Aviation Administration/Professional Pilot

Flight training requires that the accumulation of aeronautical knowledge be accompanied by the simultaneous acquisition of skills essential to the profession. The curriculum is stressful requiring both emotional stability and physical stamina. All students flight training at Farmingdale State College must meet the safety and technical standards in the following areas: Communication Skills, Sensory Observation Skills, Motor Skills, Intellectual-Conceptual (Thinking) Skills, Behavioral-Social Skills, and Environmental Tolerance Skills. In addition students must be able to obtain and maintain a FAA Medical Certificate as specified in the Medical Standards in the Code of Federal Regulations Title 14 Part 67, and provide acceptable United States Citizenship Documentation or acceptance by the Transportation Security Administration Flight School Security Program for Legal Aliens in the Code of Federal Regulations Title 14 Part 1552. Communication Skills: The student must possess the ability to communicate effectively in English using reasonable grammar and syntax in both oral and written formats. In addition, the student must notice and appreciate both verbal and nonverbal communication when performing the duties of Pilot in Command (PIC). Communication skills will be evaluated upon the student's pronunciation, structure, vocabulary, fluency, comprehension, and interactions of the English language as per the English language eligibility requirements of 14 CFR parts 61 and 63. Read, write, and understand English as required by FAA standards. Use English to obtain necessary information from acural and written sources. Express information clearly in English both verbally and in writing. Understand and correctly respond to radio and air traffic communication. Communicate clearly by radio with air traffic control Communicate clearly by radio with other pilots in the air. Sensory Observation Skills: Students must be able to make independent observations and assessments to maintain positive aircraft control and safely pilot an airplane: observe air traffic accurately, both at a distance and near. In addition, the student must have the functional use of the senses of vision, touch, hearing, and smell which are necessary in assessing aircraft preflight actions and maintaining aircraft safety. Examples of Sensory Observation Skills include but are not limited to: Complete a pre-flight inspection of the engine, propeller, and electrical, environmental, hydraulic, pneumatic, fuel, ignition, lubrication, and flight control systems Process visual, auditory, and tactile input simultaneously Monitor for other air traffic through continuous visual scanning and radio calls Monitor instrument panel Detect and respond to auditory signals from air traffic control Chart flight plan with maps Possess quick sensory response time Motor Skills: The student is required to possess sufficient physical strength, flexibility, and dexterity to operate an airplane, perform gross and fine motor movements, and maintain consciousness and equilibrium to provide safe aircraft operation. The candidate should have full manual dexterity including the functioning of both arms, both wrists, both hands and all fingers. Examples of motor skills include but are not limited to: Independently execute all required flight maneuvers including climbs, descents, stalls, turns, take-offs and landings Perform manual inspections of the airframe, engine, fuel tanks and oil reservoir requiring the ability to climb while maintaining balance and dexterity Respond to engine indications and instruments by making manual adjustments Sit for prolonged periods Possess quick physical response time Activate brake pedals for aircraft steering and braking Maintain balance and stability Intellectual-Conceptual (Thinking) Skills: The student must possess the ability to problem solve, establish a plan of action, set priorities, calculate, measure, analyze and synthesize objective as well as subjective data. These critical skills are essential for applying aviation concepts and technology to safely pilot an aircraft. In addition the candidate must possess the ability to understand and comprehend three dimensional and spatial relationships. Examples of intellectual-conceptual skills include but are not limited to: Read, understand, and follow Farmingdale State College, State, and FAA Regulations Recognize the design and operation of aircraft components, instruments, and systems Evaluate information and conditions to do flight planning, maneuvering, and safety risk management Keep up with sequence and pace of instructions Apply principles of flight, weather, aerodynamics, and navigation to complete flight lessons Evaluate flight situations and make decisions quickly with sound judgment Process multi-sensory input and multi-task simultaneously to maintain positive aircraft control Keep up with sequence and pace of instructions Behavioral-Social Skills: The student must possess emotional stability and flexibility, which will enable him/her to develop the ability to function effectively in stressful situations. This includes the ability to adapt to changing environments, exercise sound judgment, comprehend constructive criticism, and behave appropriately and safely in a high-risk learning environment.
