**AVIA-AVIA**

**AVIA 1013  Introduction to Air Traffic Control 3 Credit Hours**
Prerequisite: Permission of the department. The purpose of this course is to learn about the air traffic control system from both the pilot and controller’s perspectives. This course is the first of eight ATC courses required for the Air Traffic Management degree path or ATC minor and a prerequisite for basic air traffic control regulations. (F, Sp)

**AVIA 1111  Aviation Orientation 1 Credit Hour**
Prerequisite: Majors only and departmental permission. Required orientation course for all declared Aviation Majors during their first semester. Orient 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, Sp)

**AVIA 1113  Introduction to Aviation 3 Credit Hours**
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)

**AVIA 1213  Basic Air Traffic Control Regulations 3 Credit Hours**
Prerequisite: AVIA 1013 and permission of the department. This course is a progressive continuation of introduction to air traffic control and a prerequisite for general air traffic control procedures. This course is more narrowly focused on study and interpretation of the FAA orders and regulations that govern the air traffic control system and the national airspace system. (Sp, Su)

**AVIA 1222  Primary Flying 2 Credit Hours**
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)

**AVIA 1313  Introduction to Unmanned Aerial Systems 3 Credit Hours**
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)

**AVIA 2013  General Air Traffic Control Procedures 3 Credit Hours**
Prerequisite: AVIA 1013, 1213, and permission of the department. This course will present the study of "general control" procedures used in the terminal and en route control options as well as FAA flight service processes and procedures. This course will serve as a prerequisite for airport traffic control procedures. (F)

**AVIA 2231  Advanced Flying 1 Credit Hour**
Prerequisite: AVIA 1222 or private pilot certificate. Flight instruction in preparation for FAA commercial pilot certificate. (F, Sp, Su)

**AVIA 2341  Secondary Flying 1 Credit Hour**
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)

**AVIA 2513  The History of Aviation 3 Credit Hours**
Prerequisite: Must be a declared aviation major with permission of the department. Chronicles the history of aviation through an in-depth study of powered flight and focus on the development of civil, commercial, and military aviation. Covers 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)

**AVIA 2613  Aviation Safety 3 Credit Hours**
Prerequisite: Sophomore standing and departmental permission. 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)

**AVIA 2970  Special Topics/Seminar 1-3 Credit Hours**
1 to 3 hours. Prerequisite: Must be a declared aviation major with permission of the department. May be repeated; Maximum credit nine hours. Special topics course for content not currently offered in regularly scheduled courses. May include library and/or laboratory research, and field projects. (Irreg.)

**AVIA 3013  Career Development for Aviation Professionals 3 Credit Hours**
Prerequisite: Sophomore standing and must be a declared aviation major with permission of the department. 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)

**AVIA 3103  Flight Deck Environmental Issues 3 Credit Hours**
Prerequisite: Must be a declared aviation major and 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)

**AVIA 3111  Advanced Flight Maneuvers 1 Credit Hour**
Prerequisite: 1222 or FAA private pilot certificate. Increase the student's knowledge and understanding of advanced flight maneuvers. Accelerated stalls, spins, inverted flight, and recovery from unusual altitudes. Advanced aerodynamics will be discussed and demonstrated. (F, Sp, Su)

**AVIA 3113  Commercial Aviation 3 Credit Hours**
Prerequisite: AVIA 3133 or instrument rating and permission of the department. Course provides the student the knowledge required to obtain a commercial pilot certificate. (F, Sp, Su)

**AVIA 3133  Fundamentals of Instrument Flight 3 Credit Hours**
Prerequisite: 2231 and private pilot license. Federal aviation regulations as pertain to instrument flight rules (IFR), weather and forecast products, interpretation of en route low altitude charts and terminal instrument approach procedures, instrument flight procedures and techniques. (F, Sp, Su)

