Occupation Profile

Technical Apprenticeship in Engineering & Digital Manufacturing at SCQF Level 8

Approved by: Engineering Technical Expert Group

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Purpose:

This occupation profile consists of 12 work situations routinely carried out in Engineering & Digital Manufacturing roles at this level. Collectively these describe all the performance requirements and knowledge and understanding requirements apprentices need to demonstrate competence in the occupation. Each work situation has a unique reference number and is set out as follows:

- Work situation title, goal, brief outline, performance requirements and knowledge and understanding requirements
- Alignment to National Occupational Standards



Contents

Applying methods and principles in project management	3-4
Conducting quality control and assurance	5
Designing and building within Engineering	6
Diagnosing and resolving faults	7
Inspection and Testing within Engineering	8-9
Establishing and maintaining working relationships	10
Maintaining engineering equipment	11-12
Organising and facilitating meetings	13
Providing design-led solutions	14-15
Supporting engineering processes	16-17
Understanding digital manufacturing	18
Developing meta-skills and personal professionalism	19
Associated Meta-skills	20
Aligned NOS	21-22

Applying methods and principles in project management

Goal of work situation:

To use project management tools to plan, organise and monitor the progress of activities to achieve production quality performance indicators.

Brief outline:

This is about applying methods and principles of project management in line with organisational requirements. This includes ensuring activities are delivered in accordance with the business case and safe systems of work, and involves liaising with and reporting progress to stakeholders, ensuring activities contribute to key milestones and deliverables.

Performance requirements

- 1. Providing support to prepare business cases for approval of activities
- 2. Identifying roles, responsibilities and skill sets needed for project activities and resources
- 3. Planning and scheduling projects in line with agreed objectives, timescales, and organisational requirements
- 4. Managing activities in line with plans and to achieve milestones
- 5. Managing change in line with organisational procedures
- 6. Escalating to relevant personnel where there are deviations from plans
- 7. Identifying, agreeing, and implementing contingencies to mitigate problems
- 8. Communicating plan progress in formats to meet the needs of all relevant stakeholders
- 9. Reporting on progress in line with organisational reporting procedures
- 10. Collating and evaluating lessons learned to contribute to the continuous improvement of activities

Knowledge and understanding requirements

- 1. Relevant legislation and codes of practice, safe systems of work, risk and impact assessments for engineering or manufacturing activities
- 2. The principles and approaches to developing good business cases
- 3. Different methodologies to plan and deliver activities and how to apply these
- 4. The tools and processes for identifying and analysing risks and opportunities and how to use them
- 5. Techniques and tools for monitoring and reviewing risks including when and how to escalate to management
- 6. Quantitative and qualitative measures of risk analysis and how to apply these
- 7. The importance of monitoring and controlling project performance including accountability
- 8. Industry specific tools and software for monitoring performance
- 9. The importance of establishing an agreed change control process, and the impact and consequences that changes can have on schedule, resources, and budget
- 10. The type of changes that may affect key performance criteria including time, cost, quality, and business case
- 11. The importance of contingency plans
- 12. The importance of evaluating and monitoring the benefits and challenges of activities and how to do this

- 13. Different ways, formats and frequency of reporting and presenting information on progress to internal and external stakeholders
- 14. The importance of liaising with internal and external stakeholders and how to do this

Conducting quality control and assurance

Goal of work situation:

Applying approved industry quality control and assurance processes to support the delivery of products and services to meet safety and regulatory requirements.

Brief outline:

This involves applying approved quality control and assurance processes for products and services to ensure they conform to quality standards and meet stakeholder requirements. It also involves monitoring improvements and communicating outcomes to stakeholders.

