

SKILLS FRAMEWORK FOR BIOPHARMACEUTICALS MANUFACTURING SKILLS MAP – ENGINEERING AND MAINTENANCE MANAGER		
Sector	Biopharmaceuticals Manufacturing	
Track	Engineering and Maintenance	
Occupation	Manager	
Job Role	Engineering and Maintenance Manager	
Job Role Description	<p>The Engineering and Maintenance Manager is responsible for managing and deploying resources to install, maintain and repair equipment and systems in the facility in line with organisational objectives. He/She translates the organisational strategies into tactical plans for the department and facilitates cross-functional collaborations and continuous improvements efforts. He manages resources to ensure that utilities and systems are adequate to support the achievement of organisational targets. He also develops plans to validate equipment and manage risks within the department. In addition, he is responsible for cascading key objectives to teams and individuals and managing team and project budgets. As a people manager, the Engineering and Maintenance Manager oversees manpower, financial, training and resource planning deployment within the Engineering and Maintenance department.</p> <p>The Engineering and Maintenance Manager is expected to serve as a role model in operational excellence in the department, and should be a personable and inspiring leader who can communicate well and influence internal and external stakeholders. He should also have a strategic, analytical mind to resolve problems and make effective decisions for the department when faced with complex situations.</p>	
Critical Work Functions and Key Tasks	Critical Work Functions	Key Tasks
	Manage the department	Translate the long-term objectives for the Engineering and Maintenance department into tactical plans
		Communicate team and individual objectives within the Process Development department and monitor progress
		Coordinate team resources to ensure adequate staffing levels
		Monitor the department's financial inflow and outflow against allocated budgets and forecasts
		Initiate training programmes to build capability in the Engineering and Maintenance department
		Assess operational and financial feasibility of recommendations to improve engineering and maintenance workflows
		Justify the resources required to support changes in resources, procedures, systems, equipment, or technologies within the Engineering and Maintenance department
		Oversee vendor performance to ensure that products and services are delivered according to plans or contracts

	Maintain equipment and systems	Monitor progress against key performance indicators (KPIs) of the Maintenance Excellence Programme (MEP)		
		Manage maintenance, repair activities and deployment of resources to achieve target performance and return on investment (ROI)		
		Review viability of solutions that require new capital investments		
	Manage energy resources and utilities	Manage resources to ensure that Current Good Manufacturing Practices (CGMPs) utility equipment and systems operate at a level that supports achievement of organisational targets		
		Evaluate financial and operational viability of energy-optimisation initiatives		
	Validate equipment	Co-develop Validation Master Plan (VMP) with Quality Assurance departments and relevant stakeholders		
		Manage resources and schedules for the performance of equipment qualification and validation in the facility		
	Manage risk and regulatory compliance	Develop risk management plans for the Engineering and Maintenance department		
		Communicate the Quality and Health, Safety and Environment (HSE) requirements and procedures to Engineering and Maintenance teams		
		Communicate CGMP requirements and procedures to Engineering and Maintenance teams		
		Ensure that engineering teams operate in accordance with Quality and HSE requirements		
		Develop contingency plans to minimise impact of delays in Engineering and Maintenance activities		
	Activate contingency plans when delays or lapses in Engineering and Maintenance activities arise			
Skills & Competencies	Technical Skills & Competencies		Generic Skills & Competencies (Top 5)	
	Automated Process Design	Level 5	Communication	Advanced
	Budgeting	Level 4	Decision Making	Advanced
	Business Continuity Management	Level 5	Interpersonal Skills	Advanced
	Business Performance Management	Level 5	Leadership	Advanced
	Change Management	Level 5	Problem Solving	Advanced
	Conflict Resolution	Level 5		
	Continuous Improvement	Level 5		
	Equipment Qualification	Level 4		
	Flexible Facilities Implementation	Level 5		
	Good Manufacturing Practices Implementation	Level 5		

	Hazards and Risk Identification and Management	Level 4	
	Health, Safety and Environment Procedures Implementation	Level 4	
	Innovation Management	Level 5	
	Installation and Assembly	Level 4	
	Maintenance Strategy Development	Level 5	
	Preventive Maintenance	Level 5	
	Process Analytical Technology Implementation	Level 4	
	Project Management	Level 5	
	Risk Management	Level 5	
	Strategy Development	Level 4	
	Systems Thinking	Level 5	
	Team Effectiveness Management	Level 5	
	Technical Presentation	Level 5	
	Test Planning	Level 5	
	Utilities Management	Level 5	
	Vendor Management	Level 5	
Programme Listing	For a list of Training Programmes available for the Biopharmaceuticals Manufacturing sector, please visit: www.skillsfuture.sg/skills-framework/biopharmmgf		

The information contained in this document serves as a guide.