

## SUGGESTED THREE-YEAR GRADUATION PLAN



### Aeronautics – Aeronautical Studies – Bachelor of Science

[AT-BS-AERN-AEST]

College of Applied Engineering, Sustainability and Technology

Catalog Year: 2012-2013

This roadmap is a recommended semester-by-semester plan of study for this major. However, courses and milestones designated as critical (in boldface and shaded areas) must be completed in the semester listed to ensure a timely graduation.

Course Subject and Title	Credit Hours	Upper Div.	Min. Grade	Major GPA	Important Notes
<b>Post-Secondary Coursework or Credit By Examination Upon Entry as a Freshman: [31 Credit Hours]</b>					
AERN 15000 Introduction to Aeronautics	3			■	
AERN 25250 Elements of Aviation Weather	3			■	
MATH 11010 Algebra for Calculus	3				Fulfills Kent Core Mathematics and Critical Reasoning
MATH 11022 Trigonometry	3				
TECH 21021 Survey of Electricity and Electronics	4				
Kent Core Composition	6				See list of Kent Core courses that can be earned through AP, CLEP or CBE exams on page 3
Kent Core Social Sciences	6				
Kent Core Additional	3				
<b>Semester One: [15 Credit Hours]</b>					
<b>PHY 13011 College Physics I</b>	<b>2</b>				<b>Fulfills Kent Core Basic Sciences; both courses must be taken together</b>
<b>PHY 13021 General College Physics Laboratory I</b>	<b>1</b>				
AERN 15740 Elements of Flight Theory	5			■	
TECH 20002 Materials and Processes	3				
US 10097 Destination Kent State: First Year Experience	1				Not required for transfer students with 25 credits
Kent Core Requirement	3				See Kent Core Summary on page 2
<b>Semester Two: [15 Credit Hours]</b>					
<b>PHY 13012 College Physics II</b>	<b>2</b>				<b>Fulfills Kent Core Basic Sciences; both courses must be taken together</b>
<b>PHY 13022 General College Physics Laboratory II</b>	<b>1</b>				
AERN 25350 Fundamentals of Air Traffic Control	2			■	Must be taken together
AERN 25351 Fundamentals of Air Traffic Control Laboratory	1			■	
AERN 35040 Aircraft Systems I	3	■		■	
AERN 35150 Aircraft Structures	3	■		■	Offered in spring only
COMM 15000 Introduction to Human Communication	3				Fulfills Kent Core Additional
<b>Semester Three: [18 Credit Hours]</b>					
AERN 35020 Aircraft Propulsion Systems	3	■		■	
AERN 35340 Airport Management	3	■		■	
AERN 45030 Aircraft Systems II	3	■		■	Fulfills writing-intensive requirement; see note below
AERN 45150 Applied Flight Dynamics	3	■		■	
Kent Core Requirement	3				See Kent Core Summary on page 2
Kent Core Requirement	3				See Kent Core Summary on page 2
<b>Semester Four: [15 Credit Hours]</b>					
AERN 35341 Air Transportation Systems	3	■		■	
AERN 45130 Physiology and Human Factors of Flight	3	■		■	
AERN 45135 Aviation Safety Theory	3	■		■	
TECH 31000 Cultural Dynamics of Technology	3	■			Fulfills writing-intensive and domestic diversity requirements; see note on page 2
General Electives	3				
<b>Semester Five: [15 Credit Hours]</b>					
AERN 45250 Aviation Law	3	■		■	
AERN 45350 Avionics	3	■		■	Offered in fall only
AERN 45791 Aviation Security and Policy Seminar	3	■		■	Fulfills writing-intensive requirement; see note below
General Electives (lower or upper division)	6				

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**Critical requirements are boldface in shaded areas.**

Course Subject and Title	Credit Hours	Upper Div.	Min. Grade	Major GPA	Important Notes
<b>Semester Six: [15 Credit Hours]</b>					
AERN 45099 Aeronautical Studies Capstone	3	■	C	■	Fulfills experiential learning requirement
AERN 45291 Aerospace Senior Seminar	1	■		■	
General Electives	11				Number of credits required depends on meeting minimum 124 credit hours and 39 upper-division credit hours