Performance requirements

- 1. Planning for quality control and assurance activities in line with organisational requirements
- 2. Conducting audits against specific industry standards
- 3. Applying validation techniques to confirm whether requirements are being met
- 4. Creating audit reports including recommendations for improvement in line with organisational or regulatory requirements
- 5. Re-auditing to confirm any agreed improvements are realised
- 6. Monitoring and reviewing improvements at designated intervals to ensure the impact and optimisation of performance
- 7. Completing and maintaining records and documents in line with organisational policy and procedures
- Communicating the requirements and outcomes in ways that meet the needs of internal and external stakeholders

- 1. Relevant legislation and codes of practice, safe systems of work, and risk and impact assessments for engineering or manufacturing activities
- 2. Quality management systems and continuous improvement processes, their purpose and internal governance arrangements to ensure compliance
- 3. Quality methods and tools, their benefits and how to apply them
- 4. How to prepare and conduct quality audits
- 5. Methods and documentation used for audits and inspections including configuration management control
- 6. Data interpretation and validation methods and how to apply them
- 7. Tools for analysis and interpretation and how to apply them
- 8. How to conduct audits against required industry standards
- 9. How to identify, manage and escalate non-compliance within audits
- 10. How to write and present technical reports
- 11. Different ways to communicate with stakeholders
- 12. Relevant legislation and codes of practice and Safe Systems of Work

Designing and building within Engineering

URN: SDS 003

Goal of work situation:

To interpret design requirements and create the processes to build precision components and assemblies to meet required specifications and quality requirements in compliance with Safe Systems of Work and standard operating procedures.

Brief outline:

This involves interpreting design needs and processes to enable the assembly of components and sub-assemblies as part of the production of an endproduct. This includes working in accordance with standard operating procedures and safe systems of work, and the use of industry standard digital tools.

Performance requirements

- 1. Analysing drawings and specifications to interpret design requirements
- 2. Marking out, producing, and assembling complex products to meet the required specification and quality requirements
- 3. Building complex precision components and assemblies using relevant specifications
- 4. Building and evaluating products using correct technology, drawings, specifications, tools, and equipment
- 5. Inspecting, testing, and evaluating work against requirements of drawings and specifications
- 6. Identifying and segregating waste streams in line with organisational policies and procedures
- 7. Evaluating unexpected performance of components, assembly, and incorrect fitting of parts
- 8. Completing and maintaining records and documents in line with organisational policy and procedures

- 1. Relevant legislation, codes of practice, safe systems of work, and risk and impact assessments for engineering or manufacturing activities
- 2. How to interpret technical drawings, patterns, templates, and specifications
- 3. How to design prototypes of products or components of products by applying design and engineering principles and using industry standard digital tools
- 4. How to assemble and install structural and functional components
- 5. How to inspect, test and evaluate a product or system to ensure it meets specifications and requirements
- 6. Safe storage, removal, and disposal of non-conforming parts, in line with procedures for non-value-added activity
- 7. How the product design process and outcomes can support environmental and resource sustainability

Diagnosing and resolving faults

URN: SDS 005

Goal of work situation:

To safely locate, diagnose, resolve, and rectify faults using problem solving techniques, diagnostic software, and tools in line with safe standards of work.

Brief outline:

This involves using approaches and techniques, including available data and digital tools, to safely locate, diagnose and rectify faults in machinery, including identifying areas for improvement and the communication of outcomes.

Performance requirements

- Investigating, locating, and identifying faults using safe systems of work and structured problem-solving techniques
- 2. Diagnosing faults and recurring faults using a variety of analytic tools to identify what happened
- Confirming faults and making decisions on the required rectifications and timescales for approaches to fault resolution
- 4. Allocating relevant tasks to rectify faults within agreed timescales
- 5. Undertaking safe fault rectification, handover, and reinstatement of work areas
- 6. Investigating areas for improvement to prevent fault recurrence
- 7. Communicating fault resolution to internal and external stakeholders in ways to meet their needs
- 8. Completing and maintaining records and documents in line with organisational policy and procedures

- 1. Relevant legislation and codes of practice, safe systems of work, and risk and impact assessments for engineering or manufacturing activities
- 2. Approaches and methodologies to diagnose and rectify different types of faults and how to apply them including:
 - practical problem solving (PPS)
 - root cause analysis (RCA)
 - process failure mode effects analysis (PFMEA)
 - trend analysis
- 3. How to assess risk and the impact of failure modes
- 4. How to analyse failure data
- 5. How to determine causes of problems and develop solutions
- 6. How to identify and allocate resources to undertake fault rectification including suppliers
- 7. How to safely repair different types of faults
- 8. How to identify and manage obsolescence and end-of-life issues
- 9. How to document accurately and communicate faults and repairs

URN: SDS 004

Inspection and Testing within Engineering

Goal of work situation:

To inspect and test products, systems, or components to meet safety and functional requirements.

