Aviation Careers Academy

Syllabus

Instructor	Dana Tschirley
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Office Hours	0720–1400
Course Location	KOLM Terminal Building
Course Time	0750–1020, 1110–1340
College Credits	3.0 (30 college credits / 3.0 HS credits)
Course Prerequisites	None

Course Content: Aviation Careers Semester 1 contains three integrated courses:

- Private Pilot Ground School
- Aircraft Systems
- Aviation Weather

Private Pilot Ground School

Includes aerodynamics, navigation, weather, communications, regulations, flight physiology, weight and balance, and other subjects preparatory to the FAA private pilot written exam.

Course Outcomes: Students who successfully complete this class will be able to:

- Identify the knowledge and skill requirements for obtaining a Private Pilot Certificate.
- Apply their understanding of aircraft systems, basic aerodynamics, VFR flying, VFR navigation, and safety.
- Interpret Federal Aviation Regulations pertaining to VFR flight.
- Demonstrate the proper procedures used with navigation charts and equipment needed for VFR flight.
- Exercise their understanding of Private Pilot knowledge through written FAA stage exams.

Required Texts Provided:

- Guided Flight Discovery: Private Pilot. Jeppesen
- Chart Supplement: United States Government Flight Information Publication, Federal Aviation Administration
- Digital Chart Supplement (d-CS): FAA website, faa.gov/air_traffic/flight_info/aeronav/digital_products/dafd/
- Sectional Aeronautical Chart: Seattle Sectional, Federal Aviation Administration
- 2024 Test Prep: Private Pilot
- Airmen Knowledge Testing Supplement for Sport Pilot, Recreational Pilot, Remote Pilot, Private Pilot, FAA-CT-8080-2H
- SkyVector Aeronautical Charts: skyvector.com

Aircraft Systems

An introduction to the basic flight instruments and systems found in general aviation and light twin engine aircraft and how their proper use promotes safety in flight.

Course Outcomes: Students who successfully complete this class will be able to:

- Perceive aircraft systems holistically as subparts of the overall aircraft system.
- Describe the components of light general aviation aircraft and how they operate.

- Depict and analyze pneumatic, hydraulic, electrical, instrumentation, navigation, fuel, and powerplant systems.
- Apply the principles of function and safe operation of flight instruments.
- Acquire skills and knowledge to establish proper use of aircraft systems and promote safety.

Required Texts Provided:

- Aviation Maintenance Technician Handbook — General, FAA-H-8083-30A. ASA
- Pilot's Handbook of Aeronautical Knowledge, FAA-H-8083-25B, ASA
- Pilot Operating Handbooks; Maintenance manuals, etc.

Aviation Weather

Covers theory of weather processes and interpretation of weather reports and charts. Includes special aviation-related topics such as high-altitude weather, arctic weather, and tropical weather. Students gain a fundamental knowledge of weather observation and forecasting techniques and instruments. Discusses special aviation problems such as wind shear and microburst detection, and covers Terminal Aerodrome Forecast/Aviation Routine Weather Report.

Course Outcomes: Students who successfully complete this class will be able to:

- Examine the causes of the earth's weather and the forces causing weather to change.
- Examine the dangers of hazardous weather including thunderstorms, wind shear, icing, and turbulence, and identify how aircraft operation is affected.
- Acquire and implement weather concepts and terms unique to aviation, including proper format and criteria for making pilot reports on in-flight weather.
- Evaluate and interpret aviation weather observations and formulate conclusions on risk associated with aircraft operation.
- Articulate and employ knowledge of those portions of the air traffic control system which provide pre-flight weather briefing and continued in-flight weather assistance.

Required Texts Provided:

- Aviation Weather Handbook, FAA-H-8083-28. US Department of Transportation, Federal Aviation Administration

Course Content: Aviation Careers Semester 2 contains three distinct courses:

- Drone Operations
- Aviation History & Careers
- Aviation Law

Drone Operations

Students will be prepared to take the knowledge test for the small unmanned aerial system (UAS) remote pilot license. Successful acquisition of this license allows remote pilots to fly small UAS in work or business settings. Regulations and limitations for this license are referenced by the Federal Aviation Administration (FAA) Title 14 Code of Federal Regulations (CFR), Part 107.

Course Outcomes: Students who successfully complete this class will be able to:

- Describe various airspace classifications, operating requirements, and flight restrictions of UAVs.
- Explain the different regulations and statutes governing UAV use.
- Discern between weather considerations that can impact flight of UAVs.
- Explain the types of factors that affect loading of UAVs.
- Describe the components of aeronautical decision-making and judgment for flight.

- Illustrate radio communications and airport operations that pertain to UAVs.
- Prepare to take the FAA Remote Pilot – Small Unmanned Aircraft Systems license certification.

Required Text:

- 2024 Test Prep: Remote Pilot. ASA

Aviation History & Careers

This course provides students with a clear understanding of aviation, its history, and technological developments in the past and future. It also addresses the range of career opportunities in the field of aviation, including flight instructor, airline captain, air traffic controller, and aircraft dispatcher.