### Graduation Requirements Summary

Minimum Total Hours	Minimum Upper-Division Hours	Minimum Kent Core Hours	Global / Domestic Diversity Course	Writing-Intensive	Experiential Learning	Minimum Major GPA	Minimum Overall GPA
124	39	36	Kent Core or General Electives / TECH 3100	AERN 45030 or AERN 45791 or TECH 31000	AERN 45099	2.250	2.000

### Kent Core Summary

Kent Core Categories	Important Notes	Remaining Credit Hours
<b>Composition (6-8 credit hours)</b> <i>ENG 11002, 11011, 21011; HONR 10197, 10297</i>	Enrollment based on placement test	6-8
<b>Mathematics and Critical Reasoning (3-5 credit hours)</b>	Fulfilled in this major with MATH 11010	0
<b>Humanities and Fine Arts (9 credit hours)</b> <i>Minimum one course from humanities in Arts and Sciences and minimum one course from fine arts</i>	May fulfill diversity requirement	9
<b>Social Sciences (6 credit hours)</b> <i>Must be selected from two curricular areas</i>	May fulfill diversity requirement	6
<b>Basic Sciences (6-7 credit hours)</b> <i>Must include one laboratory</i>	Fulfilled in this major with PHY 13011, PHY 13012, PHY 13021 and PHY 13022	0
<b>Additional (6 credit hours)</b> <i>Must be selected from two Kent Core categories</i>	Fulfilled in this major with COMM 15000	3

**Note:** A minimum C grade must be earned in AERN 45030, AERN 45791 or TECH 31000 to fulfill the writing-intensive requirement.

#### Kent Core

Students must complete a minimum 36 credit hours of the Kent Core. Certain courses required in programs and in student's major field may also fulfill the Kent Core. Honors equivalents shall satisfy the Kent Core. None of the courses on the Kent Core list may be taken with a pass/fail grade. Visit [www.kent.edu/catalog/kent-core](http://www.kent.edu/catalog/kent-core) for course list.

#### Diversity Course Requirement

Students must complete a two-course diversity requirement, consisting of one with a domestic (U.S.) focus and one with a global focus. One course must come from the Kent Core. The second course may be taken as a second Kent Core, within a major or minor, or as a general elective; or, with dean's approval, by completing one semester of study in another country. Visit [www.kent.edu/catalog/diversity](http://www.kent.edu/catalog/diversity) for course list.

#### Writing-Intensive Course Requirement

Students must complete a one-course writing-intensive requirement in their major and earn minimum C (2.00) grade. Visit [www.kent.edu/catalog/wic](http://www.kent.edu/catalog/wic) for course list.

#### Experiential Learning Requirement

To provide students with direct engagement in learning experiences that promote academic relevance, meaning and an understanding of real-world issues, students must complete this requirement at Kent State, either as a for-credit course or as a non-credit, non-course experience approved by the appropriate faculty member. Visit [www.kent.edu/catalog/elr](http://www.kent.edu/catalog/elr) for course list.

#### Upper-Division Requirement

Students must complete a minimum 39 upper-division (numbered 30000 to 49999) credit hours of coursework. Programs in the College of Arts and Sciences require a minimum of 42 hours of upper-division coursework.

