

Private Pilot Licence Examinations – 060 Navigation Aeroplane and Helicopter

| Syllabus Reference | Syllabus details & Associated Learning Objective | Aeroplane | | Helicopter | |
|---------------------|---|-----------|---------------|------------|---------------|
| | | PPL | Bridge Course | PPL | Bridge Course |
| 060.00.00.00 | NAVIGATION | | | | |
| 061.00.00.00 | GENERAL NAVIGATION | | | | |
| 061.01.00.00 | Basics of navigation | | | | |
| 061.01.01.00 | The solar system | | | | |
| 061.01.01.01 | Seasonal and apparent movements of the sun | x | | x | |
| 061.01.02.00 | The earth | | | | |
| 061.01.02.01 | Great circle, small circle and rhumb line | x | | x | |
| 061.01.02.02 | Latitude and difference of latitude | x | | x | |
| 061.01.02.03 | Longitude and difference of longitude | x | | x | |
| 061.01.02.04 | Use of latitude and longitude co-ordinates to locate any specific position | x | | x | |
| 061.01.03.00 | Time and time conversions | | | | |
| 061.01.03.01 | Apparent time | x | | x | |
| 061.01.03.02 | UTC | x | | x | |
| 061.01.03.03 | LMT | x | | x | |
| 061.01.03.04 | Standard times | x | | x | |
| 061.01.03.05 | Dateline | x | | x | |
| 061.01.03.06 | Definition of sunrise, sunset and civil twilight | x | | x | |
| 061.01.04.00 | Directions | | | | |
| 061.01.04.01 | True north, magnetic north and compass north | x | | x | |
| 061.01.04.02 | Compass deviation | x | | x | |
| 061.01.04.03 | Magnetic poles, isogonals, relationship between true and magnetic | x | | x | |
| 061.01.05.00 | Distance | | | | |
| 061.01.05.01 | Units of distance and height used in navigation: nautical miles, statute miles, kilometres, metres and ft | x | | x | |
| 061.01.05.02 | Conversion from one unit to another | x | | x | |
| 061.01.05.03 | Relationship between nautical miles and minutes of latitude and minutes of longitude | x | | x | |
| 061.02.00.00 | Magnetism and compasses | | | | |
| 061.02.01.00 | General principles | | | | |
| 061.02.01.01 | Terrestrial magnetism | x | | x | |
| 061.02.01.02 | Resolution of the earth's total magnetic force into vertical and horizontal components | x | | x | |
| 061.02.01.03 | Variation-annual change | x | | x | |
| 061.02.02.00 | Aircraft magnetism | | | | |
| 061.02.02.01 | The resulting magnetic fields | x | | x | |
| 061.02.02.02 | Keeping magnetic materials clear of the compass | x | | x | |
| 061.03.00.00 | Charts | | | | |
| 061.03.01.00 | General properties of miscellaneous types of projections | | | | |
| 061.03.01.01 | Direct Mercator | x | | x | |
| 061.03.01.02 | Lambert conformal conic | x | | x | |
| 061.03.02.00 | The representation of meridians, parallels, great circles and rhumb lines | | | | |