environment. Examples of these Behavioral-Social skills include but are not limited to: Work independently with minimal or no supervision Follow through with individual responsibilities Evaluate information and conditions to do flight planning, maneuvering, and safety risk management Exercise good judgment Ability to think and act rationally during stressful situations Comply with drug-free requirements and testing Demonstrate appropriate behavior towards staff, and peers according to societal norms Accepting constructive criticism Environmental Tolerance Skills: The student must be able and willing to work in a flight training environment for prolonged periods of time. Examples of these Environmental Tolerance Skills include but are not limited to: Changes in altitudes Changes in temperature Changes in air pressure Extreme noise Gas and Fumes Moving objects and vehicles Slippery or uneven surfaces Variations of lighting of lighting FAA Medical Certificate Standards: Please keep in mind that you will have to fulfill additional requirements to be eligible for certification exams or licensure in the field. A medical exam administered by an FAA Aviation Medical Examiner is required prior to flight training. Students must be able to obtain a 1st, 2nd or 3rd class FAA medical certificate. For students pursuing flight as a career choice, the department strongly recommends students obtain a 1st class medical certificate. The requirements for medical standards are listed in the Code of Federal Regulations Title 14 Part 67. For specific information on medical standards required for obtaining licenses and ratings through an Aviation Medical Examiner, or to locate an Aviation Medical Examiner in your area, go to http://www.faa.gov/pilots/amelocator/. Alien Flight Student Program (AFSP): The mission of the Alien Flight Student Program (AFSP) is to ensure that foreign students seeking training at flight schools regulated by the Federal Aviation Administration (FAA) do not pose a threat to aviation or national security. Section 612 of the Vision 100 - Century of Aviation Reauthorization Act (Public Law 108-176, December 12, 2003) prohibits flight schools regulated by the Federal Aviation Administration (FAA) from providing flight training to a foreign student unless the Secretary of Homeland Security first determines that the student does not pose a threat to aviation or national security. Vision 100 transferred responsibility for conducting security threat assessments for foreign students seeking flight training from the Department of Justice to the Department of Homeland Security. On September 20, 2004, the Transportation Security Administration (TSA) issued an interim final rule establishing the Alien Flight Student Program (AFSP). Legal notices are available on the Candidate and Provider menus. These include the notices about the Vision 100 - Century of Aviation Reauthorization Act, Paperwork Reduction Act, Information Verification, and Privacy and Security within the AFSP website. For more information, first review the Flight Training for Aliens and Other Designated Individuals; Security Awareness Training for Flight School Employees Interim Final Rule (IFR) 49 CFR 1552, which is if IFR_Alien_Pilot.pdf. Also review the rulemaking docket, which contains exemptions, interpretations, and other legal documents associated with the IFR. The rulemaking docket is available at http://www.regulations.gov. For the AFSP rulemaking docket, click on "Simple Search" and then enter the docket number for the AFSP rulemaking docket (19147) and click on "Search". If you have further questions regarding legal notices on AFSP policy, please send questions with all relevant details by e-mail to AFSP.Help@dhs.gov. Disability Accommodations: We have developed our technical standards in compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. We will provide reasonable accommodations to qualified students with disabilities. The College may not make inquiry regarding a prospective student's disability status prior to admission to the institution. However, students may choose, at any time during their association with the College, to disclose a documented disability. Students should be aware that certain disabilities and/or their mitigating therapies might delay or preclude their participation in some of the College's programs of study due to regulatory limitations of the Federal Aviation Administration. Students are encouraged to discuss these concerns with an Aviation Medical Examiner or directly with the FAA in Oklahoma City, OK by phoning (405) 954-4821. Farmingdale State College will provide reasonable accommodations but is not required to substantially alter the requirements or nature of the program or provide accommodations that inflict an undue burden on the College. In order to be admitted one must be able to perform all of the essential functions with or without reasonable accommodations. However, due to the rigors of the curriculum and the immense responsibility for safe aircraft operation a student can be denied admission to the Pro-Pilot program or disenrolled from the program if accommodating the student's disability would pose a direct threat to aircraft safety or would compromise the academic integrity of the program. If an individual's health changes during the program of learning, so that the essential functions cannot be met with or without reasonable accommodations, the student may be withdrawn from the Pro-Pilot program. Graduation Requirements: All Pro-Pilot Majors must have all FAA certificates/ratings required prior to graduation. Grades earned are issued upon obtaining the FAA certificate/rating specified in the course. If at any point during your tenure with Farmingdale State College you fail to meet our safety and technical standards, the Aviation Center Management reserves the right to no longer provide you flight training. Failure to comply with
the rules and policies in our Flight Operations Manual may result in disciplinary action, which may include suspension or dismissal from the Farmingdale State College flight program. An admissions interview may be conducted at the discretion of Aviation Center management prior to allowing a student to flight train at Farmingdale State College.

