|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – Quality assurance engineer** | | | | | | |
| **Sector** | Infocomm Technology | | | | | |
| **Track** | Product Development | | | | | |
| **Sub-track** | Quality, Risk and Security | | | | | |
| **Occupation** | Quality Specialist | | | | | |
| **Job Role** | **Quality Assurance Engineer** | | | | | |
| **Job Role Description** | The Quality Assurance Engineer monitors the software development process to ensure design quality and adherence to standards. He/She is involved in tasks that include software design, source code development, review and control, configuration management and integration of software. He participates in a wide range of quality assurance testing and analyses to ensure that the product meets or exceeds specified quality standards and end-user requirements before release.  He works in a team setting and is proficient in programming languages required by the organisation. He is familiar with international quality standards and processes, as well as applicable test automation tools.  The Quality Assurance Engineer delivers quality service to internal stakeholders and is meticulous in conducting tests to ensure product quality requirements are met. He anticipates problems in the development process develop, and articulate innovative and effective solutions to address them and prevent re-occurrence. | | | | | |
| **Critical Work Functions and Key Tasks** | **Critical Work Functions** | **Key Tasks** | | | | |
| **Develop plans to execute quality testing** | Support execution of routine risk mitigation activities | | | | |
| Discover potential risks by analysing user patterns and the full product usage process during the testing phase | | | | |
| Track changes in threats, impacts and control effectiveness in products | | | | |
| Research on insights related to regional product risk governance approvals, trends, emerging risks, and external markets to assess possible risks | | | | |
| Work with Governance, Risk and Control (GRC) automation tools and Enterprise Risk Management (ERM) tools to support risk assessment processes in products that are in its development and launch stages | | | | |
| Deliver regular communication to educate product teams on technical skills and breach management processes required to facilitate risk breach incidents and risk mitigation | | | | |
| **Perform quality testing** | Conduct quality assurance tests against design requirements, and specifications | | | | |
| Analyse results from quality assurance tests to determine if the product fulfils performance standards and functional requirements as detailed in design requirements and specifications | | | | |
| Identify issues that arise from quality assurance tests | | | | |
| Apply existing procedures to solve routine or standard problems | | | | |
| Trace issues to relevant development stage and teams | | | | |
| Document quality assurance testing outcomes | | | | |
| Automate quality assurance testing for suitable types of tests and test processes | | | | |
| Keep track of improvements made to enhance quality of products | | | | |
| **Optimise quality processes** | Identify time and cost optimisation opportunities on system quality processes | | | | |
| Propose improvements for quality testing process optimisation and quality systems | | | | |
| Conduct research on industry best practices and new methodologies, practices, and tools for quality processes optimisation | | | | |
| **Skills and Competencies** | **Technical Skills and Competencies** | | | **Critical Core Skills** | | |
| Process Improvement and Optimisation\* | | Level 3 | Collaboration | | Intermediate |
| Quality Assurance\* | | Level 3 | Communication | | Intermediate |
| Quality Standards\* | | Level 4 | Global Perspective | | Basic |
| Software Testing\* | | Level 2, Level 3 | Problem Solving | | Intermediate |
| Test Planning\* | | Level 2, Level 3 | Sense Making | | Intermediate |
| AI Ethics and Governance | | Level 2, Level 3 |  | | |
| Business Needs Analysis | | Level 3 |
| Business Performance Management | | Level 3 |
| Configuration Tracking | | Level 2 |
| Networking | | Level 3 |
| Partnership Management | | Level 3 |
| Performance Management | | Level 4 |
| Problem Management | | Level 3 |
| Product Management | | Level 3 |
| Project Management | | Level 3 |
| Quality Engineering | | Level 3 |
| Risk Compliance and Governance | | Level 4 |
| Software Design | | Level 3 |
| Stakeholder Management | | Level 2, Level 3 |
| Strategy Implementation | | Level 3 |
| **Programme Listing** | For a list of Training Programmes available for the ICT sector, please visit: [www.skillsfuture.sg/skills-framework/ict](http://www.skillsfuture.sg/skills-framework/ict) | | | | | |
|  |  |  | |  |  | |
| The information contained in this document serves as a guide. | | | | | | |

\*Note: Technical Skills and Competencies (TSCs) with an asterisk (\*) refer to Priority Skills (i.e., TSCs to be prioritised for this role).