



9199

METEOROLOGY AND
NAVIGATION (11B)

30S/30E/30M

A Pilot Ground School Course

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Course Description

Students will develop a theoretical and practical understanding of meteorology, and its application to aviation. They will also develop a theoretical and practical understanding of navigation, especially as it relates to flight planning.

Goal 1: Describe and apply appropriate **health** and **safety** practices.

GLO 1.1: Describe and apply appropriate **health** and **safety** practices.

SLO 11B.1.1.1 Demonstrate an understanding of safe practices.

SLO 11B.1.1.2 Demonstrate adherence to safe practices.

Goal 2: Demonstrate an understanding of **human factors** in aviation.

GLO 2.1: Demonstrate an understanding of **human factors** in aviation.

SLO 11B.2.1.1 Demonstrate an understanding of flight safety as it relates to weather.

Goal 3: Demonstrate the use and management of **materials, tools,** and **equipment.**

GLO 3.1: Demonstrate the use and management of **materials, tools,** and **equipment.**

SLO 11B.3.1.1 Demonstrate the appropriate use and management of materials, tools, and equipment.

SLO 11B.3.1.2 Demonstrate the ability to follow operating procedures when using simulators.

Goal 4: Demonstrate an understanding of **flight** and **aerodynamics.**

GLO 4.1: Demonstrate an understanding of **flight** and **aerodynamics.**

No applicable SLOs.

Goal 5: Demonstrate an understanding of **engines, airframes, systems, and instruments.**

GLO 5.1: Demonstrate an understanding of **engines, airframes, systems, and instruments.**

- SLO 11B.5.1.1 Demonstrate an understanding and the use of navigation instruments.
- SLO 11B.5.1.2 Demonstrate an understanding and the use of engine instruments.

Goal 6: Demonstrate an understanding of **meteorology** and the atmosphere.

GLO 6.1: Demonstrate an understanding of **meteorology** and the atmosphere.

- SLO 11B.6.1.1 Demonstrate an awareness of Earth's atmosphere, including atmospheric standards, composition, and physical properties.
- SLO 11B.6.1.2 Demonstrate an awareness of weather forecasting, including types of forecasts and briefings.

Goal 7: Demonstrate an understanding of **navigation, aerodromes, and airports.**

GLO 7.1: Demonstrate an understanding of **navigation.**

- SLO 11B.7.1.1 Demonstrate an understanding of various map and chart projections.
 - SLO 11B.7.1.2 Demonstrate the ability to perform weight and balance calculations, using charts and graphs.
 - SLO 11B.7.1.3 Demonstrate the ability to correct in-flight navigational errors.
 - SLO 11B.7.1.4 Demonstrate the ability to locate one's position when lost.
 - SLO 11B.7.1.5 Demonstrate the ability to use on-board navigational tools.
 - SLO 11B.7.1.6 Demonstrate the ability to respond appropriately when navigational tools fail.
 - SLO 11B.7.1.7 Demonstrate the ability to integrate weather data into flight planning.
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GLO 7.2: Demonstrate an understanding of **aerodromes** and **airports**.

SLO 11B.7.2.1 Demonstrate an understanding of aerodromes and airports, including the following features:

- location
- symbols
- numbering of runways
- identification codes

SLO 11B.7.2.2 Demonstrate an understanding of operational procedures found in aircraft and aerodromes/airports.

Goal 8: Describe and apply transferable **cross-curricular** knowledge and skills (of literacy, numeracy, and the sciences) as they apply to aviation.

GLO 8.1: Describe and apply **literacy** knowledge and skills related to aviation.

SLO 11B.8.1.1 Demonstrate an understanding of the vocabulary associated with meteorology and navigation.

GLO 8.2: Describe and apply **numeracy** knowledge and skills related to aviation.

SLO 11B.8.2.1 Demonstrate the ability to read, understand, and communicate numerically, as it pertains to meteorology and navigation.

SLO 11B.8.2.2 Apply numeracy skills and knowledge to meteorology and navigation.

GLO 8.3: Describe and apply knowledge and skills from the **sciences** that relate to aviation.

SLO 11B.8.3.1 Demonstrate an understanding of the relationship between meteorological conditions and aviation.

SLO 11B.8.3.2 Demonstrate an understanding of the scientific principles that relate to meteorology.

SLO 11B.8.3.3 Demonstrate an awareness of the scientific principles associated with navigation.

Goal 9: Demonstrate an understanding of the **ethical and legal standards** that pertain to aviation.

GLO 9.1: Demonstrate an understanding of the **ethical standards** that pertain to aviation.

No applicable SLOs.

GLO 9.2: Demonstrate an understanding of **air law**.

SLO 11B.9.2.1 Demonstrate an understanding of air law related to meteorology and navigation.

Goal 10: Demonstrate **employability skills**.

GLO 10.1: Demonstrate basic **employability skills**.

SLO 11B.10.1.1 Demonstrate regular and punctual attendance.

SLO 11B.10.1.2 Communicate respectfully and effectively with others.

SLO 11B.10.1.3 Take responsibility for own actions.

SLO 11B.10.1.4 Demonstrate adaptability, initiative, and effort.

SLO 11B.10.1.5 Demonstrate teamwork skills.

SLO 11B.10.1.6 Demonstrate the ability to stay on task and use time effectively.

SLO 11B.10.1.7 Demonstrate the responsible use of wireless communication devices.

GLO 10.2: Demonstrate **critical thinking** skills.

SLO 11B.10.2.1 Demonstrate the knowledge and skills required to solve complex problems related to meteorology and navigation.

GLO 10.3: Demonstrate an understanding of **culture** in the workplace.

No applicable SLOs.

Goal 11: Demonstrate an understanding of **sustainability** as it pertains to aviation.

GLO 11.1: Demonstrate an understanding of the impact of the aviation industry on **human sustainability** and on the health and well-being of aviation workers and passengers.

No applicable SLOs.

GLO 11.2: Demonstrate an understanding of the aviation industry's **sustainability practices** and impact on the environment.

SLO 11B.11.2.1 Demonstrate an awareness of aircraft fuel consumption and impact on the environment.

Goal 12: Demonstrate an understanding of the **scope** of, and **education and employment opportunities** in, the aviation industry.

GLO 12.1: Demonstrate an understanding of the **scope** of the aviation industry.

No applicable SLOs.

GLO 12.2: Demonstrate an understanding of **education and employment opportunities** in the aviation industry.

SLO 11B.12.2.1 Demonstrate an awareness of education and employment opportunities in meteorology.

Goal 13: Demonstrate an understanding of the **evolution** of aviation, including its **technological progression and emerging trends**.

GLO 13.1: Demonstrate an understanding of the **evolution** of aviation, including its **technological progression and emerging trends**.

SLO 11B.13.1.1 Demonstrate an understanding of the evolution of navigation and meteorology, including the technological progression and emerging trends related to them.
