SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – ASSOCIATE EMBEDDED SYSTEMS ENGINEER		
Sector	Infocomm Technology	
Track	Software and Applications	
Sub-track	Embedded Systems Engineering	
Occupation	Embedded Systems Engineer	
Job Role	**Associate Embedded Systems Engineer**	
Job Role Description	The Associate Embedded Systems Engineer performs software design, development and implementation of embedded systems in a product development environment. He/She programs embedded systems to perform specific tasks in real-time and within the device which it serves. He specifies and prototypes new products and solutions. He develops embedded systems testing and simulation tools aligned with security standards. He tests new products and documents results. He identifies systems issues, performs root cause analysis and develops solutions to increase embedded systems reverse engineering resilience. He migrates embedded software stack across platforms. He works in a team setting and is familiar in programming languages required by the organisation. He is also knowledgeable of microprocessor and microcontroller based hardware components. The Associate Embedded Systems Engineer is eager to learn and is keen to try his hand at developing, testing and implementing embedded systems prototypes, displaying curiosity and resilience when he encounters problems. He enjoys the camaraderie of a team environment and readily shares his views and ideas when working with others.	
Critical Work Functions and Key Tasks	**Critical Work Functions**	**Key Tasks**
	Identify business and user requirements	Support discussions with stakeholders to understand business needs and user requirements
		Support the conduct of requirements analysis
		Support the formulation of specifications of embedded systems
		Support proposal writing for embedded systems design
	Develop embedded systems software	Contribute to the design, development and testing of embedded systems
		Develop software modules in line with coding standard
		Assist in tracking and peer code review
		Assist in the evaluation and testing of hardware and software platforms
		Obtain regular feedback from users
		Evaluate embedded platforms under specific feature requirements
	Optimise embedded systems	Collect user feedback and generate system report on embedded systems performance
		Support development of new processes and tools to speed up the testing process
		Integrate new features of the embedded systems
		Identify ways to improve performance and robustness
		Write technical guides for internal and external users
	Integrate software and hardware	Migrate embedded systems software stack across platforms
		Inspect test and assembly processes to ensure quality
		Diagnose technical problems in embedded systems software
		Troubleshoot performance bottlenecks in embedded systems software

		Ensure embedded systems software meets performance and specifications		
Skills and Competencies	**Technical Skills and Competencies**		**Generic Skills and Competencies**	
	Applications Development	Level 3	Computational Thinking	Intermediate
	Applications Integration	Level 3	Lifelong Learning	Intermediate
	Applications Support and Enhancement	Level 1, Level 2	Problem Solving	Intermediate
	Business Environment Analysis	Level 2	Communication	Basic
	Business Needs Analysis	Level 2	Teamwork	Intermediate
	Business Risk Management	Level 3		
	Configuration Tracking	Level 1, Level 2		
	Control System Programming	Level 2		
	Emerging Technology Synthesis	Level 3		
	Network Configuration	Level 2, Level 3		
	Project Management	Level 3		
	Software Configuration	Level 2		
	Software Design	Level 3		
	Software Testing	Level 2		
	Stakeholder Management	Level 2		
	System Integration	Level 3		
	Test Planning	Level 2		
Programme Listing	For a list of Training Programmes available for the ICT sector, please visit: www.skillsfuture.sg/skills-framework/ict			

The information contained in this document serves as a guide.

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