Brief outline:

This involves diagnosing and identifying problems by applying appropriate inspection and testing methods, using available data and digital tools, and making recommendations for improvement in line with organisational requirements. This includes recording and reporting results and arranging for final sign off and certification.

Performance requirements

- 1. Interpreting engineering drawings, models to ensure products comply with specifications
- 2. Investigating options for improving functional performance to meet organisational requirements
- 3. Identifying and agreeing what systems and components are to be inspected and tested
- 4. Planning and carrying out inspection and testing of systems and components
- 5. Recording, re-testing, and reporting the performance of systems and components to inform decision making in line with the required standards
- 6. Organising final sign off, and inspection and testing certification of engineering systems and components
- 7. Completing and maintaining records and documents in line with organisational policy and procedures

- 1. Relevant legislation and codes of practice, safe systems of work and risk and impact assessments for engineering or manufacturing activities
- 2. How to read and interpret information from blueprints, manuals, data, and digital instructions
- 3. Inspection and testing procedures, adjustment methods, certification processes, formulas, or measuring instruments required
- 4. The requirements for all test equipment to be maintained, used correctly and calibrated, and the importance of retaining appropriate records
- 5. How to develop testing protocols to analyse products, systems, and components against set standards and specifications
- 6. How to set up and conduct tests of complete units and components with reference to operational and environmental conditions
- 7. The importance of understanding failure, variation and how to conduct root cause analyses
- 8. The importance of retesting and when to do this
- 9. The procedures to follow and different communication required when testing results fall outside of specifications

- 10. How to read and analyse test results
- 11. How to write reports to summarise inspection, testing and results
- 12. The importance of documenting and communicating planning decisions with reasoning and risks to all relevant stakeholders, and effective ways to do this

Establishing and maintaining working relationships

Goal of work situation:

To understand and create and maintain positive and effective working relationships with stakeholders to enable their expectations to be met in line with organisational requirements.

Brief outline:

This is about identifying internal and external stakeholders and building relationships. It involves maintaining positive relationships by communicating information in an effective and professional manner in line with organisational requirements.

Performance requirements

- 1. Identifying all relevant stakeholders related to areas of work
- 2. Building relationships with stakeholders to support work plans and meet their expectations
- 3. Keeping stakeholders informed about work plans and activities which affect them
- 4. Communicating information in suitable formats to meet the needs of different stakeholders
- 5. Agreeing, recording actions from meetings with stakeholders in line with organisational requirements
- 6. Monitoring and reviewing relationships with stakeholders to improve future working relationships

Knowledge and understanding requirements

- 1. Leadership models, styles, qualities, and self-awareness
- 2. How team dynamics impact on organisational behaviours, including cultural and geographic values
- 3. Organisational policies and procedures on inclusion and the importance of complying with these
- 4. Who needs to be kept informed and the importance of doing this
- 5. The ways communication may need to be adapted for internal and external stakeholders
- 6. How and when to say no
- 7. How to manage differences, or problems with stakeholders and the organisational processes for resolving differences and escalating problems with working relationships
- 8. The appropriate professional codes of conduct when working with stakeholders and why these are important
- 9. Requirements for communication with respect to confidentiality and intellectual property

Maintaining engineering equipment

URN: SDS 002

Goal of work situation:

To provide day to day engineering maintenance support, working with the senior engineer to inform decision making within organisational requirements.

Brief outline:

This involves contributing substantially in the assessment of equipment problems and the production of technical documentation, reports, or specifications to allow decisions to be made by the senior engineer. This covers areas such as quality, reliability, production, schedules and targets, cost control, environmental impact, or other technical documentation, use and introduction of digital technologies.

