# 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
  - **MATH 125**
    - Placement, or MATH 100 or above
  - **CH 101**
    - Chemistry
    - NS 4
  - **ENGR 103**
    - Engineering Foundations
    - ENGR 3
  - **AEM 121**
    - Intro to Aerospace
    - ENGR 3
  - **ENGR 101**
    - English Comp I
    - FC 3

### Spring
- **15 credit hours**
  - Placement
  - **MATH 125**
    - Placement, or MATH 100 or above
  - **PH 105**
    - Physics I
    - NS 4
  - **MATH 126**
    - Calculus II
    - MATH 4
  - **EC 110**
    - Microeconomics
    - SB 3
  - **EN 101**
    - Introduction to Engineering Graphics
    - ENGR 1

## Sophomore Year

### Fall
- **16 credit hours**
  - Placement
  - **MATH 125**
    - Calculus II
    - MATH 4
  - AEM 250
  - **MATH 126**
    - Placement, or MATH 100 or above
  - **PH 106**
    - Physics II
    - NS 4
  - **AEM 201**
    - Statics
    - ES 3
  - **AEM 249**
    - C++/Algorithms
    - ES 2

### Spring
- **16 credit hours**
  - Placement
  - **MATH 126**
    - Calculus III
    - MATH 4
  - **AEM 227**
    - App. Differential Equations I
    - MATH 3
  - **AEM 238**
    - Mechanics of Materials I/Lab
    - ES 3/1
  - **AEM 311**
    - Fluid Mechanics
    - ES 3

### Notes:
1. A student may substitute CS 100 (4 semester hours) or CBH 101/102 (8 semester hours) for AEM 249.
2. For more information, consult: [http://registrar.ua.edu/core-curriculum](http://registrar.ua.edu/core-curriculum)
3. AEM 121 is recommended, but can be satisfied by taking ENGR 111 or other engineering intro courses.


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Dr. Semih Olcmen
Aerospace Engineering & Mechanics

version: 06_10_2017
### Department of Aerospace Engineering & Mechanics

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#### JUNIOR YEAR

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<thead>
<tr>
<th>Fall</th>
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<tbody>
<tr>
<td>AEM 264</td>
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<tbody>
<tr>
<td>AEM 249, or see note 1 in previous page</td>
<td>AEM 341 Aircraft Structures</td>
</tr>
<tr>
<td>AEM 311</td>
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<tr>
<td>MATH 237</td>
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<tr>
<td>ME 215</td>
<td>AEM 413 Compressible Flow</td>
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<tr>
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<td>AEM 341, AEM 413, AEM 451</td>
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<tr>
<td>AEM 451/351</td>
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### SENIOR YEAR

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<tr>
<td>AEM 249, or see note 1 in previous page</td>
<td>AEM 402 Aerospace Design II</td>
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<tr>
<td>AEM 311</td>
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<td>MATH 237</td>
<td>MATH 238</td>
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<td>AEM 495</td>
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<tbody>
<tr>
<td>AEM 413</td>
<td>AEM 408</td>
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<tr>
<td>AEM 402</td>
<td>ES 3</td>
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<table>
<thead>
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<tr>
<td>AEM 313, AEM 341, AEM 368, AEM 413</td>
<td>AEM 468 Flight Dynamics &amp; Control</td>
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<td>MATH 237</td>
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<td>AEM 368, or see note 1 in previous page</td>
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<tbody>
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<td>Engineering Elective</td>
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<td>AEM 495</td>
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<td>HI/SB Elective</td>
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<tr>
<td>HI/SB 3</td>
<td>(see note 2)</td>
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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
- Downward Dependencies
- Co-requisites

### Course 
<table>
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<tr>
<th>#</th>
<th>Title</th>
<th>Area &amp; Credits</th>
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<tbody>
<tr>
<td>AEM</td>
<td>Comput. Elective</td>
<td>(see below)</td>
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<tr>
<td>ES/C</td>
<td>variable</td>
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### 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 430 Computational Fluid Dynamics
- AEM 461 Computational Aerospace Structures

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version: 08_10_2017*
### FRESHMAN YEAR

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- **MATH 125**
  - Calculus I
  - MATH 4
- **AEM 121**
  - Intro to Aerospace
  - ENGR 1
  - ES 1
  - FC 3
- **MATH 125**
- **CH 101**
  - Chemistry
  - NS 4
- **EN 101**
  - English Comp I
  - FC 3
- **EN 102**
- **AEM 249**
  - C++/Algorithms
  - ES 2
  - (see note 1)
- **ENGR 103**
  - Engineering Foundations
  - ENGR 3
- **PH 105**
  - Physics I
  - NS 4
- **AEM 201**
  - ENGR 161
  - AEM 250
  - MATH 125
  - ENGR 103
- **MATH 126**
- **PH 106**
  - Physics II
  - NS 4
- **AEM 311**
  - Fluid Mechanics
  - ES 3
  - (see note 3)
- **ENGR 103**
  - Engineering Foundations
  - ENGR 3
- **AEM 250/251**
  - Mechanics of Materials I/Lab
  - ES 3
- **EC 110**
  - Microeconomics
  - SB 3

### SOPHOMORE YEAR

<table>
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<tr>
<th>Fall</th>
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- **MATH 126**
- **AEM 227**
  - Calculus III
  - MATH 4
- **MATH 228**
  - App. Differential Equations I
- **MATH 238**
- **AEM 201**
  - ENGR 161
  - AEM 250
  - MATH 126
- **PH 105**
  - MATH 125
  - ENGR 103
- **PH 106**
  - MATH 126
- **AEM 250**
  - AEM 311
- **AEM 313**
  - AEM 349
  - AEM 360
  - AEM 368
- **AEM 341**
- **MATH 227**
- **AEM 264**
  - Dynamics
  - ES 3
- **AEM 311**
  - Fluid Mechanics
  - ES 3
- **AEM 313**
  - AEM 360
- **AEM 368**
- **AEM 360**
- **ENGR 161**
  - Small-Scale Engr Graphics
  - ENGR 1
- **EC 110**
  - Microeconomics
  - SB 3
- **ENGR 103**
  - Engineering Foundations
  - ENGR 3
- **AEM 250/251**
  - Mechanics of Materials I/Lab
  - ES 3

**Legend**
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**Key**
- **Pre-requisites**
- **Co-requisites**
- **Course #**
- **Title**
- **Area & Credits**
- **Dependacies**

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