

Guidance to Instructors on Subject Delivery

MAP READING

Programme of learning:

- This is a suggested programme for the delivery of this subject.
- The main headings are the Learning Outcomes (LO1, LO2, etc), with sub headings related to topics within those Learning Outcomes (see Glossary of Terms).

Activities:

- Some practical activities are suggested throughout the programme as a way of reinforcing the learning and adding interest.
- It may be not be practical to undertake all of these activities at the suggested part of the programme.
- Instructors may have to adapt this programme to prevailing circumstances.

Method of delivery:

- Learning resources can be found on Ultilearn and may be adapted by the instructor, if required.
- Lesson delivery should be as practical as possible and should contain the maximum amount of cadet participation and interaction.

Check of understanding:

- Each lesson should contain a check of understanding (see Glossary of Terms).
- At the start of each lesson, the previous check of understanding should be reviewed in order to consolidate previous learning before moving on to new learning.

Formative assessment:

- There should be a formative assessment at the conclusion of each Learning Outcome (see Glossary of Terms).

Summative assessment:

- This is the test of knowledge or understanding of the Assessment Criteria for this subject (see Glossary of Terms).
- Assessment Criteria (see Glossary of Terms) are found on the final page of this document.

MAP READING
Introduction: <ul style="list-style-type: none">• Introduction to the subject and assessment method
LO1: Know scales and features of Ordnance Survey maps
Maps: <ul style="list-style-type: none">• Discuss the need for maps and their early examples• Cadets to research the types and uses of maps and share with group• Demonstrate the care of maps• Explain how maps are made; curved surface flattened to fit on paper
Scales and symbols: <ul style="list-style-type: none">• Introduce the scale and main symbols found on Ordnance Survey maps• Cadets to examine the information found on maps, including:<ul style="list-style-type: none">○ Trig points○ Conventional signs and symbols○ Contour lines○ Map revision○ Map identification○ Distance and scales• Cadets are to relate the symbols to the real-life features that they represent
Activity 1: <ul style="list-style-type: none">• Practical field exercise identifying map symbols
Review: <ul style="list-style-type: none">• Review the features of an Ordnance Survey map
Formative assessment: <ul style="list-style-type: none">• Formative assessment of the features of an Ordnance Survey map

MAP READING
LO2: Be able to use the UK grid reference system
Introduction: <ul style="list-style-type: none">• Introduce the UK grid reference system
Grid referencing system: <ul style="list-style-type: none">• Use of the UK National Grid system• Examine latitude and longitude, including:<ul style="list-style-type: none">○ History○ Uses○ Prime Meridian○ Lines of latitude and longitude○ Degrees and minutes• Demonstrate UK 4-figure and 6-figure grid-referencing systems• Explain what true, grid and magnetic north are and what are the differences• Explain the principle of easting and northings
Activity 1: <ul style="list-style-type: none">• Cadets to practice UK 4-figure and 6-figure grid-referencing systems
Activity 2: <ul style="list-style-type: none">• Cadets to calculate distances on Ordnance Survey maps and relate them to actual distances on the ground
Activity 3: <ul style="list-style-type: none">• Practical field exercise using the grid referencing systems to identify location, route and destination
Review: <ul style="list-style-type: none">• Review the UK grid referencing system
Formative assessment: <ul style="list-style-type: none">• Formative assessment of the UK grid referencing system

MAP READING
LO3: Be able to plan routes using Ordnance Survey map features and contour lines
Introduction: <ul style="list-style-type: none">• Introduce route planning using Ordnance Survey map features and contour lines
Contour lines: <ul style="list-style-type: none">• Explain and demonstrate the use of contour lines• Calculate the gradient of a slope and expressed gradients as a ratio – use visualising techniques to be able to visualise gradients
Features: <ul style="list-style-type: none">• Explain how the features of the land are shown on a map and what they are called, including:<ul style="list-style-type: none">○ Convex and concave slopes○ Ridges, saddles and cols○ Spurs and re-entrants○ Escarpment and knoll○ Vertical interval and horizontal equivalent○ Intervisibility○ Elevation• Explain how these features describe the lie of the land
Relief: <ul style="list-style-type: none">• Explain how relief is shown on Ordnance Survey maps• Demonstrate the methods of showing height and the units of measurement• Demonstrate the methods of showing shape using hachures and hill shading• Examine how steepness and direction are displayed on Ordnance Survey maps
Projection: <ul style="list-style-type: none">• Explain the principle of projection
Activity 1: <ul style="list-style-type: none">• Cadets to draw a section of land profile by projection and discuss why line of sight may not be reliable
Activity 2: <ul style="list-style-type: none">• Practical field exercise to put into practice the identification and use of map features, contour lines and basic route planning

Review:

- Review the map features, contour lines and basic route planning

Formative assessment:

- Formative assessment of the map features, contour lines and basic route planning

MAP READING
Subject review: <ul style="list-style-type: none">• Review of the subject and activities
Preparation for summative assessment: <ul style="list-style-type: none">• Prepare for overall summative assessment, if not assessed throughout the training

MAP READING	
Assessment Criteria for Each Learning Outcome	
Subject	Map Reading
Classification	First Class Cadet
BTEC Aviation Studies	Unit 2: Map Reading for Air Cadets
Learning Outcome	Assessment Criterion
The learner will:	The learner can:
LO1: Know scales and features of Ordnance Survey maps	P1: Describe the types and uses of maps
	P2: Identify the main symbols on Ordnance Survey maps
LO2: Be able to use the UK grid reference system	P3: Use grid-referencing systems on Ordnance Survey maps to find locations
LO3: Be able to plan routes using Ordnance Survey map features and contour lines	P4: Describe the main land features found on Ordnance Survey maps when planning routes
	P5: Use contour lines on Ordnance Survey maps to plan routes

ACO Aviation Training Syllabus

Glossary of Terms

Term	Meaning
Learning outcomes	What a cadet is expected to know, understand or be able to do.
Assessment criteria	The standard a cadet is expected to meet to demonstrate that a learning outcome, or set of learning outcomes, has been achieved.
Guidance to instructors on subject delivery	A programme that gives the instructor guidance on the content and suggested order of delivery for a particular subject. It will include the learning outcomes, what should be covered to achieve those outcomes and any relevant practical activities.
Formative assessment	Regular and informal assessment that provides feedback throughout the learning process that supports the cadet's progress. This can take the form of checks of understanding through question and answer sessions or demonstration of an activity.
Summative assessment	Assessment of learning by an HQ Air Cadets paper-based examination or online assessment. A cadet will have to correctly answer a question that directly relates to an assessment criterion.
Examination	Paper-based exclusive choice question paper for the old syllabus subjects for Leading, Senior and Master Air Cadet.
Online assessment	Online assessment process, accessed through Utlilearn, for Leading Cadet from Sep 10 and Senior and Master Air Cadet from Sep 11.
Lesson check of understanding	Throughout and at the end of each lesson there should be a check of understanding. At the start of the next lesson, the previous check of understanding should be reviewed in order to consolidate previous learning before moving on to new learning.
Check of understanding for First Class Cadet	This is a competence-based assessment process for First Class Cadet which should test understanding through practical demonstration, activity observation, oral questioning and inspection.