

**Course Code:** AVI 140

**Course Title:** Commercial Instrument II

**Department:** Aviation

**Effective Date:** Summer 2026

**PCS Code:** 1.1 - Baccalaureate/Transfer

**CIP Code:** 14.0101

**Repeatability:** 0

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## Credit Hours

**Catalog Notation:** 2-2.5-3

**Credit Hour Distribution:**

Lecture: 2

Lab: 2.5

Clinical: 0

**Total: 3**

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## General Course Information

### Catalog Description

Second in a two-course sequence to add Instrument Airplane rating to FAA Private Pilot certificate. Advanced navigation, weather, and review of AVI 129 topics. Includes 38.2 hours flight and simulator training toward instrument rating and commercial pilot requirements.

### General Course Objectives

Develop the knowledge and proficiency required to add an Instrument Airplane rating to a Private Pilot certificate.

### Minimum Placement Levels

**English**

None

**Reading**

None

**Math**

None

### Prerequisites

Credit in AVI 129

### Methods of Evaluation

Written assignments, quizzes, exams, oral questioning, and observation of flight performance.

### Instructional Materials and Additional Supplies

Instrument Flying Handbook, FAA. Current edition.

Instrument Procedures Handbook, FAA. Current edition.

Federal Aviation Regulations and Aeronautical Information Manual (FAR/AIM), FAA. Current edition.

Instrument Rating FAA Knowledge Test preparation course, Current edition

Cost of aircraft use is covered by course fees.

## Course Content

### General Learning Outcomes (GLOs)

- Communication: Students will demonstrate the ability to read, write, listen, and speak effectively.
- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

### Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Ground Lesson 46: NDB and ADF Navigation	1. Understand basic NDB operation and ADF navigation procedures.	2	0	0
Ground Lesson 47: Procedures for Airports, Preflight, and Departure	1. Understand preflight preparation and IFR departure procedures.	2	0	0
Ground Lesson 48: Procedures for En-route and Arrival	1. Understand IFR enroute and arrival procedures.	2	0	0
Ground Lesson 49: IFR References and Working With ATC	1. Understand ATC clearances, pilot/controller responsibilities, enroute charts, Chart Supplement publication, and the Pilot/Controller Glossary. 2. Review IFR cross-country flight planning.	2	0	0
Ground Lesson 50: IFR Planning and Instrument Regulations	1. Understand IFR cross-country flight planning.	2	0	0
Ground Lesson 51: Partial Panel and Physiology	1. Understand causes of and operation in the event of loss of primary flight instrument indication. 2. Review unusual altitude recovery and physiology as it applies to IFR operations.	2	0	0
Ground Lesson 52: Instrument Approach Charts	1. Interpret instrument approach charts.	2	0	0
Ground Lesson 53: GPS RNAV and VOR Navigation, HSI and RMI Displays	1. Understand GPS RNAV and VOR navigation, and the use of HSI and RMI displays.	2	0	0
Ground Lesson 54: Systems, Failures, Emergencies	1. Understand normal and emergency operation of aircraft systems in IFR flight.	2	0	0
Ground Lesson 55: Basic Weather Theory	1. Understand basic weather theory including atmospheric properties, wind, and moisture.	2	0	0
Ground Lesson 56: Basic Weather Theory	1. Understand basic weather theory applied to IFR flight including clouds and precipitation, air masses, and hazardous weather.	2	0	0
Ground Lesson 57: Weather Reports and Forecasts	1. Interpret aviation weather reports and forecasts including METAR, TAF, PIREP, and Inflight Aviation Weather Advisories.	2	0	0

