1. Title	Calculation of ship buoyancy
2. Code	EMSRDE401A
3. Range	Master ship buoyancy calculations to design tasks or buoyancy calculations in daily routines related to ship engineering.
4. Level	4
5. Credit	3
6. Competency	Performance Requirements 6.1 Basic knowledge of ship building ♦ Master the basic knowledge of ship building, such as: • waterline rules and tonnage measurement • specifications and characteristics of freeboard and ship dimensions • hull linear and form coefficient • basic industry terms and meanings，e.g. wet surface area, horizontal area, the first and second torque 6.2 Application of ship buoyancy calculations ♦ Use data information and formula (e.g. Simpson Rules）to perform calculations of ship buoyancy including: • volume and centre of mass, displacement, centre of buoyancy, immerse (ton/cm) • make full use of the above calculation results in ship design or hull analysis 6.3 Professionalism in ship buoyancy calculations ♦ Consider issues like water pressure resistance strength of components in the process of analysis
7. Assessment Criteria	The integrated outcome requirements of this unit of competency are: (i) Capable to briefly point out the basic knowledge of ship building; and (ii) Capable to calculate ship's centre of buoyancy LCF.
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses basic knowledge of calculation and the competency of EMSRDE301A "Basic calculations for ship design".