

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE**  
(Federal Aviation Administration Air Traffic College Training Initiative School)

**COLLEGE OF CONTINUING EDUCATION**

**THE UNIVERSITY OF OKLAHOMA**

For Students Entering the Oklahoma State System for Higher Education  
**Summer 2014 through Spring 2015**

GENERAL REQUIREMENTS	
Minimum Total Hours . . . . .	125
Minimum OU & Overall Retention Grade Point Average . . . . .	2.25
Minimum OU & Overall Retention Grade Point Average in Major . . . . .	2.25

Aviation —  
**Air Traffic Management Track**  
**B090 P045**  
Bachelor of Science

**OU encourages students to complete at least 32 hours of applicable coursework each year to have the opportunity to graduate in four years.**

LOWER-DIVISION REQUIREMENTS			UPPER-DIVISION REQUIREMENTS	
Subject	Hours	Courses	Business Requirements -12 hours	Aviation Requirements - 27 hours
<b>Communications</b>	<b>9-19</b>	ENGL 1113, Principles of English Composition (Core I) ENGL 1213, Principles of English Composition (Core I), or EXPO 1213, Expository Writing (Core I) COMM 1113, Principles of Communication, or COMM 2613, Public Speaking <b>Foreign Language</b> , 0-10 hours, (Core I)—Students who have completed two years of high school foreign language are exempt from the general education foreign language requirement.	FIN 3303, Business Finance L S 3323, Legal Environment of Business MGT 3013, Principles of Organization and Management MKT 3013, Principles of Marketing	AVIA 3013, Career Development for Aviation Professionals AVIA 3213, Airport Traffic Procedures AVIA 3313, IFR Air Traffic Procedures ‡ AVIA 4004, ATC Tower Simulation‡ AVIA 4015, Air Traffic Simulation ‡ AVIA 4423, Crew Resource Management AVIA 4663, Survey of Aero. Ethical Issues AVIA 4713, Aviation Field Project (Capstone)
<b>Social Science</b>	<b>3</b>	P SC 1113, American Federal Government (Core III)		
<b>Humanities</b>	<b>12</b>	HIST 1483 or 1493, U.S. (Core IV) One course from one of the following 3 fields (Core IV) must be upper-division:  §Understanding Artistic Forms - _____  §Western Civilization and Culture - _____  §Non-Western Culture - _____		
<b>Science &amp; Mathematics</b>	<b>17</b>	PHYS 1114, Gen. Physics for Non-Science Majors (Core II), or any approved Chemistry, Physics, or Zoology (Core II) METR 1014, Intro. To Weather and Climate (Core II) METR 2603, Severe and Unusual Weather MATH 1643, Precalculus for Business, Life, and Social Sciences MATH 1743, Calculus I for Business, Life & Social Sciences (Core I—Substitute: 1823, Calculus & Analytic Geom. I)	<b>Upper-Division Electives - 3 hours</b> Upper-division electives may include any 3000-4000-level course. May include specialized aviation courses.	
<b>Basic Aviation</b>	<b>13</b>	AVIA 1013, Introduction to Air Traffic Control AVIA 1111, Aviation Orientation AVIA 1213, Basic Air Traffic Control Regulations AVIA 2013, General Air Traffic Control Procedures AVIA 2613, Aviation Safety	<b>Free Electives - 1-11 hours</b> Eleven hours if exempt from foreign language; one hour if foreign language must be taken. <b>Free electives may include any specialized aviation courses.</b> A combined maximum of five hours of physical education activity courses may be used to meet degree requirements.	
<b>Basic Business</b>	<b>18</b>	ACCT 2113, Fundamentals of Financial Accounting ACCT 2123, Fundamental Managerial Accounting ECON 1113, Principles of Economics—Macro (Core III) ECON 1123, Principles of Economics—Micro ECON 2843, Elements of Statistics, or PSY 2003, Understanding Statistics MIS 2113, Computer-Based Information Systems	<b>Specialized Aviation Electives</b> Students are not required to complete all electives listed below, but may choose to do so for additional training.  AVIA 3333, Survey of Aviation Law	

§Courses taken to fulfill the University General Education Requirements must be chosen from the **University-Wide General Education Approved Course List**. Aviation majors must earn a minimum grade of C in aviation courses to be considered passing and move to the next requirement.

