

SKILLS FRAMEWORK FOR MARINE AND OFFSHORE SKILLS MAP - DESIGN SECTION MANAGER/HEAD OF DEPARTMENT				
Sector	Marine and Offshore			
Track	Design and Engineering			
Occupation	Marine Design Engineer			
Job Role	Design Section Manager/Head of Department			
Job Role Description	<p>The Design Section Manager/Head of Department leads the organisation's design department and is in charge of overseeing the design of new products and models. He/She provides innovative and customised design services to clients by aligning existing models to client needs, with the objective of improving the organisation's existing portfolio.</p> <p>He applies both technical and managerial skills to fulfil the responsibilities of managing both operations and employees within the department to meet the organisational business goals. He is comfortable with interacting with others frequently on the job, to direct and motivate a team to achieve operational goals.</p>			
Critical Work Functions and Key Tasks	Critical Work Functions	Key Tasks		Performance Expectations (For legislated / regulated occupations)
	Develop technical drawings and design plans	Devise process workflows to execute system designs		In accordance with: • Classification Society regulations; • Workplace Safety and Health (WSH) Act
		Evaluate performance specification analyses on components and systems		
		Evaluate efficiency of components and systems		
		Evaluate applicability of industry standards and international conventions in drawings		
		Verify final design drawings to be provided to production department		
	Employ advanced analytics and big data	Conceptualise new data models and evaluate existing models for suitability in the marine and offshore context		
		Define areas of focus that can be analysed using advanced methods to support research and development (R&D) in design processes		
		Provide leadership and guidance for analysis of both internal and external data		
		Motivate subordinates to utilise data analytics in making strategic decisions		
		Devise ways of incorporating advanced analytical findings into business development opportunities		
	Drive innovation and research	Develop implementation plans for various innovation initiatives		
		Track effectiveness of innovation initiatives		
	Develop intellectual property (IP) strategy	Develop and refine organisation's IP policies		
		Identify impact of new designs on organisation's IP management strategies		
		Champion IP strategies		
		Report IP infringements in accordance with organisational procedures		
	Manage people and organisational function	Manage organisation's design and engineering function		
		Oversee talent recruitment and talent development for design engineering function		
		Develop resource planning strategies		
Manage department's compliance to organisation's risk management framework				
Analyse viability of workplace improvements and change management initiatives				
Participate in negotiations with key internal and external stakeholders				
Analyse financial implications of business strategies				
Skills & Competencies	Technical Skills and Competencies		Generic Skills and Competencies (Top 5)	
	Ballast System Design	Level 5	Decision Making	Advanced
	Big Data Analytics	Level 5	Communication	Advanced
	Business Negotiation	Level 5	Problem Solving	Advanced
	Business Presentation Delivery	Level 4	Teamwork	Advanced
	Cargo System Design	Level 5	Resource Management	Intermediate
	Change Management	Level 4		
	Communication and Navigation System Design	Level 5		
Conflict Resolution	Level 4			

Cooling System Design	Level 5
Corporate Governance	Level 4
Crisis Management	Level 4
Emergency Response Management	Level 2
Financial Planning	Level 4
Fuel and Lubrication System Design	Level 5
Green Ship Design	Level 5
Heating, Ventilation and Air Conditioning System Design	Level 5
Innovation Management	Level 4
Instrumentation and Control System Design	Level 4
Intellectual Property Management	Level 4
Interface Management	Level 5
Manpower Forecasting	Level 4
Marine Design Customisation	Level 5
Marine Engineering Calculations	Level 3
Market Research	Level 4
Naval Architecture Calculations	Level 5
Operational Risk Management	Level 4
Organisational Performance Management	Level 4
Power Generation System Design	Level 5
Programme Management	Level 5
Propulsion System Design	Level 5
Pump and Piping Design	Level 5
Quality System Management	Level 4
Robotics and Automation Application	Level 5
Safety System Design	Level 5
Service Excellence	Level 4
Staff Performance Management	Level 4
Stakeholder Management	Level 5
Strategy Development	Level 4
System Architecture Design	Level 5
System Configuration Management	Level 5
Systems Integration	Level 5
Technical Writing	Level 4
WSH Culture Development	Level 2
WSH Performance Management	Level 2
Change Management	Level 4
Programme Listing	For a list of Training Programmes available for the Marine and Offshore sector, please visit: www.skillsfuture.sg/skills-framework/marineandoffshore

The information contained in this document serves as a guide.