## Kent Core Courses That Can Be Earned Through Exams

**LEGEND:** G – Global Diversity; D – Domestic Diversity; LAB – Laboratory

				Minimum AP score <sup>1</sup>	Minimum CLEP score <sup>2</sup>	Minimum CBE score <sup>3</sup>
<b>COMPOSITION</b>						
ENG	11011	College Writing I (3)		3	50	C
ENG	21011	College Writing II (3)				C
<b>MATHEMATICS AND CRITICAL REASONING</b>						
CS	10051	Introduction to Computer Science (4)		3		
MATH	11010	Algebra for Calculus (3)			50	
MATH	11012	Intuitive Calculus (3)				C
MATH	12002	Analytic Geometry and Calculus I (5)		3	50	C
MATH	14001	Basic Mathematical Concepts I (4)				C
MATH	14002	Basic Mathematical Concepts II (4)				C
PHIL	21002	Introduction to Formal Logic (3)				C
<b>HUMANITIES AND FINE ARTS</b>						
<b>Humanities in Arts and Sciences</b>						
ENG	22073	Major Modern Writers: British and United States (3)		3	50	
G HIST	11050	History of Civilization I (3)		3		C
G HIST	11051	History of Civilization II (3)		3		C
D HIST	12070	History of the United States: The Formative Period (3)		3	50	C
D HIST	12071	History of the United States: The Modern Period (3)		3	50	C
HIST	1xxxx	European History (3)		3		
<b>Fine Arts</b>						
ARCH	10012	Survey of Architectural History II (3)				C
ARTH	22006	Art History I: Ancient and Medieval Art (3)		3		
MUS	22111	The Understanding of Music (3)				C
G MUS	22121	Music as a World Phenomenon (3)				C
<b>SOCIAL SCIENCES</b>						
ECON	22060	Principles of Microeconomics (3)		3	50	
ECON	22061	Principles of Macroeconomics (3)		3	50	
GEOG	10160	Introduction to Geography (3)				C
G GEOG	17063	World Geography (3)				C
D GEOG	17064	Geography of the United States and Canada (3)				C
G GEOG	22061	Human Geography (3)		3		
G POL	10004	Comparative Politics (3)		3		
D POL	10100	American Politics (3)		3	50	
D PSYC	11762	General Psychology (3)		3	50	
D PSYC	20651	Child Psychology (3)			50	
D SOC	12050	Introduction to Sociology (3)			50	
<b>BASIC SCIENCES</b>						
BSCI	10110	Biological Diversity (4)		3	50	
BSCI	10120	Biological Foundations (4)		4	50	
LAB BSCI	11010	Anatomy and Physiology I for Allied Health (3)				C
LAB BSCI	11020	Anatomy and Physiology II for Allied Health (3)				C
CHEM	10030	Chemistry in Our World (3)				C
CHEM	10050	Fundamentals of Chemistry (3)				C
CHEM	10052	Introduction to Organic Chemistry (2)				C
CHEM	10054	General and Elementary Organic Chemistry (5)				C
CHEM	10060	General Chemistry I (4)		3	50	C
CHEM	10061	General Chemistry II (4)		5	50	C
LAB CHEM	10062	General Chemistry I Laboratory (1)		4		
GEOL	11040	Earth Dynamics (3)				C
GEOL	11042	Earth History (3)				C
GEOL	21062	Environmental Geology (3)		3		C
GEOL	21080	Oceanography (3)				C
PHY	11030	Seven Ideas that Shook the Universe (3)				C
PHY	13001	General College Physics I (4)		3		C
PHY	13002	General College Physics II (4)		3		C
PHY	13011	College Physics I (2)				C
PHY	13012	College Physics II (2)				C
LAB PHY	13021	General College Physics Laboratory I (1)		3		
LAB PHY	13022	General College Physics Laboratory II (1)		3		
PHY	21040	Physics in Entertainment and the Arts (3)				C
PHY	21430	Frontiers in Astronomy (3)				C
PHY	23101	General University Physics I (5)		3		C
PHY	23102	General University Physics II (5)		3		C

- For more information on AP at Kent state, visit [www.kent.edu/honors/academicsandresearch/advanced-placement.cfm](http://www.kent.edu/honors/academicsandresearch/advanced-placement.cfm).
- For more information on CLEP at Kent State, visit [www.kent.edu/career/testing/clep](http://www.kent.edu/career/testing/clep).
- For more information on CBE at Kent State, visit [www.kent.edu/registrar/info/cbe.cfm](http://www.kent.edu/registrar/info/cbe.cfm).

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