**ADDITIONAL REQUIREMENTS**

Maintaining less than a 2.25 GPA, or failure to complete the required math sequence each semester will result in academic probation. The maximum number of aviation hours accepted by transfer is twelve. A maximum of nine hours of aviation may be accomplished through advanced standing. A total of 40 hours of OU coursework must be completed to receive a baccalaureate degree.	A maximum of 32 hours of correspondence courses will be accepted. A total of 55 hours of liberal arts coursework is required. To receive the general business minor a 2.50 OU retention, overall retention, and upper-division business GPA is required.
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**University-Wide General Education Requirements (minimum 40 hours)**

Courses designated as Core I, II, III, IV, or Capstone are part of the General Education curriculum. Students must complete a minimum of 40 hours of General Education courses, chosen from the approved list, including at least one upper-division Gen. Ed. course outside of the student's major. Courses graded S/U or P/NP will not apply.

<b>Core I</b>	<b>Symbolic and Oral Communication (9-19 hours, 3-5 courses)</b> • English Composition—6 hours, 2 courses • Mathematics—3 hours, 1 course • Foreign Language—0-10 hours, 2 courses in the same language, (can be met by successful completion of 2 years of the same foreign language in high school) • Other (courses such as communication, logic or public speaking)
<b>Core II</b>	<b>Natural Science (7 hours, 2 courses)</b> • Courses must be taken from different disciplines in the biological and/or physical sciences; one of which must include a laboratory.
<b>Core III</b>	<b>Social Science (6 hours, 2 courses)</b> • One course must be P SC 1113, "American Federal Government"
<b>Core IV</b>	<b>Humanities (12 hours, 4 courses)</b> • Understanding Artistic Forms—3 hours, 1 course • Western Civilization and Culture—6 hours, 2 courses, including HIST 1483 or HIST 1493 • Non-Western Cultures—3 hours, 1 course