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<tr>
<th>Liberal Arts and Sciences</th>
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<tr>
<td>American/Western/Other World Civilizations (GE)</td>
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<tr>
<td>Basic Communication - 200 level or higher (GE)</td>
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<tr>
<td>ECO 156 Principles of Economics (Macroeconomics)</td>
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<td>ECO 157 Principles of Economics (Microeconomics)</td>
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<td>EGL 101 Composition I: College Writing</td>
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<td>EGL 102 Composition II: Writing About Literature</td>
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<tr>
<td>MTH 129 Precalculus with Applications</td>
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<td>MTH 130 Calculus I with Applications</td>
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<td>PHY 135 College Physics I</td>
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<td>PHY 136 College Physics II</td>
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<td>PSY 101 Introduction to Psychology</td>
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<td>PSY 331 Industrial / Organizational Psychology</td>
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<td>The Arts (GE)</td>
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<tr>
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<td>AVN 106 Private Pilot Flight To Certificate</td>
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<td>AVN 110 Introduction to Flight</td>
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<td>AVN 209 Instrument Pilot Flight</td>
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<td>AVN 212 Commercial Pilot Flight</td>
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<td>AVN 310 Certified Flight Instructor-Flight</td>
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<tr>
<th>Required: Aeronautical Science - Lecture</th>
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<td>AVN 101 Aviation Industry: A History Perspective</td>
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<td>AVN 104 Private Pilot Ground</td>
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<td>AVN 201 Safety Ethics</td>
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AVN 202 Aviation Meteorology 3
AVN 208 Instrument Pilot Ground 3
AVN 211 Commercial Pilot Ground 3
AVN 300W Government in Aviation (Writing Intensive) 3
AVN 309 Certified Flight Instructor 3
AVN 320 Air Carrier Flight Operations 3
AVN 321 Physiology of Flight 3
AVN 322 Advanced Aircraft Systems 3
AVN 400 Aviation Law 3
AVN 421 Gas Turbine Engines 3
AVN 422 Aerodynamics and Aircraft Performance 3
AVN 423 Crew Resource Management 3
AVN 424 Advanced Avionics and Cockpit Automation 3
AVN 425 Safety of Flight 3
AVN 447 Capstone Prof Pilot Seminar 3
AVN Aviation Electives 6

Total Credits 128

Degree Type: ..BS
Total Required Credits: 125

Notes:
1. Students entering the program with a Private Pilot’s certificate must enroll in AVN 112 Private Pilot Proficiency. Students with any flight experience may also be required to enroll in AVN 112 at the discretion of the Chief Flight Instructor.

2. Flight Courses must be completed within a year from the date a student registers. Within this time frame a student must either 1) Successfully complete the course and be issued a grade, OR 2) Withdraw from the course, due to the following extenuating circumstances: Active Military Obligations, Medical conditions requiring removal from active flight status for a duration of 60 consecutive days or more. If neither of the above occurs, a failing grade will be assigned.

3. Students holding flight certificates and ratings above the Private Pilot Certificate are permitted to flight train but cannot graduate with a Professional Pilot degree.

Course Descriptions

ECO 156 Principles of Economics (Macroeconomics)
This course is designed to introduce classic macroeconomic issues such as unemployment, inflation, national income and economic growth. The course will provide a unified framework to address these issues and to study the impact of different policies, such as monetary and fiscal policies, on the aggregate behavior of the economy. Analytical tools will be used to
understand the experiences of the United States and other countries, and to address how current policy initiatives affect their macroeconomic performance. Credits: 3

ECO 157 Principles of Economics (Microeconomics)
This course introduces students to fundamental economic concepts and theory, including demand, supply, and the formation of equilibrium prices in product and resource markets. Students will learn a specific set of analytical tools as well as how to apply them to current policy issues. In addition, the course offers an introduction to applied fields such as industrial organization (market structures), labor economics, international trade, and market failure. Credits: 3