Performance requirements

- 1. Contributing to the development of specifications to evaluate costs that are clear, accurate and contain all relevant data ahead of senior engineer approval
- 2. Selecting required resources for planned, preventative and unplanned maintenance
- 3. Maintaining stock control records to maintain supply of parts for future activities
- 4. Specifying maintenance schedules for equipment and monitor effectiveness
- Applying risk reduction methods and procedures, and complying with all relevant regulations and control measures
- 6. Communicating the requirements for planned preventative maintenance with team members effectively
- 7. Undertaking planned, preventative maintenance activities whilst minimising production downtime and evaluating additional work
- 8. Supporting the development of costings and impact assessments using the outcomes of tests
- 9. Producing technical reports using evidence-based data

- 1. Relevant legislation and codes of practice, safe systems of work, and risk and impact assessments for engineering or manufacturing activities
- 2. How to conduct planned, preventative, and unplanned maintenance, repair analysis, and testing
- 3. How to maintain records of operation, maintenance, and safety activities, test results and instrument readings, and details of equipment malfunctions and maintenance work
- 4. How and when to revise maintenance procedures for operations
- 5. How to plan and maintain all schedules for upgrade, upkeep, and maintenance to reduce downtime production loss
- 6. How to investigate and fix machine malfunctions and replace machine parts to manufacturers guidelines
- 7. How to carry out stock control to maintain supply of spare parts and ensure production continuity
- 8. How to prioritise and manage preventative and unplanned maintenance events
- 9. How to use sensors and apply digital tools for data capture and analysis, in order to evaluate maintenance requirements
- 10. How to write and present technical reports
- 11. How work activities impact on the environment and positive actions that can be taken to support environmental and resource sustainability within a net-zero future

- 10. Communicating the requirements and outcomes to internal and external stakeholders in ways to meet their needs
- 11. Identifying and segregating waste streams in line with organisational policies and procedures
 12. Completing and maintaining records and documents in
- line with organisational policy and procedures

Organising and facilitating meetings

URN: SDS 011

Goal of work situation: To organise and facilitate meetings to achieve objectives in line with organisational requirements.

Brief outline: This is about organising and facilitating meetings with stakeholders to achieve objectives. This may involve solving problems, making decisions, consulting with people or exchanging information and knowledge.

Performance requirements

- 1. Providing clarity on subject matter, purpose, and objectives of meetings
- 2. Organising appropriate attendance of meetings
- 3. Booking meeting facilities ensuring suitable time and space
- 4. Creating and sharing agendas with attendees
- 5. Preparing and circulating any pre-reading and documentation
- 6. Leading meetings including summarising discussions at appropriate times and allocating action points to attendees
- 7. Completing and maintaining records and documents in line with organisational policy and procedures
- 8. Following up on any actions within required timescales
- 9. Providing follow-up or updates to attendees as required

- 1. How to establish the purpose and objectives of meetings
- 2. The importance of confirming meetings are the best way to achieve objectives
- 3. How to prepare to lead meetings
- 4. The importance of preparing meeting documentation including notice of meeting, agenda and minutes
- 5. The period of notice required to enable participants to attend
- 6. How to identify who needs to participate in meetings including; circulating relevant information in advance, informing attendees of their roles, and the importance of meeting and preparation required
- 7. The importance of clarifying specific meeting objectives, encouraging all participants to make clear, concise and constructive contributions from their perspectives, and acknowledging and building on the contributions of participants
- 8. Why it is important to set a fixed time for meetings to begin and end, and allocate time appropriately for each agenda item
- 9. How to discourage unhelpful comments and digressions, refocus attention on meeting objectives, and manage time flexibly, giving more time to particular agenda items
- 10. Meeting authority, remit, terms of reference
- 11. Any formal procedures that apply to meetings
- 12. Organisational procedures for completing documentation
- 13. Those who are affected by decisions and need to know about them

Providing design-led solutions

Goal of work situation:

To support the development of new or revised products by providing design-led solutions to problems in compliance with Safe Systems of Work and standard operating procedures.

Brief outline:

This involves supporting all stages of product design and redesign of existing products using available digital tools where appropriate. It ranges from early concept feasibility, design, and development through to final preparations for delivery to customers.