**Senior Capstone Experience (3 hours, 1 course)**

## Suggested Semester Plan of Study

Year	FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
FRESHMAN	ENGL 1113, Principles of English Composition (Core I)	3	ENGL 1213, Principles of English Composition (Core I), or	3
	MATH 1643, Precalculus for Business, Life, and Social Sciences	3	EXPO 1213, Expository Writing (Core I)	
	ECON 1113, Principles of Economics—Macro (Core III)	3	MATH 1743, Calculus I for Business, Life & Social Sciences	3
	HIST 1483, United States 1492-1865, or 1493, United States 1865-Present (Core IV)	3	COMM 1113, Principles of Communication, or 2613, Public Speaking	3
	Free Elective	3	METR 2603, Severe and Unusual Weather	3
	AVIA 1111, Aviation Orientation	1	ECON 1123, Principles of Economics—Micro (Core III)	3
	AVIA 1013, Introduction to Air Traffic Control *		3	
	<b>TOTAL CREDIT HOURS</b>	<b>16</b>	<b>TOTAL CREDIT HOURS</b>	<b>18</b>
SOPHOMORE	METR 1014, Intro. To Weather and Climate (Core II)	4	ACCT 2123, Fundamental Managerial Accounting	3
	ACCT 2113, Fundamentals of Financial Accounting	3	MIS 2113, Computer-Based Information Systems	3
	ECON 2843, Elements of Statistics, or	3	PHYS 1114, Gen. Physics for Non-Science Majors (Core II)	4
	PSY 2003, Understanding Statistics	3	AVIA 2013, General Air Traffic Control Procedures*	3
	P SC 1113, American Federal Government (Core III)	3	AVIA 2613, Aviation Safety	3
	AVIA 1213, Basic Air Traffic Control Regulations*	3		
	<b>TOTAL CREDIT HOURS</b>	<b>16</b>	<b>TOTAL CREDIT HOURS</b>	<b>16</b>
JUNIOR	AVIA 3213, Airport Traffic Procedures*	3	AVIA 4663, Survey of Aero. Ethical Issues	3
	AVIA 4423, Crew Resource Management	3	AVIA 4004, Air Traffic Control Tower Simulation*	4
	MGT 3013, Principles of Organization and Management	3	MKT 3013, Principles of Marketing	3
	Western Civilization and Culture (Core IV)	3	LS 3323, Legal Environment of Business	3
	Free Elective	3	Non-Western Culture—Upper-Division (Core IV)	3
	<b>TOTAL CREDIT HOURS</b>	<b>15</b>	<b>TOTAL CREDIT HOURS</b>	<b>16</b>
SENIOR	AVIA 3313, IFR Air Traffic Procedures*	3	AVIA 3013, Career Development for Aviation Professionals	3
	FIN 3303, Business Finance	3	AVIA 4015, Air Traffic Simulation*	5
	Artistic Forms (Core IV)	3	AVIA 4713, Aviation Field Project (Capstone)	3
	Free Elective	4	Upper-Division Elective	3
			Free Elective	1
	<b>TOTAL CREDIT HOURS</b>	<b>13</b>	<b>TOTAL CREDIT HOURS</b>	<b>15</b>
<b>Bachelor's degrees require a minimum of 40 hours of upper-division (3000-4000) coursework. This plan of study should not be used in lieu of academic advisement.</b>				
* Air Traffic Control coursework must be taken in the semester offered. All 24 hours must be completed in residence at the University of Oklahoma.				
• For those students who did not successfully complete two years of the same foreign language in high school, ten hours of free electives will be replaced with two semesters of the same college-level foreign language.				
• For those students pursuing the General Business Minor, successful completion of ECON 2843 is required.				

## COURSES IN AVIATION (AVIA)

**1111 Aviation Orientation.** Prerequisite: major in Aviation. Required orientation course for all declared Aviation Majors during their first semester. Orients students to the department, curriculum, resources, and provides an overview of the various aviation professions. Guest lecturers will include departmental instructors covering all aspects of the industry, as well as the advising staff. (F)

**1113 Introduction to Aviation.** Prepares student to take the FAA private pilot written examination. Covers FAR's, meteorology, aerodynamics, flight physiology, performance charts, radio navigation techniques. (F, Sp, Su)

**1222 Primary Flying.** Prerequisite: 1113 or permission of department. Includes in-flight instruction with effort directed toward obtaining FAA certification as a private pilot. Third class medical must be obtained prior to flying. (F, Sp, Su)

**1313 Introduction to Unmanned Aerial Systems.** Prerequisite: permission of the department. Introduces students to Unmanned Aerial Systems (UAS). Includes the history of UAS and survey current UAS platforms, terminology, challenges to airspace integration and operational theory. (F, Sp)

**2231 Advanced Flying.** Prerequisite: 1222 or private pilot certificate. (F, Sp, Su)

**2341 Secondary Flying.** Prerequisite: 2231. Consists of cross-country experience under the direct supervision of an instructor pilot. Part of the FAA Part 141 commercial certification course. (F, Sp, Su)

**2513 The History of Aviation.** Chronicles the history of aviation through an in-depth study of powered flight and focus on the development of civil, commercial, and military aviation. The course will cover significant events and people throughout aviation history from the first powered flight through present day developments and a brief look into the future. Also examines the impact of aviation on recreation, transportation, warfare, and exploration. (F, Sp)

**2613 Aviation Safety.** Prerequisite: 1113 and 1222. This course will examine all aspects of accidents/incidents involving airline and general aviation flights. It examines those areas from the perspective of pilots, crew members, air traffic controllers and National Transportation Safety Board (NTSB) findings. Each accident/incident is dissected with the goal of determining what went wrong and lessons that can be learned. (F, Sp)