EGL 101 Composition I: College Writing
This is the first part of a required sequence in college essay writing. Students learn to view writing as a process that involves generating ideas, formulating and developing a thesis, structuring paragraphs and essays, as well as revising and editing drafts. The focus is on the development of critical and analytical thinking. Students also learn the correct and ethical use of print and electronic sources. At least one research paper is required. A grade of C or higher is a graduation requirement. Note: Students passing a departmental diagnostic exam given on the first day of class will remain in EGL 101; all others will be placed in EGL 097. Prerequisite is any of the following: successful completion of EGL 097; an SAT essay score (taken prior to March 1, 2016) of 7 or higher; an SAT essay score (taken after March 1, 2016) of 5 or higher; on-campus placement testing. Credits: 3

EGL 102 Composition II: Writing About Literature
This is the second part of the required introductory English composition sequence. This course builds on writing skills developed in EGL 101, specifically the ability to write analytical and persuasive essays and to use research materials correctly and effectively. Students read selections from different literary genres (poetry, drama, and narrative fiction). Selections from the literature provide the basis for analytical and critical essays that explore the ways writers use works of the imagination to explore human experience. Grade of C or higher is a graduation requirement. Prerequisite(s): EGL 101 Credits: 3

MTH 129 Precalculus with Applications
This is a precalculus course with applications from various disciplines including technology, science, and business. Topics include families of functions, mechanics of functions, exponential and logarithmic functions, trigonometric functions and complex numbers. The emphasis is on applications and problem solving. A graphing calculator is required. Note: Students completing this course may not receive credit for MTH 117. Prerequisite(s): MP3 or MTH 116 Credits: 4

MTH 130 Calculus I with Applications
This is a calculus course for those not majoring in Mathematics, Engineering Science or Computer Science. Topics include the derivative, differentiation of algebraic, trigonometric, exponential and logarithmic functions, applications of the derivative and the definite integral. Applications are taken from technology, science, and business. Problem solving is stressed. A graphing calculator is required. Note: Students completing this course will not receive credit for MTH 150. Prerequisite(s): MP4 or MTH 117 or 129 Credits: 4

PHY 135 College Physics I
An integrated theory/laboratory general college physics course without calculus. Topics will include fundamental concepts of units, vectors, equilibrium, velocity and acceleration in linear and rotational motion, force, energy, momentum, fluids at rest and in motion, and oscillatory motion. Laboratory problems, experiments and report writing associated with the topics studied in the theory are performed. Prerequisite(s): MTH 129 Corequisite(s): PHY 135L Credits: 4

PHY 136 College Physics II
A continuation of PHY 135. Topics will include heat, electricity, magnetism, light and optics. Prerequisite(s): PHY 135
Corequisite(s): PHY 136L Credits: 4

PSY 101 Introduction to Psychology
This course is designed to present basic psychological concepts and to introduce students to the scientific study of behavior. Core topics include methods of psychological research, the biological bases of behavior, principles of learning, memory and cognition, personality, and psychopathology. Other selected topics to be covered would include the following: motivation and emotion, life-span development, social psychology, health psychology, sensation and perception, intelligence, human sexuality, statistics, and altered states of consciousness. Credits: 3

PSY 331 Industrial / Organizational Psychology
Students will explore how the science and practice of psychology is applied in the world of work and organizations. Among the topics that will be examined are the history and research methodology of industrial/organizational psychology, job analysis, employee selection, performance evaluation, training, work motivation, job satisfaction, leadership, group dynamics, and organizational development. The course will highlight emerging trends in the modern workforce and examine how these changes will impact research and practice in today's organizations. Students will examine the factors influencing cross-cultural diversity and globalization, the theoretical and practical implications of these workforce trends, and how current organizational theories and practices apply to cultures outside of the United States. Implications for the full range of topics discussed in the course will be examined including how cultural diversity and globalization affect employee selection procedures, group dynamics, preferences for leadership, training needs, work motivation, and organizational development. Prerequisite(s): PSY 101. Credits: 3