Performance requirements

- 1. Interpreting customer needs, budget, and timescales for product design
- 2. Translating customer requirements into product design or redesign
- 3. Contributing to research to inform concepts and draft sketches
- 4. Participating in first design reviews to identify problems, approaches taken and potential solutions
- 5. Analysing and evaluating product performance to make amendments to design
- 6. Participating in detailed design reviews of problems, approaches, solutions to check requirements are met
- 7. Applying Geometric Dimensioning and Tolerancing (GD&T), and principles of computer aided design (CAD), or similar systems in either product design or redesign
- 8. Modifying prototypes in line with build and test feedback
- 9. Contributing to validation processes to confirm designs meet user experience (UX) requirements
- 10. Participating in product validation reviews to confirm designs are approved and ready for production

Knowledge and understanding requirements

- 1. Relevant legislation and codes of practice, safe systems of work, and risk and impact assessments for engineering or manufacturing activities
- 2. How to research and analyse customer design proposals and needs, specifications, manuals, and other data
- 3. How to evaluate the feasibility, finance, cost, and maintenance requirements of designs or applications using research
- 4. How to modify and refine designs, using working models, to conform with customer specifications, production limitations, and changes in design trends
- 5. How to design and prepare mock-ups, prototypes, and flows to test UX solutions
- 6. How to collect and analyse feedback from users, customers, partners, or stakeholders
- 7. How to use GD&T and CAD systems to assist in the creation, modification, analysis, or optimisation of a design
- 8. Different working or theoretical models constructed using computer simulation that can be used to test, and modify product prototypes
- 9. How to contribute to product design validation reviews and provide input on functional requirements, product designs, schedules, and potential problems
- 10. Testing and validation procedures
- 11. How to write and present technical reports
- 12. Design and product sign-off procedures

- 11. Communicating the requirements and outcomes to internal and external customers in ways to meet their needs
- 12. Supporting the business to achieve final product design sign-off by internal or external stakeholders 13. Completing and maintaining records and documents in
- line with organisational policy and procedures

Supporting engineering processes

Goal of work situation:

To provide engineering process support, working between senior engineers and the shop floor to inform decision making within organisational requirements.

Brief outline:

This involves contributing substantially to the analysis of problems, and producing technical documentation, reports, or specifications to allow decisions to be made. This will support the delivery of high quality, repeatable, statistically stable, and sustainable processes, accounting for cost planning implications, cost control and environmental impact, and the application and introduction of digital technologies.

Performance requirements

- 1. Contributing to the development of accurate specifications that contain all relevant data ahead of senior engineer approval
- 2. Applying risk reduction methods and procedures to comply with all relevant legislative and control measures
- 3. Identifying, organising and using resources effectively and sustainably to complete tasks, with consideration for cost, quality, risk, safety, security, and environmental impact
- 4. Analysing problems to justify choices for upgrading software applications and connection methods
- 5. Uploading programme files to components to generate data checking that settings and specifications meet mean time to service restore (MTRS) requirements
- 6. Configuring, coding and calibrating instrumentation checking, and correcting communications between components
- 7. Measuring process variables and obtaining relevant data to prepare for analysis
- Analysing results of the process measurement and capability and their impact on the design, manufacture, or modification of products

Knowledge and understanding requirements

- Relevant legislation and codes of practice, safe systems of work, and risk and impact assessments for engineering or manufacturing activities
- 2. Cost planning and analysis for engineering process, quality problems and production downtime
- 3. Approaches to supplying drawings or specifications for quotations, and obtaining manufacture quotations
- 4. How to optimise utilisation of all assets on site, including plant machinery and equipment, by monitoring throughput and supporting the deployment of resources and digital tools in the most cost-effective and efficient way
- 5. Types of engineering software and how to use these
- 6. How to use sensors, and the application of digital tools for data capture and analysis
- 7. How to calibrate and commission instruments, that interface to automation and control systems, and the importance of this
- 8. How to improve productivity, efficiency, and quality
- 9. Different product and machinery specifications, their importance and how they are used to set capability measurement and test performance

- 9. Assessing additional work required following failed tests to ensure successful outcomes
- 10. Supporting the development of costings and impact assessments using the outcomes of tests
- 11. Preparing and presenting data which supports evidencebased decision making in formats that suit the intended audience
- 12. Completing and maintaining records and documents in line with organisational policy and procedures
- 13. Communicating requirements and outcomes to internal and external stakeholders effectively

- 10. How to measure the success or failure of changes to production processes
- 11. How to apply the quality assurance principles and activities to measure the quality of products and processes
- 12. How to write technical reports and present data in a suitable method that meets requirements, including the optimisation and continuous improvement of processes and services
- 13. How work activities impact the environment and positive actions that can be taken to support environmental and resource sustainability within a net-zero future

Understanding digital manufacturing

URN: SDS 009

Goal of work situation:

To understand how new technologies and net zero targets will impact manufacturing, including the integration of new or modified automation, digital systems, and manufacturing engineering systems.

Brief outline:

This is about understanding how new or modified automation and control systems will optimise performance and compliance within engineering and manufacturing process, in order to raise productivity and meet customer specifications.

Performance requirements

There are no performance requirements for this work situation. This work situation provides knowledge and understanding requirements only.

- 1. Relevant legislation and codes of practice. Safe systems of work, risk and impact assessments for engineering or manufacturing activities
- 2. The data-led manufacturing and engineering systems and processes, and how they are utilised in the engineering environment
- 3. The impact of digital manufacturing on environmental sustainability
- 4. The purpose of integrated automation systems in manufacturing
- 5. Automated technologies and programming
- 6. The range of applications of programming and automated technologies
- 7. The concept and logic of physical and digital programming including core programming and robotic programming within engineering systems and processes
- 8. The use of sensors and actuators, and the corresponding data that they generate
- 9. Digital twinning and its role within the lifespan of a product or system
- 10. How extended reality (XR) can bridge the gap between digital and physical worlds
- 11. Artificial Intelligence and data
- 12. How to use artificial intelligence and machine learning in engineering and manufacturing
- 13. Data types and their use in data analytics
- 14. The importance of digital infrastructure and security including cloud computing and how this can be applied
- 15. Relevant data regulations and accountabilities
- 16. Data visualisation and communication tools and techniques and how to use these effectively
- 17. How to create 3D assets

Developing meta-skills and personal professionalism

URN: SDS 012

Goal of work situation:

To develop meta-skills and personal professionalism through reflective practice, goal setting and active learning to improve own performance in line with organisational requirements.

Brief outline:

This is about taking responsibility for the development of own meta-skills and personal professionalism. This involves reflecting on and learning from practice; seeking and acting on feedback; agreeing and working towards own goals for continuous professional development (CPD); and managing own wellbeing.

Performance requirements

- 1. Self-evaluating meta-skills regularly to identify own strengths and improvement needs for development
- 2. Identifying own strengths and improvement needs for professional development
- 3. Setting and agreeing SMART objectives for personal development and to achieve business objectives
- 4. Planning development activities to improve own performance and to achieve business objectives
- 5. Completing formal and informal activities to support and progress own development
- 6. Seeking and acting on feedback to improve own performance
- 7. Critically reflecting on own performance and involvement in activities to support own development and achievement
- Critically evaluating the development and application of meta-skills in own work to identify future development needs
- 9. Completing and maintaining records and documents in line with organisational policy and procedures

- 1. The purpose and importance of meta-skills including their definitions and how they relate to own work
- 2. The importance and impact of personal professionalism within the organisation and own role
- 3. How to use critical reflection and reflective practice to identify gaps in role specific knowledge, skills and meta-skills and the purpose and importance of this
- 4. How to participate effectively in performance reviews
- 5. How to set and agree SMART goals Specific, Measurable, Achievable, Realistic, Time-bound
- 6. How to prepare development plans, including their content and duration
- 7. The importance of career and personal goals, including collective organisational learning, when planning own development
- 8. Sources of up-to-date and appropriate information to support own CPD activities
- 9. The impact and benefits of CPD including the organisation's key performance indicators (KPIs) and how they are measured and recorded
- 10. The importance of managing well-being for success in own role and where to get support
- 11. Appropriate ways to seek and act on feedback to develop own skills and knowledge including the process of 360-degree feedback
- 12. Different learning models and styles and how to use these for own development

The relationship between Meta skills and Work Situations

The table below indicates where there are opportunities to develop and evidence meta-skills in each work situation within the occupation profile (links indicated by the shaded areas). Please note, this information is for guidance, and indicates where meta-skills are explicit rather than an exhaustive list. There may be opportunities for individuals to develop and evidence other meta-skills when carrying out their role.

