

SSFOT19 3D Footwear Modelling Technician

Disclaimer

These Occupational Frameworks and Skill Profiles have been developed as workforce planning, occupational mapping and skills reference resources for the Australian textile, clothing and footwear (TCF) industry. They are intended to describe the typical functions, responsibilities, skills and capabilities associated with occupations across the industry.

These documents are not intended to replace or override industrial instruments or employment arrangements, including awards, enterprise agreements, employment contracts, position descriptions, classification structures, licensing or regulatory requirements, or other statutory obligations. Where differences arise, the relevant industrial, legislative or regulatory requirements take precedence. The Skill Profiles should be used as complementary reference documents to support workforce planning, career development, training and skills recognition.

1. Job role

TCF sub-sector	Footwear production
Functional area	Product Design and Technical Development
Job role	SSFOT19 3D Footwear Modelling Technician
Job role description	Develops and manages 3D digital models of footwear products using specialised computer-aided design (CAD) and simulation software to support design, prototyping and production processes. The role translates design concepts into accurate digital models, enabling visualisation, fit analysis and virtual prototyping. It supports integration with manufacturing systems, reduces physical sampling requirements and contributes to efficient, digitally enabled product development workflows.
Performance expectations	- Producing accurate 3D models aligned with design specifications. - Supporting virtual prototyping and reducing physical sampling. - Ensuring correct fit, structure and component alignment. - Maintaining consistency across digital product models. - Supporting integration with CAD/CAM and production systems. - Minimising development time and material waste. - Maintaining version control and digital asset management. - Collaborating effectively with design and engineering teams - Meeting development timelines. - Ensuring data accuracy and system compatibility.
Specialisation	3D CAD modelling, footwear design systems, simulation and rendering, digital prototyping, parametric modelling.
Application in other TCF sectors	- Footwear production supporting design and prototyping. - Apparel production supporting 3D garment modelling and simulation.

	• Leather goods production supporting bag and accessory modelling. • Textile product development supporting technical product modelling. • Sports and performance products supporting functional design. • Manufacturing industries supporting digital product development. • Design studios supporting virtual prototyping workflows.
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2. Key tasks and critical work functions

Key tasks	• Creating 3D models of footwear components and assemblies. • Interpreting design concepts and technical specifications. • Modelling uppers, soles and structural components. • Running simulations for fit and performance. • Modifying models based on design feedback. • Preparing files for prototyping and manufacturing. • Maintaining digital libraries and version control. • Collaborating with design, pattern and production teams.
Critical work functions	• Ensuring accuracy of digital models and specifications. • Supporting correct fit and functional performance. • Maintaining consistency across product versions. • Reducing errors in prototyping and production. • Supporting efficient digital workflows. • Maintaining data integrity in CAD systems. • Ensuring compatibility with manufacturing processes.

3. Technical skills

3D CAD modelling	Creating and editing 3D models using specialised software.
Footwear construction knowledge	Understanding footwear components and assembly.
Simulation and rendering	Using tools for visualisation and fit analysis.
Digital prototyping	Preparing models for virtual and physical prototyping.
File and data management	Managing digital assets and version control.
CAD/CAM integration	Integrating models with manufacturing systems.
Technical interpretation	Reading and applying design specifications.

4. Generic Skills

Attention to detail	Ensuring precision in digital modelling.
Analytical thinking	Evaluating fit and structural performance.
Problem solving	Resolving design and modelling challenges.
Communication	Working with design and production teams.
Time management	Meeting development deadlines.

Adaptability	Working with evolving digital tools and systems.
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5. Emerging skills

Emerging skills	• Using advanced 3D simulation and digital twin technologies. • Integrating modelling with automated manufacturing systems. • Supporting mass customisation and digital sizing systems. • Using cloud-based collaborative design platforms. • Applying sustainability principles in digital development. • Using AI-assisted design and modelling tools.
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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	No VET pathway. Bachelor studies in Design, Industrial Design, Footwear Design, Product Development or CAD.

7. Job progression

Possible job progression	Production Assistant → 3D Modelling Technician → Senior Technician → Technical Designer → Product Development Manager.
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8. Classification

Australian Qualifications Framework	AQF Level 4-6.
Australian Bureau of Statistics (ABS) Skill Levels	Skill Level 2.
Open Source Classification of Occupations for Australia (OSCA)	313937 Other Draftsperson.



Skills Insight is a Jobs and Skills Council funded by the Australian Government Department of Employment and Workplace Relations.