

**Aerospace Engineering (14AEB5 Req Term Summer 2017)**

<b>Freshman Year</b>						
<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>	
CH	101 Chemistry, A Molecular Science <sup>1</sup>	3	CSC	113 Intro Comp MATLAB	3	
CH	102 General Chemistry Lab <sup>1</sup>	1	GC	120 Foundations of Graphics	3	
E	101 Introduction to Engr & Prob Solv <sup>1,2</sup>	1	MA	241 Calculus II <sup>1</sup>	4	
E	115 Intro to Computing Environ <sup>1,2</sup>	1	PY	205 Physics for Engr & Sc I <sup>1</sup>	3	
ENG	101 Academic Writing and Research <sup>1,2</sup>	4	PY	206 Physics for Engr & Sc I <sup>1</sup> Lab	1	
MA	141 Calculus I <sup>1</sup>	4	HES	*** Health & Exercise Studies	1	
EC	205 Economics (or EC 201 or ARE 201)*	3	E	102 Engineering in the 21st Cent	2	
HESF	10* Fitness & Wellness	1				
Semester Total			18	Semester Total		17

<b>Sophomore Year</b>						
<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>	
MA	242 Calculus III	4	MA	341 Applied Differential Eq	3	
MAE	206 Engineering Statics <sup>2,3</sup>	3	MAE	208 Engineering Dynamics <sup>2,3</sup>	3	
MAE	250 Introduction to Aerospace Engineering	1	MAE	214 Solid Mechanics <sup>2,3</sup>	3	
MAE	251 Aero Vehicle Perf <sup>1</sup>	3	MAE	252 Aerodynamics I <sup>1</sup>	3	
PY	208 Physics for Engr & Sc II	3	MAE	253 Experimental Aerodynamics I	1	
PY	209 Physics for Engr & Sc II Lab	1	***	*** GEP Requirement*	3	
Semester Total			15	Semester Total		16

<b>Junior Year</b>						
<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>	
MAE	201 Engr Thermodynamics F	3	MAE	351 Aerodynamics II	3	
MAE	361 Dynamics & Controls	3	MAE	352 Experimental Aerodynamics II	1	
MAE	371 Aero Struc I	3	***	*** Math Elective	3	
MAE	372 Aero Vehicle Struc Lab	1	***	*** GEP Requirement*	3	
	English Elective <sup>4</sup>	3	MAE	*** Flight/Space Elective <sup>6</sup>	3	
***	*** Ethics (GEP Requirement*) <sup>5</sup>	3	MAE	*** Structures Elective <sup>6</sup>	3	
Semester Total			16	Semester Total		16

<b>Senior Year</b>						
<i>Fall Semester</i>		<i>Credits</i>	<i>Spring Semester</i>		<i>Credits</i>	
MAE	405 Controls Lab	1	MAE	481 Aero Vehicle Design II	3	
MAE	435 Princ of Automatic Controls	3	***	*** GEP Requirement*	3	
MAE	451 Experimental Aerodynamics III	1	***	*** GEP Requirement*	3	
MAE	480 Aero Vehicle Design I	3	MAE	*** Flight/Space Elective <sup>6</sup>	3	
MAE	*** Propulsion Elective <sup>6</sup>	3	MAE	*** Technical Elective <sup>6</sup>	3	
MAE	*** Technical Elective <sup>6</sup>	3				
Semester Total			14	Semester Total		15

Minimum Total Credit Hours Required for Graduation 127

**Major/Program requirements and footnotes:**

<sup>1</sup>Courses required for Change of Degree Audit (CODA): CH 101, 102; MA 141, 241; PY 205, 206 must be completed with C or higher.

<sup>2</sup>Minimum grade of C-, E 115 requires satisfactory completion (S).

<sup>3</sup>Students must have a 2.5 GPA to enroll in this course.

<sup>4</sup>ENG 331 Comm Engr & Technology or other approved course.

<sup>5</sup>Select from IDS 201, STS 302, STS 304, STS 320, PHI 214, PHI/STS 325 or PHI 375

<sup>6</sup>**Flight/Space** (3 credit hours) Select either MAE 457 Flight Stability & Control or MAE 467 Intro to Space Flight; **Structures** (3 credit hours) Select either MAE 472 Aero Structures II or MAE 430 Applied Finite Element; **Propulsion** (3 credit hours) Select either MAE 458 Propulsion or MAE 459 Rocket Propulsion; **Open** (6 credit hours) Select from approved lists.

<sup>7</sup>Math Elective (3 credit hours) Select either MA 305, MA 405, ST 305, ST 312, ST 370, ST 371, ST 372 or other approved course.

**\*General Education Program (GEP) requirements and GEP Footnotes:**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied.

University approved GEP course lists for each of the following categories can be found at

<http://oucc.ncsu.edu/gep-courses>.

**Humanities** (6 credit hours selected from two different disciplines/course prefixes)

Choose from the University approved GEP Humanities course list .

**Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)

Choose 3 credits from the University approved GEP Social Sciences course list in a discipline other than Economics.

Economics 205 (or EC 201 or ARE 201), taken as part of the Major requirements, satisfies 3 credit hours needed to fulfill the GEP Social Sciences requirement.

**Health and Exercise Studies** (2 credit hours – must include one HESF 100-level course and one additional HES course)

Choose from the University approved GEP Health and Exercise Studies course list.

**Additional Breadth** - (3 credit hours to be selected from the following University approved GEP course lists)

Choose from the Humanities/Social Sciences/Visual and Performing Arts

**Interdisciplinary Perspectives** (5-6 credit hours)

Choose from the University approved GEP Interdisciplinary Perspectives course list.

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements:

**I. U.S. Diversity (USD)**

Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.

**J. Global Knowledge (GK)**

Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.

**K. Foreign Language proficiency** - Proficiency at the FL\_102 level is required for graduation.

