

**SKILLS FRAMEWORK FOR AEROSPACE
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT**

TSC Category	Aerospace and Engineering Fundamentals					
TSC	Digital Techniques Application					
TSC Description	Apply and use principles of digital techniques and electronic instrument systems for maintenance, repair, overhaul or manufacturing of aircraft systems					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
			AER-ACO-3014-1.1	AER-ACO-4014-1.1		
			Apply principles of digital techniques to aircraft electronic instrument systems in a safe and appropriate manner in accordance with organisational procedures	Apply principles of digital techniques and electronic instrument systems towards maintenance, repair, overhaul or manufacturing of aircraft systems		
Knowledge			<ul style="list-style-type: none"> • Fundamentals of electronic instrumentation systems • Concepts of numbering systems • Operation and application of data converters • Operation, layout and interface of computer components • Applications of computer technology to aircraft systems • Logic diagrams • Fundamentals of microprocessors, integrated circuits and multiplexing • Electrostatic sensitive devices • Operation of common displays used on modern aircraft 	<ul style="list-style-type: none"> • Systems arrangements and cockpit layout of electronic instrument systems. • Data conversion and numbering systems • Functions of computers and hardware in aircraft systems • Operation of data buses aircraft network and ethernet in aircraft systems • Handling and protection of electrostatic discharge sensitive devices • Applications of common logic circuits on aircraft systems • Functions and applications of fibre optics • Concepts of software management control • Influence of electromagnetic environment on maintenance of aircraft electronic systems 		

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				<ul style="list-style-type: none"> • Functions of electronic and/or digital aircraft systems and built in test equipment (BITE) 		
Abilities			<ul style="list-style-type: none"> • Identify electronic instrumentation systems • Identify different types of computer technology applied in aircraft systems • Enable conversion between different numbering systems • Describe the functions and operation of microprocessors, integrated circuits and multiplexing • Operate electrostatic sensitive devices, including removal and installation of electrostatic discharge sensitive devices (ESDS) electronic cards • Explain the operating principles of common displays used on modern aircraft • Applying the rules for static protection to avoid component damage 	<ul style="list-style-type: none"> • Interpret information presented on electronic instrument systems • Explain the function of components and hardware used in modern computer-based aircraft systems • Review the application of electronic devices and digital aircraft systems, including electrostatic discharge sensitive devices (ESDS), and apply relevant protection and prevention measures • Evaluate the operation of data buses used in aircraft systems • Identify common logic gates and interpret logic diagrams • Evaluate the application of fibre optics in aircraft systems over electrical wire propagation • Guide software management control in accordance with airworthiness requirements • Assess the influence of Electromagnetic Environment on Maintenance Practices for Aircraft Electronic Systems • Guide the testing of typical electronic and digital aircraft systems and associated built in test equipment (BITE) 		

