

PROFESSIONAL PILOT - B.S.

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

About This Program

Take flight with Kent State's Professional Pilot program. Our Bachelor of Science in Professional Pilot program prepares you for a successful career in the aviation industry. With a comprehensive curriculum, hands-on training and experienced faculty, you will gain the skills and knowledge needed to become a skilled pilot. 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

Accreditation

The B.S. degree in Professional Pilot is accredited by the Aviation Accreditation Board International, Federal Aviation Administration.

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.

Admission to the Professional Pilot major is selective.

All students must complete a pre-admission evaluation to be considered for admission. Students applying to the Professional Pilot major and receiving admission to Kent State University will be placed into the Aeronautical Studies major, allowing students to begin any scholarship or financial aid applications while waiting for the final decision regarding the Professional Pilot major. Please see the College of Aeronautics and Engineering for additional information.

Transfer students must have a minimum 2.250 overall GPA in all college-level coursework to be considered for admission to the Professional Pilot major (*effective for the fall 2025 admission term, a minimum 2.500 overall GPA will be required*).

International Students: All international students must provide proof of English language proficiency (unless they meet specific exceptions to waive) by earning a minimum 71 TOEFL iBT score, minimum 6.0 IELTS score, minimum 47 PTE score or minimum 100 DET score, or by completing the ELS level 112 Intensive English Program. For more information on international admission visit the admissions website for international students.

Flight Training Courses: Transfer students and students admitted to the Professional Pilot major with credits completed through College Credit

Plus or other means may be allowed to enroll in flight training courses only with special permission.

Program Requirements

Major Requirements

Code	Title	Credit Hours
Major Requirements (courses count in major GPA)		
AERN 15000	INTRODUCTION TO AERONAUTICS	3
AERN 15740	ELEMENTS OF FLIGHT THEORY (min C grade)	5
or AERN 15750 & AERN 15752	ELEMENTS OF FLIGHT THEORY I and ELEMENTS OF FLIGHT THEORY II	
AERN 15751	PRIVATE PILOT FLIGHT I (min C grade)	2
AERN 15753	PRIVATE PILOT FLIGHT II (min C grade)	3
AERN 25100	INTRODUCTION TO AVIATION MANAGEMENT	3
AERN 25250	ELEMENTS OF AVIATION WEATHER	3
AERN 25252	THUNDERSTORMS AND SEVERE WEATHER	3
AERN 25350	FUNDAMENTALS OF AIR TRAFFIC CONTROL	2
AERN 25351	FUNDAMENTALS OF AIR TRAFFIC CONTROL LABORATORY	1
AERN 30000	PROFESSIONAL DEVELOPMENT IN AERONAUTICS	1
AERN 35020	AIRCRAFT PROPULSION SYSTEMS	3
AERN 35040	AIRCRAFT SYSTEMS I	3
AERN 35150	AIRCRAFT STRUCTURES	3
or AERN 45730 or AERN 45740	APPLIED TRANSPORT CATEGORY AIRCRAFT SYSTEMS FLIGHT MANAGEMENT SYSTEMS	
AERN 35660	INSTRUMENT FLIGHT THEORY (min C grade)	3
AERN 35661	INSTRUMENT PILOT FLIGHT (min C grade)	3
AERN 35665	COMMERCIAL PILOT FLIGHT: NAVIGATION (min C grade)	3
AERN 35760	COMMERCIAL PILOT THEORY (min C grade)	2
AERN 35761	COMMERCIAL PILOT FLIGHT (min C grade)	3
AERN 45030	AIRCRAFT SYSTEMS II	3
AERN 45130	PHYSIOLOGY AND HUMAN FACTORS OF FLIGHT	3
AERN 45135	AVIATION SAFETY THEORY	3
AERN 45150	APPLIED FLIGHT DYNAMICS I	3
AERN 45250	AVIATION LAW	3
AERN 45550	MULTI-ENGINE PILOT - THEORY (min C grade)	1
AERN 45551	MULTI-ENGINE PILOT - FLIGHT (min C grade)	1
AERN 45648	THEORY OF FLIGHT INSTRUCTION (ELR) (min C grade)	3
AERN 45649	FLIGHT INSTRUCTOR - AIRPLANES (min C grade)	3
AERN 45660	FLIGHT INSTRUCTOR - INSTRUMENTS THEORY (min C grade)	1
AERN 45661	FLIGHT INSTRUCTOR - INSTRUMENTS FLIGHT (min C grade)	1
AERN 45710	TURBINE ENGINE THEORY AND OPERATION	2
AERN 45720	CREW RESOURCE MANAGEMENT	2
AERN 45791	AVIATION SECURITY AND POLICY SEMINAR (WIC) ¹	3
Additional Requirements (courses do not count in major GPA)		
COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
MATH 11022	TRIGONOMETRY (KMCR)	3