Course Outcomes: Students who successfully complete this class will be able to:

- Identify the major historical events since man first took flight.
- Identify the major historical figures in the development of aviation.
- Express the importance of aviation in everyday life.
- Identify past and future technological developments.
- Develop their knowledge of commercial aviation.
- Identify career options in aviation.
- Recognize the requirements for different professions in aviation.

Textbook and Other Resources Needed:

- Montgomery, Jeff and Ben Millspaugh. Aerospace: The Journey of Flight. Civil Air Patrol, 3rd ed. 2013

Aviation Law

This course covers Aviation Law and regulations, including discussions of constitutional, administrative, and international law affecting aviation. The course also features analysis of aviation regulatory environments and processes including legislation, rule-making, certification, and enforcement actions using case studies.

Course Outcomes: Students who successfully complete this class will be able to:

- Apply basic aviation law, procedures, and application.
- Recognize how democratic processes influence rule-making procedures and enforcement.
- Apply case studies to highlight specific procedures and the enforcement requirements of the FAA and other government agencies.

Required Texts:

- Hamilton, Scott and Sarah Nilsson. Practical Aviation & Aerospace Law, 7th edition. ASA
- Practical Aviation & Aerospace Law Workbook

Course Policies

Class Announcements

Goolgle classroom is slowly being populated, once it is up and operational class announcements and assignments can be located on the home page and within the classrooms.

Major announcements and notifications will be sent to you via email as well as directly to individual students from the

instructor. Please note that your parents may be copied on any emails the instructor sends to you.

Attendance

Attendance is mandatory and counts toward your grade. Attendance will be taken every day, and policy will be honored per the NMSC Handbook.

Grading

New Market grades on an 18-week semester system, with mid-term progress reports sent out after 9 weeks. Grades are forwarded to each home high school based on dates identified in the New Market reporting schedule. Students may receive up to three (3) high school credits for each successfully completed program. Grades will be issued for each of the following:

- Employability: Demonstrated employability, attendance and punctuality, overall quality of work, attitude and conduct, adherence to safety rules, and leadership.
- Knowledge: Demonstrated understanding of related theory, test scores, and written work. Equivalency credit is awarded.
- Skills: Demonstrated application of related theory, lab work, projects, and attainment of identified competencies.

Equivalency Credit: Students have the opportunity to earn core class credits toward graduation requirements. For example, a student might earn a science credit while participating in the Aviation Careers program. Green River College will only accept a grade of B or higher.

Grading Criteria

Letter		Description
A	**88.50-100**	Excellent — Consistently meets standards, requires minimal direction and supervision, and makes significant contributions beyond classroom activities.
B+	**84.50-88.49**	Quality +
B	**76.5-0-84.49**	Quality — Meets or exceeds standards, requires limited direction and supervision, makes contributions beyond required classroom activities, completes all assigned work with occasional revision.
C+	**72.50-76.49**	Competent +
C	**60.50-72.49**	Competent — Consistently meets minimum employment standards, requires average degree of supervision, and satisfactorily contributes to required classroom activities. Completes all assigned work at acceptable employment standards.
D	**50.50-60.49**	Below competent standards.
F	**0.00-50.49**	Not enough competencies completed to receive credit.

Engagement

Students are expected to be fully engaged during class — please do not "tune out" during class presentations or shared information. The instructor may ask the class or call on individuals to check for understanding or provide further information on a topic; you're expected to respond, so please stay attentive and prepared. If the instructor notes a pattern of inattentiveness, a loss of participation points may occur.

Think of active engagement as a safety issue and a matter of Crew Resource Management (CRM) — tuning out in an airplane, while controlling traffic, or while working on an engine could have serious safety implications.

Please note: unless given specific permission from the instructor to use your cell phone, it must be silenced and put away

during class.

Respect and Civility

Respect and civility are important in everything you do and in your interactions. My expectation is that you will respect:

- Other individuals (students, instructors, guest speakers, ethnic diversity, etc.)
- Yourself
- The environment (premises, furniture, computers, etc.)
- Time (promptness, preparedness, considerate of others' time)

We will also learn and apply the principles of CRM (Human Factors — Crew Resource Management) in our class and group work. You are expected to demonstrate appropriate CRM during this class, particularly when working with others — teamwork, respectful communication, workload management, avoiding hazardous attitudes, etc.

Cheating and Plagiarism

There is no tolerance for cheating or plagiarism. A student caught cheating or plagiarizing will receive a "0" for that particular grade the first time, and your parents will be contacted. Further instances may result in failure of the course and referral to the Director of NMSC, which will likely prompt a meeting with the student, parents, and instructor. In short: please do your own work, use your own words, and if you quote a resource in your work, give credit for their work and information.

ADA or Special Needs

Please notify the instructor privately of any ADA or special needs you might have.

Instructor / Student Meetings

The instructor is typically available before or after class. If you have questions or need clarification on assignments, or need assistance with anything, you're welcome to speak with the instructor. You're also welcome to set up a time for a meeting by contacting the instructor.