**AVIA 3213  Airport Traffic Procedures 3 Credit Hours**
Prerequisite: AVIA 1013, 1213, 2013, and permission of the department. The primary focus of this course is to study visual air traffic control procedures, specifically, to learn the principles of operation and the separation methods required in the air traffic control tower environment. This course will serve as a prerequisite for IFR Air Traffic Control Procedures. (Sp)
AVIA 3313  IFR Air Traffic Procedures  3 Credit Hours
Prerequisite: AVIA 1013, 1213, 2013, 3213, and permission of the department. Focus on the requirements and procedures used in the IFR air traffic control environment. The students will study all of the separation standards and rules used in radar and non-radar environments in the approach control and air route traffic control facilities. This course will serve as a prerequisite for Air Traffic Simulation. (F)

AVIA 3333  Survey of Aviation Law  3 Credit Hours
Prerequisite: AVIA 1113, junior standing, and permission of the department. 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)

AVIA 3440  Mentored Research Experience  3 Credit Hours
0 to 3 hours. Prerequisites: ENGL 1113 or equivalent, and permission of instructor. May be repeated; maximum credit 12 hours. For the inquisitive student to apply the scholarly processes of the discipline to a research or creative project under the mentorship of a faculty member. Student and instructor should complete an Undergraduate Research & Creative Projects (URCP) Mentoring Agreement and file it with the URCP office. Not for honors credit. (F, Sp, Su)

AVIA 3513  Airport Operations Management  3 Credit Hours
Prerequisite: AVIA 1113, junior standing, permission of the department, and must be a declared Aviation major. 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)

AVIA 3572  Instrument Flying  2 Credit Hours
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)

AVIA 3581  Multi-Engine Flying  1 Credit Hour
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)

AVIA 3913  Aerospace Contract Administration  3 Credit Hours
Prerequisite: Junior standing, permission of the department, and must be a declared aviation major. Survey and study of specialized procedures used in the management and administration of aerospace (aviation) contracts, particularly associated with commercial and defense systems acquisitions. Students will use case study analysis, involving aerospace development and acquisition procedures, to enhance the learning experience and prepare them for future employment in the aerospace industry. (F)

AVIA 3923  Aerospace Operational Research  3 Credit Hours
Prerequisite: Junior standing, must be a declared Aviation major, and departmental permission. Students will be introduced to the fundamental methods and techniques employed by the aviation/aerospace industry when researching and analyzing operational issues. Students will be able to use specialized research methods to collect data, analyze it, and then draw logical conclusions. Knowledge, skills, and abilities learned in this course will prepare students for Senior Capstone. (F)

AVIA 3960  Honors Reading  1-3 Credit Hours
1 to 3 hours. Prerequisite: Admission to Honors Program. May be repeated; maximum credit six hours. Consists of topics designated by the instructor in keeping with the student's major program. The topics will cover materials not usually presented in the regular courses. (F, Sp, Su)

AVIA 3970  Honors Seminar  1-3 Credit Hours
1 to 3 hours. Prerequisite: admission to Honors Program. May be repeated; maximum credit six hours. Subjects covered vary. Deals with concepts not usually treated in regular courses. (Irreg.)

AVIA 3980  Honors Research  1-3 Credit Hours
1 to 3 hours. Prerequisite: Admission to Honors Program. May be repeated; maximum credit six hours. Will provide an opportunity for the gifted Honors candidate to work at a special project in the student's field. (F, Sp, Su)

AVIA 3990  Independent Study  1-3 Credit Hours
1 to 3 hours. Prerequisite: permission of instructor and junior standing. May be repeated once with change of content. Independent study may be arranged to study a subject not available through regular course offerings. (F, Sp, Su)

AVIA 4004  Air Traffic Control Tower Simulation  4 Credit Hours
Prerequisite: AVIA 1013, 1213, 2013, 3213, and 4013; all with minimum grade of C; and permission of the department. Provides students an opportunity to apply knowledge learned in previous air traffic control courses, specifically AVIA 3213, and expand the knowledge base of terminal ATC procedures. The application and expansion of knowledge will occur in lectures and through working in a high fidelity, simulated ATC tower environment. Laboratory (F)

AVIA 4013  En-Route Radar Lab  3 Credit Hours
Prerequisite: AVIA 1013, 1213, 2013, 3213, 3313; all with minimum grade of C; and permission of the department. Lab to prepare student for on-the-job training in an FAA En-Route Air Traffic Control facility. Course will consist of dynamic simulation exercises in an ATC computer lab as well as classroom briefings. Students will run scenarios as the controller and as a pseudo pilot. Course objectives are based on federal guidelines by the Federal Aviation Administration. (Sp)