PHY 13001	GENERAL COLLEGE PHYSICS I (KBS)	4
PHY 13012	COLLEGE PHYSICS II (KBS)	2
PHY 13021	GENERAL COLLEGE PHYSICS LABORATORY I (KBS) (KLAB)	1
PHY 13022	GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	1
UC 10001	FLASHES 101	1
Kent Core Composition		6
Kent Core Humanities and Fine Arts (minimum one course from each)		9
Kent Core Social Sciences (must be from two disciplines)		6
Minimum Total Credit Hours:		120

¹ A minimum C grade must be earned to fulfill the writing-intensive requirement.

Progression Requirements

Students must pass all required flight training and associated flight theory courses with a minimum C grade. Failure to complete all requirements may result in students being deemed not being permitted to continue in the Professional Pilot major; those students will be advised to change their program to the Aeronautical Studies major with the Professional Pilot minor.

Flight Training Courses: Beyond AERN 15751, all students are required to have and maintain a minimum 2.500 overall GPA to continue in flight courses. Students must complete all flight courses by the end of the semester following that in which they enrolled. In other words, if a student enrolls in a flight course in the fall, they must complete the course no later than the end of the following spring semester. This requirement is subject to waiver by the academic program director. In the absence of an authorized waiver, students who fail to complete any flight course by the end of the subsequent semester after course enrollment will receive a failing grade (F) and a complete forfeiture of the balance of the flight fees. Students who wish a refund of flight fees are required to withdraw from their flight course by the withdrawal deadlines established by the Office of the University Registrar. Flight fees will be refunded in accordance with the University policy regarding student fee refunds, policy number 3342-7-06. Students must complete the commercial certificate and instrument rating at Kent State to be eligible for the FAA's R-ATP certificate.

Students in Flight Training Courses must comply with the University Code of Student Conduct, Federal Aviation Regulations and policies outlined in the Kent State University Flight Operations Manual. Failure to comply may result in punitive actions, issuance of a failing course grade and/or dismissal from the Professional Pilot major.

Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
2.500	2.500

- Flight courses may be repeated once with permission.

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
AERN 15000	INTRODUCTION TO AERONAUTICS	3
AERN 15740 or AERN 15750	ELEMENTS OF FLIGHT THEORY or ELEMENTS OF FLIGHT THEORY I	3-5
AERN 15751	PRIVATE PILOT FLIGHT I	2
! MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
UC 10001	FLASHES 101	1
Kent Core Requirement		3
Credit Hours		15
Semester Two		
Requirement: Students must have a 2.500 overall GPA prior to taking flight training courses.		
AERN 15752	ELEMENTS OF FLIGHT THEORY II (required for students who took AERN 15750)	2
AERN 15753	PRIVATE PILOT FLIGHT II	3
! AERN 25250	ELEMENTS OF AVIATION WEATHER	3
AERN 25350	FUNDAMENTALS OF AIR TRAFFIC CONTROL	2
AERN 25351	FUNDAMENTALS OF AIR TRAFFIC CONTROL LABORATORY	1
! MATH 11022	TRIGONOMETRY (KMCR)	3
Kent Core Requirement		3
Credit Hours		17
Semester Three		
AERN 25100	INTRODUCTION TO AVIATION MANAGEMENT	3
AERN 35660	INSTRUMENT FLIGHT THEORY	3
AERN 35661	INSTRUMENT PILOT FLIGHT	3
! PHY 13001	GENERAL COLLEGE PHYSICS I (KBS)	4
! PHY 13021	GENERAL COLLEGE PHYSICS LABORATORY I (KBS) (KLAB)	1
Credit Hours		14
Semester Four		
AERN 25252	THUNDERSTORMS AND SEVERE WEATHER	3
! AERN 35020	AIRCRAFT PROPULSION SYSTEMS	3
AERN 35665	COMMERCIAL PILOT FLIGHT: NAVIGATION	3
COMM 15000	INTRODUCTION TO HUMAN COMMUNICATION (KADL)	3
! PHY 13012	COLLEGE PHYSICS II (KBS)	2
! PHY 13022	GENERAL COLLEGE PHYSICS LABORATORY II (KBS) (KLAB)	1
Credit Hours		15
Semester Five		
AERN 30000	PROFESSIONAL DEVELOPMENT IN AERONAUTICS	1
! AERN 35040	AIRCRAFT SYSTEMS I	3
AERN 35760	COMMERCIAL PILOT THEORY	2
AERN 35761	COMMERCIAL PILOT FLIGHT	3
! AERN 45150	APPLIED FLIGHT DYNAMICS I	3
Kent Core Requirement		3
Credit Hours		15
Semester Six		
! AERN 45030	AIRCRAFT SYSTEMS II	3
! AERN 45130	PHYSIOLOGY AND HUMAN FACTORS OF FLIGHT	3
! AERN 45648	THEORY OF FLIGHT INSTRUCTION (ELR)	3
! AERN 45649	FLIGHT INSTRUCTOR - AIRPLANES	3
Kent Core Requirement		3
Credit Hours		15

