

SSBIO14 Product Developer – Biomedical Textiles

1. Job role

TCF sub-sector	Biomedical Textiles
Functional area	Research and Product Development
Job role	SSBIO14 Product Developer – Biomedical Textiles
Job role description	Leads the design, development and commercialisation of biomedical textile products, ensuring products meet clinical, functional, manufacturing and regulatory requirements from concept through to market release. In the Australian biomedical textiles sector, the Product Developer plays a critical role in creating products such as compression garments, surgical textiles, wound care systems, implantable textile materials and advanced functional fabrics. The role integrates textile science, product design, engineering, clinical requirements and manufacturing capabilities to deliver safe, effective and market-ready products. The role involves translating clinical and market requirements into product specifications, selecting appropriate materials, developing prototypes, coordinating testing and validation, and ensuring compatibility with manufacturing and sterilisation processes. The Product Developer must work within ISO 13485, TGA requirements and relevant international standards. The position collaborates closely with clinicians, materials specialists, engineers, production teams, quality assurance personnel and regulatory affairs specialists to ensure products are functional, compliant and scalable for production.
Performance expectations	• Developing products that meet clinical, functional and user requirements • Ensuring alignment between design, materials and manufacturing processes • Delivering products that meet regulatory and quality standards • Managing product development timelines and milestones • Conducting testing, validation and refinement of products • Ensuring manufacturability and scalability of designs • Maintaining traceability and documentation across development stages • Minimising development risks, defects and delays • Supporting innovation and continuous improvement

Specialisation	Biomedical product design, textile engineering, prototyping, validation, clinical textile systems, product lifecycle development
Application in other TCF sectors	• Apparel and performance wear design • Technical and industrial textile development • Defence and protective equipment design • Research and development environments • