UNIVERSITY OF PLYMOUTH MODULE RECORD (approved by UTLQC June 2017)

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: CORF2015 **MODULE TITLE: Yacht Purpose and Design**

CREDITS: 20 **FHEQ LEVEL:5** **HECOS CODE: 100194**

PRE-REQUISITES: None **CO-REQUISITES: None** **COMPENSATABLE: Y**

SHORT MODULE DESCRIPTOR: *(max 425 characters)*

This module introduces the principles of design theory and methods given the purpose of the vessel. It focuses on the different requirements needed by yachts to enable them to meet a variety of purposes, showing how differences in design can greatly effect performance characteristics. It also explores the basics of assessing seaworthiness for a given situation.

ELEMENTS OF ASSESSMENT *[Use HESA UNISTATs definitions] – see Definitions of Elements and Components of Assessment*					
E1 (Examination)		**C1** (Coursework)	**100%**	**P1** (Practical**)**	
E2 (Clinical Examination)		**A1** (Generic assessment)			
T1 (Test)					

SUBJECT ASSESSMENT PANEL to which module should be linked: Falmouth Marine School

Professional body minimum pass mark requirement: N/A

MODULE AIMS:

The module aims to give the student the skills to assess build qualities and areas of degradation for a given situation. This assessment will be based on knowledge of construction methods, design techniques and material used in the building of small craft. The differences in yacht performance given a range of design characteristics. It also enables the student to understand this in relation to certain maintenance requirements and procedures.

ASSESSED LEARNING OUTCOMES: (additional guidance below; please refer to the Programme Specification for relevant award/ programme Learning Outcomes.

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

Assessed Module Learning Outcomes	Award/ Programme Learning Outcomes contributed to
1) Analyse the fundamental principles of yacht design and it effect on yacht performance 2) Demonstrate comprehension of common yacht construction methods 3) Analyse relevant legislation and procedures with regard to maintaining a vessel in a seaworthy condition	6.1.a; 6.5.a; 6.1.a,d 6.1b; 6.2.c; 6.5.c 6.2.c; 6.3.c; 6.4.a 6.5.d

DATE OF APPROVAL: January 2020	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: September 2020	**SCHOOL/PARTNER:** Cornwall College
DATE(S) OF APPROVED CHANGE: XX/XX/XXXX	**SEMESTER:** ALL YEAR

Notes:

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 UNISTATs 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: 2020-2021 **NATIONAL COST CENTRE: 111**
MODULE LEADER: Steve Taylor **OTHER MODULE STAFF:**

Summary of Module Content

- Transverse stability
- Sail area and distribution
- Keel and ballast effect
- Most common construction methods
- Materials used in construction; FRP, steel, aluminium, wood
- Principles of yacht design
- Maintenance and repairs
- Steering / rudder systems
- Common areas of fatigue
- Rig surveying

SUMMARY OF TEACHING AND LEARNING *[Use HESA UNISTATs definitions]*		
Scheduled Activities	**Hours**	**Comments/Additional Information (briefly explain activities, including formative assessment opportunities)**
Lecture	60	Core material delivery.
Guided Independent Study	120	Students are expected to put in additional time outside of taught sessions. They are also taken on visits to yacht mariners and to have a look at different type of construction techniques.
Site Visits	20	Students visit a range of vessels of varying design to experience the theoretical aspects that they are acquiring. There might also be the opportunity to visit a boatyard as part of this (given the time of year etc.)
Total	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)**

SUMMATIVE ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	A report written to engineering standards, broken down into 5 sections, culminating in the major section going into depth of yacht design, drawing the previous 4 sections together. The 5th and final section goes into significant depth about different yacht designs for differing purposes, and is expected to be worked on intensively for a minimum of 2 weeks before it handed in. Circa 3000 words	100%

REFERRAL ASSESSMENT

Element Category	Component Name	Component Weighting
Coursework	A new report written to engineering standards, broken down into 5 sections, culminating in the major section going into depth of yacht design, drawing the previous 4 sections together. The 5th and final section goes into significant depth about different yacht designs for differing purposes. Circa 3000 words	100%

To be completed when presented for Minor Change approval and/or annually updated	
Updated by: JP Eatock Date: 10 December 2019	**Approved by**: HE Operations Date: 24/02/2020

Recommended Texts and Sources:

- Chapelle, H.I., 1971. *Yacht design and planning*. New York: W.W.Norton.
- Claughton A. et al, 1998. *Sailing yacht design: practice*. Harlow: Longman.
- Claughton A. et al, 1998. *Sailing yacht design: theory*. Harlow: Longman.
- Larsson L.& Eliasson, R.E., 2000. *Principles of yacht design.* London: Adlard Coles Nautical.
- Breslin, J.P., & Andersen, P., 1996. *Hydrodynamics of ship propellers*. Cambridge: Cambridge University Press.

- Douglas, J.F. & Matthews, R.D., 1996. *Solving problems in fluid mechanics: volume 1. 3rd ed*. Harlow: Longman.
- Francis, J.R.D., *Fluid mechanics for engineering students. 4th ed*. London: Edward Arnold
- Gutelle, P., 1993. *The design of sailing yachts. 2nd ed*. Southampton: Warsash.
- Simons, M., 1999. *Model aircraft aerodynamics*. 4th ed. Poole: Special Interest Model Books.
- Marchaj, C.A., *Sail performance theory and practice*. London: Adlard Coles Nautical.
- Pardey, L., 1998, *Details of classic boat construction*.
- Widden, M., 1996. *Fluid mechanics*. Basingstoke: Macmillan.
- Wills, J.A., 1998. *Marine reinforced plastics construction: manufacture and repair*, Maryland: Tiller Publishing.

Journals

- *Safety at Sea International*
- *RYA magazine*
- *Maritime Journal*
- *Safety Digest*
- *Sailing Today*
- *Yachting Monthly*
- *Boat Design Quarterly*