content/uploads/sites/2/2016/07/AEM-4-YEAR-COURSE-ROTATION-2016_04.pdf for information on course rotations.

Go to <http://courseleaf.ua.edu/engineering> for information on pre- and co-requisites.

This is an unofficial flow chart prepared to assist students in planning their coursework. The UA Undergraduate Catalog contains the official listing of academic information.

Aerospace Engineering & Mechanics and other departments change their pre-requisites & co-requisites from time to time. Students should consult the UA Undergraduate Catalog and seek advising prior to registering for courses.

Dr. Semih Olcmen
Aerospace Engineering & Mechanics

version: 04_10_2017

Department of Aerospace Engineering & Mechanics

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JUNIOR YEAR

SENIOR YEAR

Fall
15 credit hours

Spring
15 credit hours

Fall
15 credit hours

Spring
16 credit hours

AEM 264 AEM 311 MATH 238	AEM 313 Aerodynamics ES 3	AEM 402
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AEM 249 AEM 264 MATH 237 MATH 238	AEM 368 Flight Mechanics ES 3 [Spring Only]	AEM 402 AEM 468
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AEM 313 AEM 341 AEM 368 AEM 413 AEM 408 AEM 495	AEM 402 Aerospace Design I ES/W 3 [Fall Only]	AEM 404
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AEM 402	AEM 404 Aerospace Design II ES 3 [Spring Only]	
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AEM 249 AEM 250	AEM 341 Aircraft Structures ES 3	AEM 402 AEM 451
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ME 215 AEM 311	AEM 413 Compressible Flow ES 3 [Spring Only]	AEM 402 AEM 408
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AEM 413	AEM 408 Propulsion ES 3 [Fall Only]	
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AEM 341	AEM 451/351 Aircraft Structural Design / Aerospace Structures Laboratory ES -3/1 [Spring Only]	
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AEM 249 MATH 237 MATH 238	AEM 349 Applied Numerical Methods ES/C 3	AEM 420 AEM 461
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AEM 311 MATH 238	AEM 360 Astronautics ES 3 [Spring Only]	
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AEM 368	AEM 468 Flight Dynamics & Control ES 3 [Fall Only]	
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	AEM Elective ES 3	
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MATH 126	ME 215 Thermodynamics ES 3	AEM 413
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HI/SB Elective HI/SB 3 (see note 2)		
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AEM 402	AEM 495 Senior Seminar ES/W 3 [Fall Only]	
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variable	Engineering Elective (see below) ES 3	
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HU/L/FA Elective HU/L/FA 3 (see note 2)		
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HU/L/FA Elective HU/L/FA 3 (see note 2)		
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variable	AEM Comput. Elective (see below) ES/C 3	
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HI/SB Elective HI/SB 3 (see note 2)		
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Legend	
C	Computer Requirement
ES	Engineering Science
FC	Freshman Composition
HI/SB	History/Social & Behavioral Sciences
HU/L/FA	Humanities/Literature/Fine Arts
MATH	Mathematics
NS	Natural Science Requirement
W	Writing Requirement

Key		
Pre-requisites	Course # Title	Downward Dependencies
Co-requisites	Area & Credits	

Engineering Elective (choose one):

- Any 400-level, 3-hour AEM elective, any 300- or 400-level, 3-hour College of Engineering course, or MTE 271.

AEM Computational Elective (choose one):

- AEM 420 Computational Fluid Dynamics
- AEM 461 Computational Aerospace Structures

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Dr. Semih Olcmen
Aerospace Engineering & Mechanics

version: 04_10_2017

Department of Aerospace Engineering & Mechanics

BSAE Program – 123 credit hours | Version B: ENGR 103 in the Spring Semester/ Based on FAC MEETING MINUTES 16.11.29.1 and 17.04.04.1.