AVIA 4023  Tracon Radar Lab  3 Credit Hours
Prerequisite: AVIA 1013, 1213, 2013, 3213, 3313, 4004, and 4013; all with minimum grade of C; and permission of the department. Lab to prepare student for on-the-job training in an FAA Terminal Radar Air Traffic Control facility. Course will consist of dynamic simulation exercises in an ATC computer lab as well as classroom briefings. Students will run scenarios as the controller and as a pseudo pilot. Course objectives are based on federal guidelines by the Federal Aviation Administration. (Sp)

AVIA 4113  CFI Seminar  3 Credit Hours
Prerequisite: 3133, 3113. Increase student knowledge of theories of learning, flight instructor authority, and responsibility and classroom and flight techniques. Emphasis on principles of instruction, student motivation and maneuver error analysis. (F, Sp, Su)

AVIA 4313  Turbine Transition  3 Credit Hours
Prerequisite: AVIA 3581, 4552, and permission of the department. 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)

AVIA 4423  Crew Resource Management  3 Credit Hours
Prerequisite: AVIA 1113, junior standing, permission of the department, and must be a declared aviation major. To teach the student the principles and procedures of a two or more person cockpit. Includes: briefings, call-outs, and emergency procedures. (F, Sp)
AVIA 4552  Commercial Flying  2 Credit Hours
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)

AVIA 4602  Flight Instructor-Airplane  2 Credit Hours
Prerequisite: commercial pilot certificate and instrument rating. Flight instruction in preparation for FAA flight instructor certificate. (F, Sp, Su)

AVIA 4613  Instrument Flight Instructor  3 Credit Hours
Prerequisite: commercial pilot certificate and flight instructor-airplane certificate. Consists of lecture and flight instruction in the specialized teaching techniques and procedures required of an instrument flight instructor. At the end of the course, the student will meet the requirements for certification by the FAA as an instrument flight instructor. (F, Sp, Su)

AVIA 4622  Multiengine Flight Instructor  2 Credit Hours
Prerequisite: commercial multiengine pilot certificate and flight instructor–airplane certificate. Instruction in the specialized teaching techniques and procedures required of a multiengine flight instructor. At the end of the course, the student will meet the requirements to take the flight test for certification by the FAA as a multiengine flight instructor. (F, Sp, Su)

AVIA 4663  Survey of Aerospace Ethical Issues  3 Credit Hours
Prerequisite: Junior standing, permission of the department, and must be a declared aviation major. 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, Su)

AVIA 4713  Senior Capstone  3 Credit Hours
Prerequisite: senior standing, permission of department, and all 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, Su)

AVIA 4803  Aviation Mental Health: Psychological Implications for Air Transportation  3 Credit Hours
Prerequisite: junior standing, permission of the department, and must be a declared aviation major. Students will learn about mental health issues relevant to passengers, cabin crew, and flight deck crew—that have far-reaching psychological implications for all those who travel by means of air transportation—through the experiences of flight attendants, pilots, clinicians, researchers, trainers, and professors. (Sp, Su)

AVIA 4960  Directed Readings  1-4 Credit Hours
1 to 4 hours. Prerequisite: good standing in University; permission of instructor and dean. May be repeated; maximum credit four hours. Designed for upper-division students who need opportunity to study a specific problem in greater depth than formal course content permits. (Irreg.)

AVIA 4970  Special Topics/Seminar  1-3 Credit Hours
1 to 3 hours. Prerequisite: Senior standing and permission of department; May be repeated; maximum credit nine hours. Special topics or seminar course for content not currently offered in regularly scheduled courses. May include library and/or laboratory research and field projects. (Irreg.)

AVIA G4983  Airline Management  3 Credit Hours
Prerequisite: Junior or graduate standing, and departmental permission; must be a declared aviation major. 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)

AVIA 4990  Special Studies in Aviation  1-4 Credit Hours
1 to 4 hours. Prerequisite: departmental permission. Will encompass various aviation-related topics including many specialty flight programs; such as, aerobatic instruction, multiengine training, pilot refresher training, etc. (F, Sp, Su)