	Meta-skills											
Work Situation	Adapting	Collaborating	Communicating	Creativity	Critical thinking	Curiosity	Feeling	- Focussing	Initiative	Integrity	💌 Leading	💌 Sense making 💌
Applying methods and principles in project management	\checkmark	\checkmark	\checkmark		\checkmark			\checkmark		\checkmark		
Conducting quality control and assurance			\checkmark	\checkmark	\checkmark			\checkmark				
Designing and building within engineering			\checkmark					\checkmark	\checkmark			\checkmark
Developing personal and professional practice and meta-skills	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Diagnosing and resolving faults			\checkmark		\checkmark	\checkmark						\checkmark
Inspection and Testing within engineering			\checkmark		\checkmark		\checkmark	\checkmark	\checkmark	\checkmark		\checkmark
Establishing and maintaining working relationships	\checkmark	\checkmark	\checkmark				\checkmark		\checkmark			\checkmark
Maintaining engineering equipment			\checkmark		\checkmark	\checkmark		\checkmark	\checkmark			\checkmark
Organising and facilitating meetings	\checkmark	\checkmark	\checkmark	\checkmark					\checkmark			
Providing design-led solutions	\checkmark			\checkmark					\checkmark			\checkmark
Supporting engineering processes	\checkmark	\checkmark	\checkmark		\checkmark	\checkmark		\checkmark				\checkmark
Understanding digital manufacturing					\checkmark			\checkmark				✓

The relationship between National Occupational Standards and Work Situations

The table below indicates where there are links between National Occupational Standards and each work situation within the occupation profile.

Work Situation	Aligned NOS
Applying methods and principles in project management	 Project Management Suite Engineering and Manufacture Suite 4 Engineering Leadership and Management Suite 4 Industrial Design Suite Maintain IT project-based documentation TECIS30131 Initiate an IT project TECIS30141 Develop an IT project management plan TECIS30142 Monitor and control the delivery of an IT project TECIS30143 Close and review an IT project TECIS30144 Manage risks in an IT project TECIS30145
Conducting quality control and assurance	 Engineering and Manufacture Suite 4 Engineering Technical Support Suite 3 Business Improvement Techniques Suite 3
Designing and building within engineering	 Engineering and Manufacture Suite 4 Engineering Leadership and Management Suite 4 Engineering Leadership Suite 3 Engineering Technical support Suite 3 Industrial Design Suite LEAN NPDI Suite 4
Developing personal and professional practice and meta- skills	 Business and Administration Suite Management and Leadership Suite
Diagnosing and resolving faults	 Engineering Technical Support Suite 3 Engineering Maintenance Suite 3
Inspection and Testing within engineering	 Engineering Technical Support Suite 3 Engineering Maintenance Suite 3

Work Situation	Aligned NOS
Establishing and maintaining working relationships	 Engineering and Manufacture Suite 4 Engineering Leadership and Management Suite 4
Maintaining engineering equipment	 Engineering and Manufacture Suite 4 Engineering Technical Support Suite 3 Engineering Maintenance Suite 3
Organising and facilitating meetings	Plan and organise your own meetings (CFASAA411)
Providing design-led solutions	 Engineering and Manufacture Suite 4 Engineering Leadership and Management Suite 4 Engineering Leadership Suite 3 Engineering Technical support Suite 3 Industrial Design Suite Scientific Manufacture Suite 4 LEAN NPDI Suite 4
Supporting engineering processes	 Engineering Leadership and Management Suite 4 Engineering and Manufacture Suite 4 Engineering Technical Support Suite 3 Engineering Leadership Suite 3
Understanding digital manufacturing	 Engineering and Manufacture Suite 4 Industrial Design Suite IT (Data Science) Suite IT (Digital Leadership) Suite Immersive Technology Suite IT (Networking) Suite