

Applied Aeronautics

Independent Study Course Plan

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0 Course Overview

The independent study course in Applied Aeronautics serves as a practical and hands-on introduction to the fields of aerodynamics, airframe design, and aircraft systems.

0.1 Overall Learning Objectives

By the end of the course, the student aims to:

- Gain an intuitive understanding of fluids, aerodynamics, aircraft design, and aircraft performance
- Be able to accurately and effectively analyze, simulate, and/or debrief a given situation
- Apply their knowledge in the subject using working physical models

0.2 Learning Methods

This is not a traditional course of study, thus traditional learning methods should not be expected. The student should be a self-motivated and self-driven learner who can work independently with or without teacher supervision. For each topic, the student is expected to find appropriate resources to guide their learning. The student should then take notes on the topic until they have reached a self-determined level of understanding. The student will then apply their knowledge in one or multiple projects.

0.3 Methods of Assessment

Again, because this is not a traditional course, traditional assessments and tests will not be used. Instead, the student will use the following flow:

1. The student will self-reflect on their own progress and learning. Ask the following questions:
 - (a) What are you trying to learn or gain from this topic?
 - (b) Have you achieved that?
 - (c) Could you explain this topic coherently to someone with no prior knowledge of the subject? Would they understand?

The student may choose whether they would like to internalize, verbalize, or record their responses in writing.

2. If the student passes their own test, they may move onto the next step. If not, they should return to the material, look over their notes again, and consider what they are missing or what they do not yet understand. They should then fill in any gaps in their knowledge and administer the self-assessment again.

0.4 Resources and materials

1 Quarter One Class Plans

2 Quarter Two Class Plans

3 Quarter Three Class Plans

4 Quarter Four Class Plans