FRESHMAN YEAR

Fall
15 credit hours

placement	MATH 125 Calculus I MATH 4	AEM 201 AEM 249 MATH 126 PH 105
placement	CH 101 Chemistry NS 4	
placement or MATH 100	EC 110 Microeconomics SB 3	
MATH 125	AEM 121 Intro to Aerospace ES 1	
placement or EN 099	EN 101 English Comp I FC 3	EN 102

Spring
15 credit hours

MATH 125	MATH 126 Calculus II MATH 4	AEM 250 AEM 264 PH 106 MATH 227 MATH 237 ME 215
MATH 125	PH 105 Physics I NS 4	PH 106 AEM 201
MATH 125	ENGR 103 Engineering Foundations ENGR 3	AEM 201 ENGR 161
EN 101	EN 102 English Comp II FC 3	
MATH 125	AEM 249 C++/Algorithms ES 2 (see note 1)	AEM 341 AEM 349 AEM 368

SOPHOMORE YEAR

Fall
16 credit hours

MATH 126	MATH 227 Calculus III MATH 4	AEM 311 MATH 238
MATH 126 PH 105	PH 106 Physics II NS 4	
PH 105 MATH 125 ENGR 103	AEM 201 Statics ES 3	AEM 250 AEM 264 AEM 311
ENGR 103	ENGR 161 Small-Scale Engr Graphics ENGR 1	
MATH 126 MATH 227	MATH 237 Intro to Linear Algebra MATH 3	AEM 349 AEM 368

Spring
16 credit hours

MATH 227	MATH 238 App. Differential Equations I	AEM 313 AEM 349 AEM 360 AEM 368
AEM 201 MATH 126	AEM 250/251 Mechanics of Materials I/Lab ES 3/1	AEM 341
AEM 201 MATH 126	AEM 264 Dynamics ES 3	AEM 313 AEM 368
AEM 201 MATH 227	AEM 311 Fluid Mechanics ES 3	AEM 313 AEM 360
HU/L/FA Elective HU/L/FA 3 (see note 2)		

Legend	
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HI/SB	History/Social & Behavioral Sciences
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Key		
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Co-requisites	Area & Credits	

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Aerospace Engineering & Mechanics

version: 04_10_2017

Department of Aerospace Engineering & Mechanics

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JUNIOR YEAR

SENIOR YEAR

Fall
15 credit hours

Spring
15 credit hours

Fall
15 credit hours

Spring
16 credit hours

AEM 264 AEM 311 MATH 238	AEM 313 Aerodynamics ES 3	AEM 402
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AEM 249 AEM 264 MATH 237 MATH 238	AEM 368 Flight Mechanics ES 3 [Spring Only]	AEM 402 AEM 468
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AEM 402	AEM 404 Aerospace Design II ES 3 [Spring Only]	
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AEM 249 AEM 250	AEM 341 Aircraft Structures ES 3	AEM 402 AEM 451
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ME 215 AEM 311	AEM 413 Compressible Flow ES 3 [Spring Only]	AEM 402 AEM 408
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AEM 413	AEM 408 Propulsion ES 3 [Fall Only]	
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AEM 341	AEM 451/351 Aircraft Structural Design / Aerospace Structures Laboratory ES -3/1 [Spring Only]	
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AEM 249 MATH 237 MATH 238	AEM 349 Applied Numerical Methods ES/C 3	AEM 420 AEM 461
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AEM 311 MATH 238	AEM 360 Astronautics ES 3 [Spring Only]	
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AEM 368	AEM 468 Flight Dynamics & Control ES 3 [Fall Only]	
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	AEM Elective ES 3	
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MATH 126	ME 215 Thermodynamics ES 3	AEM 413
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HI/SB Elective HI/SB 3 (see note 2)		
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	AEM 495 Senior Seminar ES/W 3 [Fall Only]	
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variable	Engineering Elective (see below) ES 3	
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HU/L/FA Elective HU/L/FA 3 (see note 2)		
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HU/L/FA Elective HU/L/FA 3 (see note 2)		
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variable	AEM Comput. Elective (see below) ES/C 3	
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HI/SB Elective HI/SB 3 (see note 2)		
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