



Australian Government

NWPHYS002 Interpret and analyse science principles for hydrographic surveying

Release: 1

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Modification History

Release 1. This is the first release of this unit of competency in the NWP National Water Training Package.

Application

This unit involves the skills and knowledge required to interpret and analyse science principles for hydrographic surveying.

It includes performing mathematical calculations for a survey, detailing the fundamentals of physics and identifying the impact of geography and geology on the hydrographic survey.

This unit supports the attainment of skills and knowledge required for leaders with responsibility for performing hydrographic surveying and may lead to certification as a hydrographic surveyor.

Pre-requisite Unit

Not applicable.

Competency Field

Hydrographic Surveyor

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Perform calculations for hydrographic survey

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Identify hydrographic survey dataset and observations according to workplace procedures

1.2 Apply relevant mathematical equations in hydrographic survey

- 1.3** Apply the Theory of Errors to hydrographic survey observations
 - 1.4** Analyse error budget components, calculate using theory of errors and report on outcomes
- 2 Interpret and use physics fundamentals for hydrographic survey**
 - 2.1** Evaluate the relationship between linear and rotational motions through acceleration and velocity
 - 2.2** Determine the impacts of gravity field of the earth in terms of acceleration and potential in relation to hydrographic survey
 - 2.3** Analyse differences between types of waves including generation and propagation
 - 2.4** Determine how medium parameters affect wave behaviour in hydrographic survey outcomes
- 3 Identify the impact of geography and geology on hydrographic survey**
 - 3.1** Identify internal structure, physical characteristics and dynamics of the Earth relevant to hydrographic survey outcomes
 - 3.2** Determine the impact of substrate layers of the marine floor structure from the coast to deep ocean floor
 - 3.3** Identify common marine floor characteristics from inland rivers, through harbours and coast to deep ocean floor, and their impact relevant to hydrographic survey outcomes

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This is a new unit. No equivalent unit.

Links

Companion Volume Implementation Guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=26336bc0-04e5-49d9-8c31-46c49b6a0037>