

<b>SKILLS FRAMEWORK FOR BIOPHARMACEUTICALS MANUFACTURING</b> <b>SKILLS MAP - PRODUCTION EXECUTIVE</b>		
<b>Sector</b>	Biopharmaceuticals Manufacturing	
<b>Track</b>	Production	
<b>Occupation</b>	Executive	
<b>Job Role</b>	Production Executive	
<b>Job Role Description</b>	<p>The Production Executive provides technical guidance to production operations within the manufacturing facilities. He/She is expected to develop Standard Operating Procedures (SOPs) and identify technical adjustments that can be made to manufacturing processes in order to improve operational efficiency and quality of the biopharmaceutical products. He provides technical guidance for the performance of Clean-in-Place (CIP) and Sterilise-in-Place (SIP) procedures and technology operations. The Production Executive approves batch and log sheets before a batch is passed to the Quality department for release. He is expected to leverage on his technical expertise to contribute significantly to the troubleshooting and optimisation of production processes. He should have a good understand of the engineering and scientific concepts underlying biopharmaceutical products manufacturing and the processes and equipment involved.</p> <p>The Production Executive exercises his analytical and innovative thinking to analyse information, solve problems and improve existing methods and processes. Whilst being a specialist contributor, the Production Executive is both self-driven and a keen team player who considers interdependencies and employs strong communication skills when delivering ideas.</p>	
<b>Critical Work Functions and Key Tasks</b>	<b>Critical Work Functions</b>	<b>Key Tasks</b>
	Implement materials management procedures	Provide technical advice on the optimal materials management Standard Operating Procedures (SOPs) to maximise efficiency and reduce loss
		Advise on industry best practices and environmental standards in disposal of degraded and contaminated materials
	Clean equipment and facilities	Approve lines for production after intra-product cleaning
		Provide technical guidance for the performance of Clean-in-Place (CIP) and Sterilise-in-Place (SIP) procedures and technology operations
	Produce pharmaceutical and nutritional products	Lead investigations with the Quality department if cleaning and sterilisation tests are showing abnormal results and patterns
Develop SOPs for the calibration and set-up of manufacturing equipment in collaboration with the Process Development/Manufacturing Science and Technology department		
	Identify technical adjustments that can be made to manufacturing equipment to improve operational efficiency	

		Lead troubleshooting of major defects, faults and breakdowns in equipment and system parts
		Approve equipment parameters applied and batch and log sheets
	Produce biologics	Establish propagation targets for cell culture activities in line with organisation's expectations
		Develop SOPs for the calibration and set-up of manufacturing equipment in collaboration with the Process Development/Manufacturing Science and Technology department
		Approve selection and preparation of appropriate media, materials and equipment for cell culture processes in line with organisation's standards
		Identify technical adjustments that can be made to bioreactors, purification and final filling equipment to improve operational efficiency
		Troubleshoot any malfunctions during the biologics manufacturing processes
		Devise changes to plans and procedures to ensure titer production meets established targets
	Improve production operations	Review production workflows to streamline processes
		Devise technical solutions to address bottlenecks, inefficiencies or deviations in production processes
		Assess the technical feasibility of improving production workflows, equipment and systems
		Verify new and improved manufacturing equipment and systems are installed and programmed correctly

Skills & Competencies	Technical Skills & Competencies		Generic Skills & Competencies (Top 5)	
	Automated Process Control	Level 4	Communication	Intermediate
Big Data Analysis	Level 3	Decision Making	Intermediate	
Bioreactor Operation and Control	Level 4	Problem Solving	Intermediate	
Biorisk Management	Level 4	Sense Making	Intermediate	
Cell Culture	Level 5	Teamwork	Intermediate	
Change Management	Level 4			
Chemical Risk Management	Level 4			
Chromatography Equipment Operation and Control	Level 4			
Cleaning and Sterilising	Level 4			
Conflict Resolution	Level 4			
Continuous Improvement	Level 4			
Emergency Shut-down and Restart	Level 4			

	Filtration Equipment Operation and Control	Level 4	
	Flexible Facilities Implementation	Level 4	
	Good Manufacturing Practices Implementation	Level 4	
	Health, Safety and Environment Procedures Implementation	Level 4	
	Innovation Management	Level 4	
	Manufacturing Equipment Operation and Control	Level 5	
	Manufacturing Systems Operation and Control	Level 5	
	Materials Management	Level 4	
	Process Analytical Technology Implementation	Level 3	
	Process Monitoring	Level 4	
	Process Optimisation	Level 3	
	Production Optimisation	Level 5	
	Production Planning	Level 4	
	Systems Thinking	Level 4	
	Technical Presentation	Level 4	
	Technical Report Writing	Level 4	
	Vendor Management	Level 4	
<b>Programme Listing</b>	For a list of Training Programmes available for the Biopharmaceuticals Manufacturing sector, please visit: <a href="http://www.skillsfuture.sg/skills-framework/biopharmmmfg">www.skillsfuture.sg/skills-framework/biopharmmmfg</a>		

The information contained in this document serves as a guide.