AVN 105 Private Pilot Flight to Solo
Private Pilot Flight to Solo will enable the student to meet some of the prerequisite(s) specified in 14 CFR Part 61.109 or 14 CFR Part 141 Appendix B, as appropriate. During this course, the student obtains the foundations for all future aviation training. The student becomes familiar with the training airplane and learns how the airplane controls are used to establish and maintain specific flight attitudes and ground tracks. At the conclusion of the course, the student demonstrates proficiency in basic flight maneuvers and the student pilot will have successfully completed no less than three takeoffs and full stop landings in the traffic pattern as Pilot-in-Command. Students must have a FAA Student Pilot Certificate/FAA 3rd Class or higher Medical Certificate. Aero fees will be charged. Note: FAA minimum hours approved are 35 total hours for AVN 105 & 106. Prerequisite(s): FAA Student Pilot Certificate and AVN 104 Credits: 1

AVN 106 Private Pilot Flight To Certificate
Private Pilot Flight training will enable the student to meet the prerequisite(s) specified in 14 CFR Part 61.109 or 14 CFR Part 141 Appendix B, as appropriate. Private Pilot Flight to Certificate will enable the student to meet the requirements necessary to obtain a Private Pilot certificate. An enrolled student must demonstrate through oral examinations, practical tests, and appropriate records that he/she meets the knowledge, skill and experience requirements necessary to obtain a Private Pilot certificate with an airplane single-engine land rating. Selected subject areas will include engine starting, normal and crosswind taxiing, radio communications, normal takeoffs, power on and power off stalls, maneuvering during slow flight, traffic patterns, go around from a rejected landing, crosswind and normal landings, cross country flying, radio navigation, cockpit management, low level wind shear precautions, airport and runway marking and lighting, constant airspeed climbs and descents, stall spin awareness, and steep turns. Students must have a FAA Student Pilot Certificate/FAA 3rd Class or higher Medical Certificate. A grade will be issued upon taking the FAA Private Pilot practical exam. Aero fees will be charged. Note: FAA minimum hours approved are 35 total hours for AVN 105 & 106. Prerequisite(s): AVN 104 and AVN 105 with a grade of C or higher; FAA Student Pilot Certificate Credits: 1

AVN 110 Introduction to Flight
Introduction to Flight offers students with no prior flight time an opportunity to begin training in normal preflight, in-flight and post-flight procedures as provided by the SUNY Flight Line. The student is afforded 5 hours combined flight and simulator time and may then commence flight training for Private Pilot. Aero fees will be charged. Note: Flight courses must be completed within a year from the date a student registers. Within this time frame a student must either 1) Successfully complete the course and be issued a grade, OR 2) Withdraw from the course, due to the following extenuating circumstances: Active Military Obligations, Medical conditions requiring removal from active flight status for a duration of 60 consecutive days or more. If neither of the above occurs, a failing grade will be assigned. Credits: 2

AVN 209 Instrument Pilot Flight
Instrument Pilot Flight training will enable the student to meet the prerequisite(s) specified in 14 CFR Part 61.65, or 14 CFR Part 141 Appendix C, as appropriate. Instrument Pilot Flight will enable the student to meet the requirements necessary to obtain an Instrument Rating. Selected subject areas will include airplane attitude control by reference to instruments, use of full and partial panel reference, accurate use of navigation systems by maintaining positional awareness, holding patterns, instrument approaches, and IFR cross country procedures. A grade will be issued upon taking the FAA Instrument Rating practical exam. Students must possess an FAA Private Pilot Certificate/FAA 3rd Class or higher Medical Certificate. Aero fees will be charged. Note: FAA minimum hours approved are 35 total hours for AVN 209. Prerequisite(s): AVN 106 with a grade of C or higher Corequisite(s): AVN 208 Credits: 1

AVN 212 Commercial Pilot Flight
Commercial Pilot Flight training will enable the student to meet the prerequisite(s) specified in 14 CFR Part 61.129 or 14 CFR Part 141 Appendix D, as appropriate. Commercial Pilot Flight will enable the student to meet the requirements necessary to obtain a Commercial Pilot Certificate. Selected subject areas include accurate planning of VFR cross country flights, pilotage, dead reckoning, navigation systems, and commercial maneuvers as well as provide the skill necessary to safely fly a complex airplane. A grade will be issued upon taking the FAA Commercial Pilot practical exam. Students must possess a FAA 3rd Class or higher Medical Certificate. Aero Fees will be charged. Note: FAA minimum hours approved are 65 total hours for AVN 212. Prerequisite(s): AVN 209 with a grade of C or higher Corequisite(s): AVN 211 Credits: 1

