AERONAUTICAL SYSTEMS ENGINEERING TECHNOLOGY -B.S.

College of Aeronautics and Engineering www.kent.edu/cae

About This Program

The Aeronautical Systems Engineering Technology program prepares students for a career in the broad field of aeronautics. The program focuses on analytical and hands-on problem-solving in areas of interest to the aeronautics industry. The state-of-the-art facilities; knowledgeable, experienced and friendly faculty; a focus on practical skills; and internship opportunities prepare you for an exciting career in the aeronautics field. Read more...

Contact Information

- · cae@kent.edu | 330-672-2892
- · Speak with an Advisor
- · Chat with an Admissions Counselor

Program Delivery

- Delivery
 - · In person
- · Location
 - Kent Campus

Examples of Possible Careers and Salaries*

Aerospace engineering and operations technologists and technicians

- · 7.0% faster than the average
- 11,900 number of jobs
- \$68,570 potential earnings

Calibration technologists and technicians and engineering technologists and technicians, except drafters, all other

- · 2.1% slower than the average
- · 91,600 number of jobs
- \$64,190 potential earnings

Electro-mechanical and mechatronics technologists and technicians

- 3.0% about as fast as the average
- · 14,600 number of jobs
- \$59,800 potential earnings

Accreditation

The Bachelor of Science degree in Aeronautical Systems Engineering Technology is accredited by the Engineering Technology Accreditation

Commission of ABET, www.abet.org, under the General Criteria and the Program Criteria for Aeronautical Engineering Technology and Similarly Named Programs. This degree program is also accredited by the Aviation Accreditation Board International (www.aabi.aero).

* Source of occupation titles and labor data comes from the U.S. Bureau of Labor Statistics' Occupational Outlook Handbook. Data comprises projected percent change in employment over the next 10 years; nation-wide employment numbers; and the yearly median wage at which half of the workers in the occupation earned more than that amount and half earned less.

Admission Requirements

The university affirmatively strives to provide educational opportunities and access to students with varied backgrounds, those with special talents and adult students who graduated from high school three or more years ago.

First-Year Students on the Kent Campus: First-year admission policy on the Kent Campus is selective. Admission decisions are based upon cumulative grade point average, strength of high school college preparatory curriculum and grade trends. Students not admissible to the Kent Campus may be administratively referred to one of the seven regional campuses to begin their college coursework. For more information, visit the admissions website for first-year students.

First-Year Students on the Regional Campuses: First-year admission to Kent State's campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, as well as the Twinsburg Academic Center, is open to anyone with a high school diploma or its equivalent. For more information on admissions, contact the Regional Campuses admissions offices.

International Students: All international students must provide proof of English language proficiency unless they meet specific exceptions. For more information, visit the admissions website for international students.

Transfer Students: Students who have attended any other educational institution after graduating from high school must apply as undergraduate transfer students. For more information, visit the admissions website for transfer students.

Former Students: Former Kent State students or graduates who have not attended another college or university since Kent State may complete the reenrollment or reinstatement form on the University Registrar's website.

Admission policies for undergraduate students may be found in the University Catalog.

Some programs may require that students meet certain requirements before progressing through the program. For programs with progression requirements, the information is shown on the Coursework tab.

Transfer students must have a minimum 2.250 overall GPA in all collegelevel coursework for admission to the Aeronautical Systems Engineering Technology major.

Program Requirements

Major Requirements

Code Title Credit

Major Requirements (courses count in major GPA)

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& MATH 12012 and CALCULUS WITH PRECALCULUS II (KMCR) Kent Core Composition 6		and ANALYTIC GEOMETRY AND CALCULUS I	
		* *	
Kent Core Humanities and Fine Arts (minimum one course from each) 9	Kent Core Composition	on	6
	Kent Core Humanities	and Fine Arts (minimum one course from each)	9

Minimum Total Credit Hours:	120
hour, including 39 upper-division credit hours)	
General Electives (total credit hours depends on earning 120 credits	5
ECON)	
Kent Core Social Sciences (must be from two disciplines) (cannot be	3

- ENGR 48099 and ENGR 48199 must be taken during the same academic year.
- A minimum C grade must be earned to fulfill the writing-intensive requirement.
- Students who desire to change their major to Aerospace Engineering or Mechatronics Engineering should take PHY 23101 and PHY 23102. Failing to do so may result in additional coursework.
- Applicants to this program should understand that this is a mathintensive program. Students admitted to the program are expected to demonstrate prerequisite knowledge on a math placement exam (the ALEKS exam) prior to starting their first semester. Students who do not obtain the minimum score required to place into MATH 12011 are at risk of delaying graduation.
- Students who desire to change their major to Aerospace Engineering or Mechatronics Engineering should take MATH 11022 and MATH 12002. Failing to do so will result in additional coursework.

Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
2.500	2.500

· A minimum C grade may be required in some courses.

