

# SSFOT20 3D Footwear Modelling Technician

## 1. Job role

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| TCF sub-sector                                                    | <b>Footwear production</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Functional area                                                   | Product Design and Technical Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Job role                                                          | SSFOT20 3D Footwear Modelling Technician                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Job role description                                              | <p>Develops and manages 3D digital models of footwear products using specialised CAD and simulation software to support design, prototyping and production processes.</p> <p>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.</p>                                                                                                                                                                                                  |
| Performance expectations                                          | <ul style="list-style-type: none"> <li>Producing accurate 3D models aligned with design specifications</li> <li>Supporting virtual prototyping and reducing physical sampling</li> <li>Ensuring correct fit, structure and component alignment</li> <li>Maintaining consistency across digital product models</li> <li>Supporting integration with CAD/CAM and production systems</li> <li>Minimising development time and material waste</li> <li>Maintaining version control and digital asset management</li> <li>Collaborating effectively with design and engineering teams</li> <li>Meeting development timelines</li> <li>Ensuring data accuracy and system compatibility</li> </ul> |
| Specialisation                                                    | 3D CAD modelling, footwear design systems, simulation and rendering, digital prototyping, parametric modelling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Application in other Textile, Clothing and Footwear (TCF) sectors | <ul style="list-style-type: none"> <li>Footwear production supporting design and prototyping</li> <li>Apparel production supporting 3D garment modelling and simulation</li> <li>Leather goods production supporting bag and accessory modelling</li> <li>Textile product development supporting technical product modelling</li> <li>Sports and performance products supporting functional design</li> <li>Manufacturing industries supporting digital product development</li> <li>Design studios supporting virtual prototyping workflows</li> </ul>                                                                                                                                     |

## 2. Key tasks and critical work functions

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| Key tasks               | <ul style="list-style-type: none"> <li>• Creating 3D models of footwear components and assemblies</li> <li>• Interpreting design concepts and technical specifications</li> <li>• Modelling uppers, soles and structural components</li> <li>• Running simulations for fit and performance</li> <li>• Modifying models based on design feedback</li> <li>• Preparing files for prototyping and manufacturing</li> <li>• Maintaining digital libraries and version control</li> <li>• Collaborating with design, pattern and production teams</li> </ul> |
| Critical work functions | <ul style="list-style-type: none"> <li>• Ensuring accuracy of digital models and specifications</li> <li>• Supporting correct fit and functional performance</li> <li>• Maintaining consistency across product versions</li> <li>• Reducing errors in prototyping and production</li> <li>• Supporting efficient digital workflows</li> <li>• Maintaining data integrity in CAD systems</li> <li>• Ensuring compatibility with manufacturing processes</li> </ul>                                                                                       |

### 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 |

### 5. Emerging skills

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|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emerging skills | <ul style="list-style-type: none"> <li>• Using advanced 3D simulation and digital twin technologies</li> <li>• Integrating modelling with automated manufacturing systems</li> <li>• Supporting mass customisation and digital sizing systems</li> <li>• Using cloud-based collaborative design platforms</li> <li>• Applying sustainability principles in digital development</li> <li>• Using AI-assisted design and modelling tools</li> </ul> |
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### 6. VET Qualifications and Skill Sets

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|-------------------------|-------------------------------------------------------------------------------------------------------------|
| 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

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| Possible job progression | Production Assistant → 3D Modelling Technician → Senior Technician → Technical Designer → Product Development Manager |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------|

## 8. Classification

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|----------------------------------------------------------------|---------------------------------------------------|
| Australian Qualifications Framework                            | AQF Level 4–6                                     |
| Australian Bureau of Statistics (ABS) Skill Levels             | Skill Level 2–3                                   |
| Open Source Classification of Occupations for Australia (OSCA) | 3D Modelling Technician / Footwear CAD Specialist |



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