AVN 310 Certified Flight Instructor-Flight
This course will allow students to meet the requirements as specified by 14 CFR Part 61.187 or 14 CFR Part 141 Appendix F, as appropriate, and will allow students to meet the requirements necessary to complete the Certified Flight Instructor Airplane Practical Exam. Selected subject areas will include applicable Federal Aviation Regulations of this chapter that relate to Certified Flight Instructor pilot privileges, limitations, and flight operations, the fundamentals of instructing, including: The learning process; elements of effective teaching; student evaluation and testing; course development; lesson planning; and classroom training techniques. Also included are practical flight training modules necessary to gain the required aeronautical experience and proficiency applicable to recreational, private, and commercial pilot certificates appropriate to the aircraft category/class for which flight instructor privileges are sought. A grade will be issued upon taking the FAA Certified Flight Instructor Certificate. Students must possess an FAA Commercial Pilot Certificate with Instrument Privileges/FAA 3rd Class or higher Medical Certificate. Aero Fees will be charged. Prerequisite(s): AVN 212 with a grade of C or higher Corequisite(s): AVN 309 Credits: 1

AVN 101 Aviation Industry: A History Perspective
This course is a basic survey of the aviation industry viewed from a historical perspective. Topics covered will range from the early days of aviation to the present. The course will also examine the chronology of aviation laws and regulations and how they have changed from aviation beginnings in the United States to present day. At the conclusion of this course, the student will have a comprehensive knowledge of the U.S. air transportation industry and will understand its significant social/ economic impact upon the nation and the world. Credits: 3

AVN 104 Private Pilot Ground
Private Pilot-Ground Training will enable the student to meet the prerequisite(s) specified in 14 CFR Part 61.105 as well as 14 CFR Part 141 Appendix B, as appropriate. Selected subject areas will include airplane systems, aerodynamic principals, flight environment, communication and flight information, meteorology for pilots, FAA Regulations, National Airspace System, NTSB, AC’s, interpretation of weather data, aircraft performance, radio and visual navigation, human factors, flight safety, and cross country flight planning. A grade will be issued upon taking the FAA “Knowledge Examination” necessary for the Private Pilot certificate. Prerequisite(s): FAA Student Pilot Certificate Credits: 3

AVN 201 Safety Ethics
This course emphasizes ethical decision making as it applies to Complex Systems, aviation and aerospace, nuclear power plant, civil and IT engineering and the medical field. These systems have an extremely narrow tolerance for error, often resulting in monumental impact on the public, the economy of the nation and human life. This course seeks to increase the awareness levels of ethical issue for industry professionals and to provide the necessary skills to effectively deal with such critical problem solving issues. Topics include complex systems ethical decision making, safety with human factors emphasis, applied ethics for members of complex systems, corporate culture and risk management theory, moral and values. Prerequisite(s): EGL 101 Credits: 3

AVN 202 Aviation Meteorology
A basic course in Aviation Weather. Weather theory including differential heating, air mass development, wind frontal activity and systems, weather hazards, weather reporting and weather forecasting is covered. Charts which are studied include Surface Analysis and Weather Depiction Charts, Constant Pressure Charts, Composite Moisture Stability Charts. Prerequisite(s): AVN 104 with a grade of C or higher Credits: 3

AVN 208 Instrument Pilot Ground
Instrument Pilot Ground training will enable the student to meet the prerequisite(s) specified in 14 CFR Part 61.65(b), or 14 CFR Part 141 Appendix C, as appropriate. Selected subject areas will include Federal Aviation Regulations that apply to flight operations under IFR, appropriate information that applies to flight operations under IFR in the “Aeronautical Information Manual,” Air Traffic Control system and procedures for instrument flight operations, IFR navigation and approaches by use of navigation systems, use of IFR enroute and instrument approach procedure charts, procurement and use of aviation weather reports and the elements of forecasting weather trends based on that information and personal observation of weather conditions, safe and efficient operation of aircraft under instrument flight rules and conditions, recognition of critical weather situations and wind shear avoidance, aeronautical decision making and judgment, and crew resource management, including crew communication and coordination. A grade will be issued upon taking the FAA “Knowledge Examination” necessary for the Instrument Pilot Rating. Prerequisite(s): AVN 104 and AVN 105 with a grade of C or higher FAA Private Pilot Knowledge Test (with a grade of 70 or better). Credits: 3