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|--------------|--|---|--|---|--|
| 061.03.02.01 | Direct Mercator | x | | x | |
| 061.03.02.02 | Lambert conformal conic | x | | x | |
| 061.03.03.00 | The use of current aeronautical charts | | | | |
| 061.03.03.01 | Plotting positions | x | | x | |
| 061.03.03.02 | Methods of indicating scale and relief (ICAO topographical chart) | x | | x | |
| 061.03.03.03 | Conventional signs | x | | x | |
| 061.03.03.04 | Measuring tracks and distances | x | | x | |
| 061.03.03.05 | Plotting bearings and distances | x | | x | |
| 061.04.00.00 | DR navigation | | | | |
| 061.04.01.00 | Basis of DR | | | | |
| 061.04.01.01 | Track | x | | x | |
| 061.04.01.02 | Heading (compass, magnetic and true) | x | | x | |
| 061.04.01.03 | Wind velocity | x | | x | |
| 061.04.01.04 | Air speed (IAS, CAS and TAS) | x | | x | |
| 061.04.01.05 | Groundspeed | x | | x | |
| 061.04.01.06 | ETA | x | | x | |
| 061.04.01.07 | Drift and wind correction angle | x | | x | |
| 061.04.01.08 | DR position fix | x | | x | |
| 061.04.02.00 | Use of the navigational computer | | | | |
| 061.04.02.01 | Speed | x | | x | |
| 061.04.02.02 | Time | x | | x | |
| 061.04.02.03 | Distance | x | | x | |
| 061.04.02.04 | Fuel consumption | x | | x | |
| 061.04.02.05 | Conversions | x | | x | |
| 061.04.02.06 | Air speed | x | | x | |
| 061.04.02.07 | Wind velocity | x | | x | |
| 061.04.02.08 | True altitude | x | | x | |
| 061.04.03.00 | The triangle of velocities | | | | |
| 061.04.03.01 | Heading | x | | x | |
| 061.04.03.02 | Ground speed | x | | x | |
| 061.04.03.03 | Wind velocity | x | | x | |
| 061.04.03.04 | Track and drift angle | x | | x | |
| 061.04.04.00 | Measurement of DR elements | | | | |
| 061.04.04.01 | Calculation of altitude | x | | x | |
| 061.04.04.02 | Determination of appropriate speed | x | | x | |
| | In-flight navigation | | | | |
| 061.05.00.00 | Use of visual observations and application to in-flight navigation | x | | x | |
| 061.05.01.00 | Navigation in cruising flight, use of fixes to revise navigation data | | | | |
| 061.05.01.01 | Ground speed revision | x | | x | |
| 061.05.01.02 | Off-track corrections | x | | x | |
| 061.05.01.03 | Calculation of wind speed and direction | x | | x | |
| 061.05.01.04 | ETA revisions | x | | x | |
| 061.06.00.00 | Flight log | x | | x | |
| 061.07.00.00 | RADIO NAVIGATION | | | | |
| 061.07.00.00 | Basic radio propagation theory | | | | |
| 061.07.01.00 | Antennas | | | | |
| 061.07.01.01 | Characteristics | x | | x | |
| 061.07.02.00 | Wave propagation | | | | |
| 061.07.02.01 | Propagation with the frequency bands | x | | x | |
| 061.08.00.00 | Radio aids | | | | |

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| 061.08.01.00 | Ground DF | | | | |
| 061.08.01.01 | Principles | x | | x | |
| 061.08.01.02 | Presentation and interpretation | x | | x | |
| 061.08.01.03 | Coverage | x | | x | |
| 061.08.01.04 | Range | x | | x | |
| 061.08.01.05 | Errors and accuracy | x | | x | |
| 061.08.01.06 | Factors affecting range and accuracy | x | | x | |
| 061.08.02.00 | NDB/ADF | | | | |
| 061.08.02.01 | Principles | x | | x | |
| 061.08.02.02 | Presentation and interpretation | x | | x | |
| 061.08.02.03 | Coverage | x | | x | |
| 061.08.02.04 | Range | x | | x | |
| 061.08.02.05 | Errors and accuracy | x | | x | |
| 061.08.02.06 | Factors affecting range and accuracy | x | | x | |
| 061.08.03.00 | VOR | | | | |
| 061.08.03.01 | Principles | x | | x | |
| 061.08.03.02 | Presentation and interpretation | x | | x | |
| 061.08.03.03 | Coverage | x | | x | |
| 061.08.03.04 | Range | x | | x | |
| 061.08.03.05 | Errors and accuracy | x | | x | |
| 061.08.03.06 | Factors affecting range and accuracy | x | | x | |
| 061.08.04.00 | DME | | | | |
| 061.08.04.01 | Principles | x | | x | |
| 061.08.04.02 | Presentation and interpretation | x | | x | |
| 061.08.04.03 | Coverage | x | | x | |
| 061.08.04.04 | Range | x | | x | |
| 061.08.04.05 | Errors and accuracy | x | | x | |
| 061.08.04.06 | Factors affecting range and accuracy | x | | x | |
| 061.09.00.00 | Radar | | | | |
| 061.09.01.00 | Ground radar | | | | |
| 061.09.01.01 | Principles | x | | x | |
| 061.09.01.02 | Presentation and interpretation | x | | x | |
| 061.09.01.03 | Coverage | x | | x | |
| 061.09.01.04 | Range | x | | x | |
| 061.09.01.05 | Errors and accuracy | x | | x | |
| 061.09.01.06 | Factors affecting range and accuracy | x | | x | |
| 061.09.02.00 | Secondary surveillance radar and transponder | | | | |
| 061.09.02.01 | Principles | x | | x | |
| 061.09.02.02 | Presentation and interpretation | x | | x | |
| 061.09.02.03 | Modes and codes | x | | x | |
| 061.10.00.00 | GNSS | | | | |
| 061.10.01.00 | GPS, GLONASS OR GALILEO | | | | |
| 061.10.01.01 | Principles | x | | x | |
| 061.10.01.02 | Operation | x | | x | |
| 061.10.01.03 | Errors and accuracy | x | | x | |
| 061.10.01.04 | Factors affecting accuracy | x | | x | |