

SSFOT02 CAD Technician

1. Job role

TCF sub-sector	Footwear Production
Functional area	Product Design and Technical Development
Job role	SSFOT02 CAD Technician
Job role description	Uses specialised computer-aided design (CAD) software to convert designer sketches into accurate 2D technical patterns and 3D digital prototypes. Supports product development by producing detailed digital files for pattern grading, component layout, sample development and automated cutting systems integration.
Performance expectations	• Accurately convert design sketches into technical CAD files • Produce precise 2D patterns and graded size sets • Develop 3D digital prototypes for virtual sampling • Ensure digital files align with production specifications • Maintain data accuracy across CAD and PLM systems • Support efficient integration with automated cutting systems
Specialisation	• 2D footwear pattern drafting and grading • 3D digital prototyping and simulation • CAD-to-CAM integration for automated cutting systems
Application in other Textile, Clothing and Footwear (TCF) sectors	Transferable to CAD and digital pattern development roles in leather goods, apparel and technical textile manufacturing.

2. Key tasks and critical work functions

Key tasks	• Convert hand sketches into digital pattern files • Develop graded pattern sets for multiple sizes • Create 3D virtual footwear prototypes • Adjust digital patterns based on fit and trial feedback • Prepare digital files for automated cutting equipment • Maintain digital libraries of patterns and components • Collaborate with designers and product developers
Critical work functions	• Ensuring precision and dimensional accuracy in patterns • Maintaining consistency across size grading • Integrating digital files with production systems • Supporting rapid sample development cycles • Ensuring compatibility with automated machinery • Data management within CAD and PLM systems • Minimising errors prior to production release

3. Technical skills

Footwear pattern drafting	Develop accurate upper and component patterns in digital format.
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Pattern grading	Develop accurate upper and component patterns in digital format.
3D modelling and simulation*	Apply grading rules to create consistent size ranges.
CAD software proficiency*	Develop virtual prototypes for design validation.
PLM integration*	Operate specialised footwear CAD systems.
Automated cutting system preparation*	Manage digital files within product lifecycle systems.
Technical specification interpretation	Prepare CAD files compatible with CAM equipment.
Data accuracy and version control	Translate design packs into accurate digital patterns.

*Technical skills identified as emerging skills in TCF industry.

4. Generic Skills

Generic Skill	Brief description
Attention to detail	Ensure precision in pattern dimensions and grading.
Communication	Coordinate effectively with designers and production teams.
Problem solving	Resolve digital modelling and fit adjustment challenges.
Learning	Adapt to evolving CAD and digital prototyping technologies.
Organisation	Maintain structured digital file systems.
Teamwork	Collaborate within cross-functional development teams.

5. Emerging skills

Emerging skills	- Advanced 3D digital sampling and virtual fitting - AI-assisted pattern grading tools - Digital twin product modelling - Cloud-based PLM collaboration platforms - Integration with robotics and automated cutting systems - Sustainable digital prototyping to reduce physical sampling
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6. VET Qualifications and Skill Sets

Entry-level preparation	MST40316 Certificate IV in Custom-Made Footwear or equivalent with emphasis on CAD skill development
Advanced development	MST60122 Advanced Diploma of Apparel, Fashion and Textiles or equivalent or bachelor's degree in design, textile technology or product development

7. Job progression

Possible job progression	Possible job progression: Junior CAD Technician → CAD Technician → Senior CAD Technician → Technical Development Manager
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8. Classification

Australian Qualifications Framework	AQF Level 4-6 (enterprise dependent)
Australian Bureau of Statistics (ABS) Skill Levels	Skill Level 2-3 (Technical Support / Design Technicians)
Open Source Classification of Occupations for Australia (OSCA)	CAD Technician - Footwear Manufacturing context



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