AVN 211 Commercial Pilot Ground
Commercial Pilot Ground Training will enable the student to meet the prerequisite(s) specified in 14 CFR Part 61.125(b), or 14 CFR Part 141 Appendix D, as appropriate. Selected subject areas will include: accident reporting requirements of the National Transportation Safety Board, basic aerodynamics and the principles of flight, meteorology to include recognition of critical weather situations, wind shear recognition and avoidance, and the use of aeronautical weather reports and forecasts, safe and efficient operation of aircraft weight and balance computations, use of performance charts, significance and effects of exceeding aircraft performance limitations, use of aeronautical charts and a magnetic compass for pilotage and dead reckoning, use of air navigation facilities, aeronautical decision making and judgment, principles and functions of aircraft systems, maneuvers, procedures, and emergency operations appropriate to the aircraft, night high altitude operations, procedures for operating within the National Airspace System, and procedures for flight and ground training for lighter than air ratings. A grade will be issued upon taking the FAA “Knowledge Examination” necessary for the Commercial Pilot certificate. Prerequisite(s): AVN 106 and AVN 208 with a grade of C or higher FAA Instrument Rating Knowledge Test (with a grade of 70 or better). Credits: 3
AVN 300W Government in Aviation (Writing Intensive)
This course expands and focuses on many of the regulatory subjects in AVN101 (Aviation History). It is a study of the constitutional, legislative, executive and judicial control of aviation from the local, state, federal and international perspective. This course forms the foundation for AVN400 Aviation law. This is a writing-intensive course. Junior or Senior standing required. Note: Students cannot get credit for AVN 300 and 300W; AVN 300W can be used to fulfill the writing intensive requirement. Note: Offered at the discretion of the Aviation Administration Department. Prerequisite(s): AVN 101 with a grade of C or higher or CRJ 100 and EGL 101 with a grade of C or higher. Credits: 3

AVN 309 Certified Flight Instructor Ground
This course will allow students to meet the requirements as specified by 14 CFR Part 61.185 or 14 CFR Part 141 Appendix F, as appropriate, and will allow students to meet the requirements necessary to complete the Certified Flight Instructor Written Exams: Fundamentals of Instruction (FOI), Certified Flight Instructor Airplane (FIA), and the Certified Flight Instructor Instrument Written Exam (CFII). Selected subject areas will include applicable Federal Aviation Regulations of this chapter that relate to Certified Flight Instructor pilot privileges, limitations, and flight operations, the fundamentals of instructing, including: the learning process; elements of effective teaching; student evaluation and testing; course development; lesson planning; and classroom training techniques. Also included are the aeronautical knowledge areas for a recreational, private, and commercial pilot certificate applicable to the aircraft category for which flight instructor privileges are sought. A grade will be issued based on the completion of the following written exams: the student will either take the FAA “Knowledge Examinations” (Written Exams) necessary for the Certified Flight Instructor Certificate; Fundamentals of Instructing (FOI), Flight Instructor Airplane (FIA), and the Flight Instructor Instrument Written Exam (FI) or the FAA “Knowledge Examinations” (Written Exams) necessary for the Advanced Ground Instructor Certificate; Fundamentals of Instructing (FOI), Advanced Ground Instructor (AGI), and the Instrument Ground Instructor (IGI). Prerequisite(s): AVN 211 and AVN 209 with a grade of C or higher. Credits: 3

AVN 320 Air Carrier Flight Operations
A study of the operational considerations and procedures of air carrier flight operations. Flight Operations conducted under 14CFR121 (Part121 air carriers) are highlighted. Also included are 14CFR135 (Part135) Air Carriers, supplemental air carriers and Operators of Large Aircraft flight operations. Prerequisite(s): AVN 208 with a grade of C or higher. Credits: 3

AVN 321 Physiology of Flight
Operational and lifestyle considerations and consequences arising from physiological factors will be introduced, with an emphasis on the atmosphere and high-altitude flight (Hyperbarism). General fundamentals of anatomy and psychology will be reviewed to impart career-prolonging health maintenance and stress reduction techniques. Subtle yet critical aviation issues such as situational awareness and crew resource management will be explored. Prerequisite(s): AVN-209 with a grade of C or higher and AVN-211 with a grade of C or higher. Credits: 3