Roadmap

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

	Semester One		Credits
	COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
	ENGR 11000	INTRODUCTION TO ENGINEERING	3
	ENGR 15300	INTRODUCTION TO ENGINEERING ANALYSIS USING MATLAB®	2
	ENGR 15301	INTRODUCTION TO ENGINEERING ANALYSIS USING MATLAB® LAB	1
	UC 10001	FLASHES 101	1
	Mathematics E	lective	3
	Kent Core Requirement		3
		Credit Hours	16
	Semester Two		
	ENGR 13585	COMPUTER AIDED ENGINEERING GRAPHICS	3
	ENGR 20002	MATERIALS AND PROCESSES	3
!	PHY 13001 & PHY 13021 or PHY 23101	GENERAL COLLEGE PHYSICS I (KBS) and GENERAL COLLEGE PHYSICS LABORATORY I (KBS) (KLAB) or GENERAL UNIVERSITY PHYSICS I (KBS) (KLAB)	5
· !	Mathematics E	lective	3-5
		Credit Hours	14
	Semester Three		
	ECON 22060	PRINCIPLES OF MICROECONOMICS (KSS)	3

!	Kent Core Requi	rement Credit Hours	3 15
!			3
!			
!	Aproposition (AE	RN) Elective	3
	ENGR 48199	ENGINEERING CAPSTONE II (ELR) (WIC)	3
	or ENGR 36620		
	BA 44152	PROJECT MANAGEMENT	3
	AERN 35020	AIRCRAFT PROPULSION SYSTEMS	3
	Semester Eight	Credit Hours	15
	Kent Core Requi		3
	Engineering (EN	•	3
!	ENGR 48099	ENGINEERING CAPSTONE I (ELR)	3
	ENGR 45151	APPLIED FLIGHT DYNAMICS II	3
	ENGR 35550	LAW AND ETHICS FOR ENGINEERS	3
	Semester Seven		_
	Cam C	Credit Hours	15
	Kent Core Requi		3
	ENGR 47200	SYSTEMS ENGINEERING	3
	ENGR 26222	PROGRAMMING FOR ENGINEERS LABORATORY	1
	ENGR 26220	PROGRAMMING FOR ENGINEERS	2
	AERN 45150	APPLIED FLIGHT DYNAMICS I	3
	AERN 35150	AIRCRAFT STRUCTURES	3
	Semester Six		
		Credit Hours	15
	ENGR 33041	CONTROL SYSTEMS	3
	ENGR 33033	HYDRAULICS/PNEUMATICS	3
	ENGR 33031	PROGRAMMABLE LOGIC CONTROLLERS	3
	ENGR 30001	APPLIED THERMODYNAMICS	3
	AERN 45030	AIRCRAFT SYSTEMS II	3
	Semester Five		
		Credit Hours	16
	General Elective	s	5
	Kent Core Requi	rement	3
!	Electricity and E	lectronics Electives	4-7
		ENGINEERING	
	ENGR 20000	PROFESSIONAL DEVELOPMENT IN	1
	Semester Four AERN 35040	AIRCRAFT SYSTEMS I	3
		Credit Hours	14
	Kent Core Requi		3
	& PHY 13022 or PHY 23102	and GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB) or GENERAL UNIVERSITY PHYSICS II (KBS) (KLAB)	
!	MERT 22007 PHY 13002		5
	or MERT 22005 <i>and</i>	or STATICS <i>and</i> STRENGTH OF MATERIALS	00
	ENGR 33111	STATICS AND STRENGTH OF MATERIALS	3-6

University Requirements

All students in a bachelor's degree program at Kent State University must complete the following university requirements for graduation.

NOTE: University requirements may be fulfilled in this program by specific course requirements. Please see Program Requirements for details.

Flashes 101 (UC 10001)	1 credit hour
Course is not required for students with 30+ transfer credits (excluding College Credit Plus) or age 21+ at time of admission.	
Diversity Domestic/Global (DIVD/DIVG)	2 courses
Students must successfully complete one domestic and one global course, of which one must be from the Kent Core.	
Experiential Learning Requirement (ELR)	varies
Students must successfully complete one course or approved experience.	
Kent Core (see table below)	36-37 credit
Writing-Intensive Course (WIC)	1 course
Students must earn a minimum C grade in the course.	
Upper-Division Requirement	39 credit hours
Students must successfully complete 39 upper-division (numbered 30000 to 49999) credit hours to graduate.	
Total Credit Hour Requirement	120 credit hours
Kent Core Requirements	
Kent Core Composition (KCMP)	6
Kent Core Mathematics and Critical Reasoning (KMCR)	3
Kent Core Humanities and Fine Arts (KHUM/KFA) (min one course each)	9
Kent Core Social Sciences (KSS) (must be from two disciplines)	6
Kent Core Basic Sciences (KBS/KLAB) (must include one laboratory)	6-7
Kent Core Additional (KADL)	6
Total Credit Hours:	36-37

Program Learning Outcomes

Graduates of this program will be able to:

- Apply knowledge, techniques, skills and modern tools of mathematics, science, engineering and technology to solve broadly defined engineering problems appropriate to the discipline.
- Design systems, components or processes meeting specified needs for broadly defined engineering problems appropriate to the discipline.
- 3. Apply written, oral and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
- Conduct standard tests, measurements and experiments and analyze and interpret the results to improve processes.
- Function effectively as a member as well as a leader on technical teams.

Full Description

The Bachelor of Science degree in Aeronautical Systems Engineering Technology prepares graduates to enter careers in the design, installation, manufacturing, testing, evaluation, technical sales and maintenance of aeronautical/aerospace systems. Students gain technical expertise in engineering materials, statics, strength of materials, applied aerodynamics, applied propulsion and electronics.

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Graduates have strengths in the analysis, applied design, development, implementation and oversight of more advanced aeronautical/aerospace systems and processes. Applicants to this program should understand that this is a math-intensive program.

Information on the program's education objectives, student enrollment and graduation data can be found on the college website.

Students may apply early to the Master of Engineering Technology degree and double count 9 credit hours of graduate courses toward both degree programs. See the Combined Bachelor's/Master's Degree Program policy in the University Catalog for more information.