

AV 105 : INTRODUCTION TO HELICOPTER SYSTEMS

Transcript title

Intro to Helicopter Systems

Credits

4

Grading mode

Standard letter grades

Total contact hours

40

Lecture hours

40

Course Description

Introduces the student to the training helicopters that are used in general aviation and will look in detail at those helicopters used in this program. Helicopters in current use for training by industry will be studied and emphasis placed on basic helicopter systems operations, including emergencies. Applicable federal aviation regulations will be studied.

Course learning outcomes

1. Explain the principles of operation and in-depth knowledge of the basic helicopter systems.
2. Describe the principles of operation of a reciprocating engine and list the different types used in aviation.

Content outline

1. Physics
2. Helicopter Engine Types and Construction
3. Reciprocating Engine Theory of Operation
4. Engine Lubrication and Cooling
5. Rotor Systems
6. Fuels and Fueling Systems
7. Power Management
8. Supercharging and Turbocharging
9. Electrical Principles
10. Electrical Components
11. Helicopter Electrical Systems
12. Hydraulic Systems and Landing Gear
13. Pneumatic and Deicing Systems
14. Helicopter Structures and Flight Controls
15. Weight and Balance Inspections and Pilot Maintenance
16. Helicopter Instrument Systems

Required materials

Requires textbook and/or online learning materials.