

## UNIVERSITY OF PLYMOUTH MODULE RECORD

**SECTION A: DEFINITIVE MODULE RECORD.** *Proposed changes must be submitted via Faculty/AP Quality Procedures for approval and issue of new module code.*

**MODULE CODE:** EHYD503B

**CREDITS:** 20

**PRE-REQUISITES:** None

**MODULE TITLE:** Advanced Practical Techniques in Hydrography 1

**FHEQ LEVEL:** 7

**CO-REQUISITES:** None

**HECOS CODE(S):** F720

**COMPENSATABLE:** Yes

### SHORT MODULE DESCRIPTOR:

This module will focus on a blend of underpinning requirements in advanced mathematics, together with applied skills ashore and afloat. This will enable students to develop the necessary applied survey expertise.

ELEMENTS OF ASSESSMENT					
<b>E1</b> (Examination)	N/A	<b>C1</b> (Coursework)	<b>100%</b>	<b>P1</b> (Practical)	N/A
<b>E2</b> (Clinical Examination)	N/A	<b>A1</b> (Generic assessment)	<b>N/A</b>		
<b>T1</b> (Test)	N/A	<b>O1</b> (online open book assessment)	<b>N/A</b>		

**SUBJECT ASSESSMENT PANEL to which module should be linked:** MLA

**Professional body minimum pass mark requirement:** N/A

### MODULE AIMS:

This module aims to explain the mathematics required to undertake advanced studies in hydrographic surveying. In conjunction with this, the development of a student's advanced analytical skills applied ashore and afloat will form a major focus of this module.

**ASSESSED LEARNING OUTCOMES:** (additional guidance below; please refer to the Programme Specification for relevant Programme Intended Learning Outcomes).

At the end of the module the learner will be expected to be able to:

Assessed Module Learning Outcomes (ALOs)	Programme Intended Learning Outcomes (PILOs) contributed to
1. Apply the advanced mathematical techniques required to work effectively with hydrographic data.	A deep and systematic understanding of the mathematical and scientific principles required to complete complex hydrographic work
2. Complete a range of supervisory and survey tasks from planning and preparation to processing and presentation, applying basic management and leadership principles.	Supervise the work of a hydrographic survey team, including planning and making decisions in complex and unpredictable environments
3. Present and analyse primary hydrographic data	Communicate information, arguments, and analysis effectively at both a scientific and professional level using structured and coherent arguments

<b>DATE OF APPROVAL:</b> 25/01/2018	<b>FACULTY/OFFICE:</b> Academic Partnerships
<b>DATE OF IMPLEMENTATION:</b> 25/01/2018	<b>SCHOOL/PARTNER:</b> MLA College
<b>DATE(S) OF APPROVED CHANGE:</b> 25/01/2018	<b>SEMESTER:</b> AY
<b>MODE OF DELIVERY:</b> distance learning	
<p><b>Notes (office use only):</b>  For delivering institution's HE Operations or Academic Partnerships use if required Practical competencies had been assessed as an A1 element of assessment on the previous version of this module. Discussion highlighted that this is more accurately represents the new P1 element of assessment and suits a pass/fail measurement of the competencies being assessed. Mathematics is now assessed as a coursework element as it underpins hydrographic practice and is most appropriate in an applied context</p> <p>Guidance for Learning Outcomes is given below; please refer to the Programme Specification for relevant Award Learning Outcomes.</p>	

#### **Additional Guidance for Learning Outcomes:**

**To ensure that the module is pitched at the right level check your intended learning outcomes against the following nationally agreed standards**

- Framework for Higher Education Qualifications  
<http://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf>
- Subject benchmark statements <https://www.qaa.ac.uk/quality-code/subject-benchmark-statements>
- Professional, regulatory and statutory (PSRB) accreditation requirements (where necessary e.g. health and social care, medicine, engineering, psychology, architecture, teaching, law)
- QAA Quality Code <https://www.qaa.ac.uk/quality-code>

**SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT**

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

**ACADEMIC YEAR: 2022-23****NATIONAL COST CENTRE: 111****MODULE LEADER: Dr Carlos Martins****OTHER MODULE STAFF: Dr Jaimie Cross****Summary of Module Content:**

Advanced mathematics for surveyors. Revision and refresher in advanced theoretical principles. An introduction to survey techniques including levelling, setting up a tide pole, use of total stations and geodetic GPS. Sessions will present and discuss a range of equipment, including positioning systems, side scan sonar, single beam, and multibeam echo sounders in the context of a survey tasking. Team working, leadership and survey management.

<b>SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]</b>		
<b>Scheduled Activities</b>	<b>Hours</b>	<b>Comments/Additional Information (briefly explain activities, including formative assessment opportunities)</b>
Scheduled: online Lectures	35	Indicative figures for distance learning practical preparation and planning; mathematics
Scheduled: classroom lectures; Teaching sessions ashore and afloat; group presentations	80	Safety, teamwork, and survey techniques using a range of survey equipment in an applied environment. Including assessed practical competencies and skills
Scheduled: practical competencies	25	Supervised assessment of student understanding of survey equipment and analysis of real data
Independent	60	Reading and summative assessment preparation
<b>Total</b>	<b>200</b>	<b>(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)</b>

**SUMMATIVE ASSESSMENT**

<b>Element Category</b>	<b>Component Name</b>	<b>Component Weighting</b>
Written exam	N/A	N/A
Test	N/A	N/A
Coursework	Production of end of module scientific report	100%
Practical	Presentation	Pass/Fail
	Practical competencies	Pass/Fail
Clinical Examination	N/A	N/A
Generic Assessment	N/A	N/A
Online open book assessment	N/A	N/A

**REFERRAL ASSESSMENT**

<b>Element Category</b>	<b>Component Name</b>	<b>Component Weighting</b>
Written exam	N/A	N/A
Coursework (in lieu of the original assessment)	Production of end of module scientific report	100%
Coursework	N/A	N/A
Practical	Online presentation	Pass/Fail
	Practical competencies	Pass/Fail
Clinical Examination	N/A	N/A
Generic Assessment	N/A	N/A
Test	N/A	N/A
Online Open Book Assessment	N/A	N/A

**To be completed when presented for Minor Change approval and/or annually updated****Updated by:** MLA College**Date:** 3<sup>rd</sup> March 2022**Approved by:** Dr Ross Pomeroy**Date:** 3<sup>rd</sup> March 2022**Recommended Texts and Sources:**

Lekkerkerk H-J, van der Velden R, Haycock T, Jansen P, de Vries R, van Waalwijk P, Beemster C. (2006) Handbook of Offshore Surveying. Skilltrade, Clarkson Research Services, London

International Hydrographic Organization's online "Manual on Hydrography" (publication C-13)

International Hydrographic Organization's online "Standards for Hydrographic Surveys" (publication S-44)

Journals:

Hydrographic Journal

Hydro International

Sea Technology