Semester Seven			
!	AERN 45250	AVIATION LAW	3
	AERN 45550	MULTI-ENGINE PILOT - THEORY	1
	AERN 45551	MULTI-ENGINE PILOT - FLIGHT	1
	AERN 45660	FLIGHT INSTRUCTOR - INSTRUMENTS THEORY	1
	AERN 45661	FLIGHT INSTRUCTOR - INSTRUMENTS FLIGHT	1
!	AERN 45720	CREW RESOURCE MANAGEMENT	2
	Kent Core Requirement		3
	Kent Core Requirement		3
	Credit Hours		15
Semester Eight			
	AERN 35150	AIRCRAFT STRUCTURES	3
	or	or APPLIED TRANSPORT CATEGORY	
	AERN 45730	AIRCRAFT SYSTEMS	
	or	or FLIGHT MANAGEMENT SYSTEMS	
	AERN 45740		
	AERN 45135	AVIATION SAFETY THEORY	3
!	AERN 45710	TURBINE ENGINE THEORY AND OPERATION	2
!	AERN 45791	AVIATION SECURITY AND POLICY SEMINAR (WIC)	3
	Kent Core Requirement		3
	Credit Hours		14
	Minimum Total Credit Hours:		120

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 hours
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 (KCOMP)	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:

1. Demonstrate the knowledge, skills and techniques required to safely operate in single-pilot or multi-crew aircraft operations under FAR Parts 121, 135, 91K and other commercial aviation operations.
2. Analyze available information and problem solve as part of an aircrew, with respect to aircraft operation, airline operations, physiology, safety and emergency or challenging situations.
3. Demonstrate the skills of an aviation professional, make ethical decisions and correlate aviation business principles to operations.
4. Demonstrate instructional level knowledge and skills in application to single-engine and multi-engine, VFR or IFR flight.

The educational objectives of the program are the following:

1. Exhibit the qualities of excellence, integrity, leadership, management and professionalism within their area of professional specialization in aviation.
2. Demonstrate a professional commitment to safety and contribute to the safety culture within their area of professional specialization in aviation.
3. Demonstrate the ability to improve aerospace for generations to come through experiential learning, creativity and innovation within their area of professional specialization in aviation.
4. Manifest the college's core values in the areas of collaboration, compassion, inclusiveness, innovation, integrity, respect and perseverance within their area of professional specialization in aviation.

Full Description

The Bachelor of Science degree in Professional Pilot is designed for students who aspire to become professional pilots. This program stresses subjects associated with flight systems, propulsion, structures and electronics. Students entering this program should have a strong desire for excellence in aviation, as well as the flying skills required of a professional pilot.

The mission of the Bachelor of Science degree in Professional Pilot is to prepare students to be professional pilots and enable them to obtain Federal Aviation Administration certificates and ratings required for giving flight and ground instruction and commercial and instrument operations in federally regulated commercial aviation operations.

Students may apply early to the M.S. degree in Aviation Management and Logistics 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.