**3013 Career Development for Aviation Professionals.** Prerequisite: completed 36 or more college credit hours. This course will provide an overview of the career planning process for aviation students. Students will master the techniques of self-assessment, resume and letter writing, interviewing, researching companies, proper writing techniques, ethics and etiquette, and networking. This course is intended to help students prepare for internship interviews or entering the aviation industry as a professional. (F, Sp)

**3103 Flight Deck Environmental Issues.** Prerequisite: departmental permission. Human-machine interface issues in today's modern flight deck are the focus of the course. Leading to that end, the student will explore the cognitive and psychomotor domains of learning, review studies of aircrew interface problems, learn coping mechanisms used by today's best aviation trainers to overcome design-induced problems in cockpit advanced technology. (F, Sp)

**3113 Commercial Aviation.** Prerequisite: 3133 or instrument rating. Course provides the student the knowledge required to obtain a commercial pilot certificate. (F, Sp, Su)

**3133 Fundamentals of Instrument Flight.** Prerequisite: 2231 and private pilot license. Federal aviation regulations as pertain to instrument rules (IFR), weather and forecast products, interpretation of en route low altitude chart and terminal instrument approach procedures, instrument flight procedures and techniques. (F, Sp, Su)

**3333 Survey of Aviation Law.** Prerequisite: 1113 or junior standing. Survey of legal issues in aviation. The student will review legislation, regulatory agencies, and case studies dealing with legal issues in the medium of airspace above the ground—predominantly over the United States. The student will be able to identify and comprehend the historical events and technical terms that describe national and international legal precedents that have shaped aviation law. (F, Sp)

**3513 Airport Operations Management.** Prerequisite: 1113 and junior standing. Provides the student with an in-depth analysis of airport management, operations and planning functions necessary to operate, develop, and maintain safe and efficient airport facilities as is the practice in the United States. Also introduces air traffic control (ATC) concepts. (F, Sp)

**3572 Instrument Flying.** Prerequisite: 3133 and private pilot certificate. Individual flight simulator instruction in the technique of flying solely by reference to instruments. Ground instruction in radio navigation, meteorology, instrument approach procedures, air traffic control procedures and federal aviation regulations. (F, Sp, Su)

**3581 Multi-engine Flying.** Prerequisite: 4552 or commercial pilot certificate. A study of the design, construction and flight characteristics of multiengine aircraft. Inflight instruction in pilotage and operation of multiengine airplanes. Designed to qualify the student for certification as a multiengine pilot. (F, Sp, Su)

**4313 Turbine Transition.** Prerequisite: 3581 and 4552. Introduce the student to the procedures of flying a turbine aircraft and the concepts of crew resource management. Emphasis is placed on the basic terminology and procedures and emergency operations. (F, Sp, Su)

**4423 Crew Resource Management.** Prerequisite: 1113 and junior standing. To teach the student the principles and procedures of a two or more person cockpit. Includes: briefings, call-outs, and emergency procedures. (F, Sp)

**4552 Commercial Flying.** Prerequisite: 3113. The final stage of the FAA Part 141 commercial pilot certification course. Designed to polish pilot skills in commercial aircraft maneuvers. (F, Sp, Su)

**4663 Survey of Aerospace Ethical Issues.** Prerequisite: junior standing and permission of the department. A survey of past and present ethical issues influencing the development of ethical behavior among U.S. aerospace companies and commercial and corporate aviation. Individual development of defense mechanisms to ensure ethical behavior in competitive environments. (F, Sp)

**4713 Senior Capstone.** Prerequisite: senior standing and permission of department; completion of all other major upper-division courses or concurrent enrollment. This project course builds on the accumulated knowledge from all courses to date. Lectures will cover problem identification, analysis, generation of alternatives, cost/benefit studies, interviews and presentations. Student teams will analyze and make recommendations on an actual problem for an aviation related organization, such as the FAA. (F, Sp) [V]

**G4983 Airline Management.** Prerequisite: junior or graduate standing. Study of the managerial aspects of the airline industry to include economic and organizational characteristics, marketing, operational scheduling, fleet planning, and labor relations. Students participate in management simulation as senior executives of a regional domestic carrier. (F, Sp)