<b>Course Segment</b>	<b>Learning Outcomes</b>	<b>Lecture Hours</b>	<b>Lab Hours</b>	<b>Clinical Hours</b>
Ground Lesson 58: Weather Services, Weather Charts	1. Interpret aviation weather reports and forecasts including ATIS/ASOS/AWOS, radar depiction, surface analysis charts, and prog charts.	2	0	0
Ground Lesson 59: Weather Charts	1. Interpret various aviation weather report and forecast charts.	2	0	0
Ground Lesson 60: Review and Final Exam	1. Demonstrate achievement of objectives for ground lessons 46 through 59 lesson outcomes through testing.	2	0	0
Flight Lesson 46: VFR Maneuver Review and Solo Cross-Country	1. Demonstrate proficiency in VFR operations. 2. Plan and execute a solo cross-country flight. 3. File, open, and close a VFR flight plan for each segment between airports.	0	7	0
Flight Lesson 47: Review Basic Instrument Flight Skills	1. Review instrument flying skills in the training device.	0	8	0
Flight Lesson 48: Review Attitude Flying and Navigation	1. Review fundamentals of IFR flight and instrument procedures including holding, instrument approach, and DME arc.	0	2	0
Flight Lesson 49: Introduce Advanced GPS Use	1. Review fundamentals of IFR flight and instrument procedures including holding, instrument approach, and DME arc. 2. Gain proficiency in use of GPS receiver advanced navigation features.	0	1.5	0
Flight Lesson 50: Review Navigation	1. Review fundamentals of IFR flight and instrument procedures including departure and arrival procedures, instrument approach, and circling approach.	0	1	0
Flight Lesson 51: Introduce Loss of Primary Flight Display	1. Gain proficiency in selected IFR procedures and responding to the following partial panel emergencies: loss of vacuum, pitot and static system anomalies, AHRS and ADC anomalies, and loss of PFD.	0	1.5	0
Flight Lesson 52: Approaches and Holds with Loss of Primary Flight Display	1. Gain proficiency in selected IFR procedures with simulated loss of vacuum instruments or primary flight display indication.	0	1.5	0
Flight Lesson 53: IFR Cross-Country Procedures	1. Review planning and executing IFR cross-country flights to local airports. 2. Demonstrate an understanding of IFR procedures using local area airports. 3. Gain proficiency in planning and executing IFR cross-country flights.	0	1.5	0
Flight Lesson 54: IFR Cross-Country Procedures	1. Plan and execute an IFR cross-country flight to CMI and two other selected airports. 2. File an IFR flight plan and operate on an IFR clearance.	0	2.5	0
Flight Lesson 55: IFR Cross-Country Procedures	1. Plan and execute an IFR cross-country flight to CMI and two other selected airports. 2. File an IFR flight plan and operate on an IFR clearance. 3. Receive an IFR clearance by phone before takeoff from an airport without an operating control tower. 4. Cancel IFR after landing at an airport without an operating control tower.	0	2	0

<b>Course Segment</b>	<b>Learning Outcomes</b>	<b>Lecture Hours</b>	<b>Lab Hours</b>	<b>Clinical Hours</b>
Flight Lesson 56: 250 NM IFR Cross-Country Flight	<ol style="list-style-type: none"> <li>1. Plan and execute an IFR cross-country flight along a 250 NM route with at least three instrument approaches using at least three different navigation systems.</li> <li>2. File an IFR flight plan and operate on an IFR clearance.</li> </ol>	0	4	0
Flight Lesson 57: IFR Cross-Country Procedures	<ol style="list-style-type: none"> <li>1. Gain proficiency in planning and executing IFR cross-country flights, including IFR operations to and from airports without an operating control tower.</li> </ol>	0	1.7	0
Flight Lesson 58: Practice End-of-Course Test	<ol style="list-style-type: none"> <li>1. Demonstrate proficiency in IFR operations by completing a practice end-of-course test.</li> </ol>	0	1.5	0
Flight Lesson 59: Review	<ol style="list-style-type: none"> <li>1. Demonstrate proficiency in weak areas identified in lesson 58.</li> </ol>	0	1	0
Flight Lesson 60: End-of-Course Test	<ol style="list-style-type: none"> <li>1. Pass the end-of-course test.</li> </ol>	0	1.5	0

**Total Contact Hours**

<b>Lecture Hours</b>	<b>Lab Hours</b>	<b>Clinical Hours</b>
30	38.2	0