



## AVSC 2440 – 001

For additional course information, including prerequisites, corequisites, and course fees, please refer to the Catalog: <https://catalog.uvu.edu/>

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**Semester:** Fall

**Course Prefix:** AVSC

**Course Title:** Ground III - Multi Engine

**Year:** 2025

**Course and Section #:** 2440 001

**Credits:** 1

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### ***Course Description***

Designed for pilots preparing for multi-engine airplane operations. Covers the theory of multi-engine airplane flight and the significant aerodynamic differences between single-engine and multi-engine airplane flight. Includes system operation of constant speed propellers, multi-tank and pump fuel systems, dual electrical systems, turbocharger and ice control systems. Discusses multi-engine weight and balance and use of performance charts. Prepares students for the oral exam portion of the FAA Multi-Engine Airplane Practical Test and Airplane Pilot Knowledge Test.

### ***Course Attributes***

This course has the following attributes:

- ☐ General Education Requirements
- ☐ Global/Intercultural Graduation Requirements
- ☐ Writing Enriched Graduation Requirements
- ☒ Discipline Core Requirements in Program
- ☐ Elective Core Requirements in Program
- ☐ Open Elective

Other: *Click here to enter text.*

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### ***Instructor Information***

**Instructor Name:** McGinnis, Lisa

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### ***Student Learning Outcomes***

- Demonstrate knowledge of multi-engine airplane flight characteristics and aerodynamic differences between multi-engine and single-engine airplanes by answering both oral and written questions correctly.
  - Define multi-engine performance charts to calculate weight and balance data and other necessary flight data.
  - Describe the procedures for handling an engine failure in a multi-engine airplane during all phases of flight operations.
  - Identify the required flight procedures during normal flight both during VFR and IFR flight conditions.
  - Recite the emergency procedures for each system failure.
  - Explain location and use of all operation controls for all aircraft systems.
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## Course Materials and Texts

- The Complete Multi-Engine Pilot 5<sup>th</sup> ed., Bob Gardner, ISBN9781644251959
- Airplane Flying Handbook, FAA-H-8083-3C
- Piper Seminole PA-44-190 Pilot's Operating Handbook

### Technology Tools

- Internet browsers such as Google Chrome or Firefox are preferred. Web browser compatibility can be found at [Canvas Questions and Answers](#).
- Microsoft Office (Word, PowerPoint, and Excel) is required. UVU students have free access to Microsoft 365. See [UVU Microsoft Office 365](#).
- A laptop or desktop computer with a camera and microphone may be required for Kaltura video submission assignments. Instructions for downloading and using Kaltura can be found in the modules where a camera and microphone are necessary. [Computer requirements for Kaltura Capture](#).

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## Course Requirements

### Course Assignments, Assessments, and Grading Policy

This course is part of the Aviation Science program and must be successfully completed to fulfill the graduation requirements for the PPIL1: Professional Pilot, B.S.

**Copyleaks:** Assignments have a plagiarism detector that checks your work's originality. Should your instructor have any concerns about plagiarism they will contact you directly. Please refer to [Copyleaks Ltd's Privacy Statement](#) to read how Copyleaks cares about your rights and personal data.

Discussions will be opportunities to explore topics together. Posts to the discussion should add significantly to the conversation and support your point of view. Comments that do not add significantly to a discussion will receive no credit. It is okay to disagree in a discussion. In fact much learning happens when we disagree. However we need to be respectful and keep our online classroom a safe place to learn.

Due dates for discussions correspond with the initial post date which is usually a Wednesday. Follow up comments are due by Sunday. Follow up posts are expected to be after the due date and are not marked late. Discussions conclude by the Sunday following the due date. After this, posts will be marked late.

### Assessments:

Reading reviews are short quizzes that are administered online through Canvas. Their purpose is to assess your understanding of the reading material.

| Grade   | A      | A-    | B+    | B     | B-    | C+    | C     | C-    | D+    | D     | D-    | E    |
|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Percent | 94-100 | 90-93 | 87-89 | 83-86 | 80-82 | 77-79 | 73-76 | 70-72 | 67-69 | 63-66 | 60-62 | 0-59 |

| Activity         | Points |
|------------------|--------|
| Discussions      | 315    |
| Exams            | 200    |
| Final Assignment | 200    |

#### **Late Work Statement:**

- No late work will be accepted. PLEASE NOTE: All assignments/quizzes must be completed by 11:59 PM MST/MDT on the date listed with the assignment/quiz.

Exams will administered online through Canvas. They are due on the date indicated and no later than 11:59 MST/MDT.