AVN 322 Advanced Aircraft Systems
This course exposes the student to the advanced aircraft systems commonly found in air carrier aircraft. Included are Electrical Systems, Hydraulics, Pneumatics, Flight Controls, Landing Gear Systems, Auto-Pilots and Cockpit Automation, Master Warning and Caution Annunciation Systems. At the conclusion of this course, the student should have a good level of operational understanding of these systems. Prerequisite(s): AVN 211 Credits: 3

AVN 400 Aviation Law
Aviation Law develops the student's knowledge to the application level of learning by emphasis on real cases to demonstrate the legal, regulatory and government theory previously discussed in AVN 101 and AVN 300. Emphasis will be on the FAA's roles in regulating aviation including the rule making process, certification of airmen, medical certification and enforcement. Prerequisite(s): AVN 300 or AVN 300W with a grade of C or higher. Credits: 3
AVN 421 Gas Turbine Engines
An in-depth study of gas turbine engines as found in air carrier and high performance aircraft. Topics include the history of turbine development, jet propulsion, theory engine design and construction and control systems. FAA Commercial Pilot Certificate with Instrument Rating required. Prerequisite(s): AVN 321 Credits: 3

AVN 422 Aerodynamics and Aircraft Performance
Advanced aerodynamic principles will be introduced following extensive review of fundamentals. Emphasis will be on practical design and performance considerations including mission, cost, and feasibility. This course will familiarize the student with the application of aeronautical principles and design practices. The course will focus steps in preliminary design of general aviation aircraft with emphasis on the iterative aspects of design. Prerequisite(s): AVN 211 with a grade of C or higher and PHY 136 Credits: 3

AVN 423 Crew Resource Management
This course deals with flight-crew decision making. It includes, but is not limited to: optimum decision-making techniques; personality profiling; crew communication; high risk areas of a flight; maintaining situational and spatial awareness; crew discipline; and airline-level standard operating procedures. Prerequisite(s): Junior Advances Standing and Completion of an AVN 300W level course. Credits: 3

AVN 424 Advanced Avionics and Cockpit Automation
Introduction to modern cockpit avionics suites as found in corporate Jets and Transport Category aircrafts. Principles, operations and limitations of advanced avionics suites typically found in this category aircraft. Automation topics covered include automatic flight control and flight director systems, stability augmentation systems, power management systems, flight management systems and autoland/go around systems. Latest technology navigation systems topics including inertial navigation systems (INS), inertial reference systems (IRS), Global Positioning Systems (GPS) including Local Area Augmentation Systems (LAAS) and Wide Area Augmentation System (WAAS). Prerequisite(s): AVN-209 with C or higher and AVN-211 with a grade of C or higher. Credits: 3

AVN 425 Safety of Flight
Safety of Flight is an essential course for students to understand the principles and regulatory practices of commercial aviation safety in the United States and worldwide community in the 21st century. It includes an examination of aircraft accidents, the respective roles of the FAA and NTSB, human factors in aviation safety, air traffic safety systems, and introduction to Safety Management Systems (SMS). The student will obtain the necessary safety of flight knowledge to be able to effectively work in the aviation industry. At the completion of the course, students will be able to assess contemporary issues in safety of flight and demonstrate understanding of aviation safety and human factors. Prerequisite(s): AVN 209 with a grade of C or higher and AVN 211 with grade of a C or higher. Credits: 3

AVN 447 Capstone Prof Pilot Seminar
The Capstone Pro Pilot Seminar will be the culminating Upper Division experience in flight education for the Professional Pilot program. The seminar will require students to examine key aviation concepts presented in the Pro Pilot track and connect key learning objectives associated with these concepts to the skills necessary for success in the aviation industry as a pilot. Selected subject areas will include but not be limited to aviation safety, aviation law, crew resource management, safety ethics, physiology of flight, and aviation meteorology and how these relate to the requirements to be a certificated instrument-rated commercial pilot and fly as a certified flight instructor or a multiengine airplane pilot. Students will be required to complete comprehensive case studies of aviation accidents, present results to the seminar participants and lead the case discussion. A Capstone mentorship flight or simulator event summarizing the key course concepts will be included as part of the course (flight fees as applicable). Prerequisite(s): AVN 209 with C or higher. Credits: 3
Admission to Farmingdale State College - State University of New York is based on the qualifications of the applicant without regard to age, sex, marital or military status, race, color, creed, religion, national origin, disability or sexual orientation.