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#### **Required or Recommended Reading Assignments**

The Complete Multi-Engine Pilot 5<sup>th</sup> ed., Bob Gardner, ISBN9781644251959; Airplane Flying Handbook, FAA-H-8083-3C; Piper Seminole PA-44-190 Pilot's Operating Handbook

#### **General Description of the Subject Matter of Each Lecture or Discussion**

Week 1 – Introduction to multi-engine airplanes

Week 2 – Airplane systems – Engine, propeller, and fuel

Week 3 – Airplane systems – Electrical

Week 4 – Airplane systems – Landing gear, brakes, climate control, and oxygen

Week 5 – Multi-engine performance and limitations

Week 6 – Multi-engine aerodynamics and engine inoperative control issues

Week 7 – Multi-engine command ability and energy management

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### ***Required Course Syllabus Statements***

#### **Generative AI**

You may use AI programs e.g. ChatGPT to help generate ideas and brainstorm. However, you should note that the material generated by these programs may be inaccurate, incomplete, or otherwise problematic. For example, AI-generated language programs are known to "hallucinate", i.e. create references to non-existent resources. Beware that use of AI may also stifle your own independent thinking and creativity.

You may not submit any work generated by an AI program as your own. If you include material generated by an AI program, it should be cited like any other reference material (with due consideration for the quality of the reference, which may be poor).

Any plagiarism or other form of cheating will be dealt with severely under relevant UVU Plagiarism policies as described in the [UVU Student Code of Conduct](#), UVU Policy [541](#).

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#### **Using Remote Testing Software**

☒ This course does not use remote testing software.

□ This course uses remote testing software. Remote test-takers may choose their remote testing locations. Please note, however, that the testing software used for this may conduct a brief scan of remote test-takers' immediate surroundings, may require use of a webcam while taking an exam, may require the microphone be on while taking an exam, or may require other practices to confirm academic honesty. Test-takers therefore shall have no expectation of privacy in their test-taking location during, or immediately preceding, remote testing. If a student strongly objects to using test-taking software, the student should contact the instructor at the beginning of the semester to determine whether alternative testing arrangements are feasible. Alternatives are not guaranteed.

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## ***Required University Syllabus Statements***

### **Accommodations/Students with Disabilities**

Students needing accommodations due to a permanent or temporary disability, pregnancy or pregnancy-related conditions may contact UVU [Accessibility Services](mailto:accessibilityservices@uvu.edu) at [accessibilityservices@uvu.edu](mailto:accessibilityservices@uvu.edu) or 801-863-8747.

Accessibility Services is located on the Orem Campus in BA 110.

Deaf/Hard of Hearing students requesting ASL interpreters or transcribers can contact Accessibility Services to set up accommodations. Deaf/Hard of Hearing services can be contacted at [DHHservices@uvu.edu](mailto:DHHservices@uvu.edu)

DHH is located on the Orem Campus in BA 112.

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### **Academic Integrity**

At Utah Valley University, faculty and students operate in an atmosphere of mutual trust. Maintaining an atmosphere of academic integrity allows for free exchange of ideas and enables all members of the community to achieve their highest potential. Our goal is to foster an intellectual atmosphere that produces scholars of integrity and imaginative thought. In all academic work, the ideas and contributions of others must be appropriately acknowledged and UVU students are expected to produce their own original academic work.

Faculty and students share the responsibility of ensuring the honesty and fairness of the intellectual environment at UVU. Students have a responsibility to promote academic integrity at the university by not participating in or facilitating others' participation in any act of academic dishonesty. As members of the academic community, students must become familiar with their [rights and responsibilities](#). In each course, they are responsible for knowing the requirements and restrictions regarding research and writing, assessments, collaborative work, the use of study aids, the appropriateness of assistance, and other issues. Likewise, instructors are responsible to clearly state expectations and model best practices.

Further information on what constitutes academic dishonesty is detailed in [UVU Policy 541: Student Code of Conduct](#).

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### **Equity and Title IX**

Utah Valley University does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, age (40 and over), disability, veteran status, pregnancy, childbirth, or pregnancy-related conditions, citizenship, genetic information, or other basis protected by applicable law, including Title IX and 34 C.F.R. Part 106, in employment, treatment,

admission, access to educational programs and activities, or other University benefits or services. Inquiries about nondiscrimination at UVU may be directed to the U.S. Department of Education's Office for Civil Rights or UVU's Title IX Coordinator at 801-863-7999 – [TitleIX@uvu.edu](mailto:TitleIX@uvu.edu) – 800 W University Pkwy, Orem, 84058, Suite BA 203.

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### **Religious Accommodation**

UVU values and acknowledges the array of worldviews, faiths, and religions represented in our student body, and as such provides supportive accommodations for students. Religious belief or conscience broadly includes religious, non-religious, theistic, or non-theistic moral or ethical beliefs as well as participation in religious holidays, observances, or activities. Accommodations may include scheduling or due-date modifications or make-up assignments for missed class work.

To seek a religious accommodation, a student must provide written notice to the instructor and the Director of Accessibility Services at [accessibilityservices@uvu.edu](mailto:accessibilityservices@uvu.edu). If the accommodation relates to a scheduling conflict, the notice should include the date, time, and brief description of the difficulty posed by the conflict. Such requests should be made as soon as the student is aware of the prospective scheduling conflict.

While religious expression is welcome throughout campus, UVU also has a [specially dedicated space](#) for meditation, prayer, reflection, or other forms of religious expression.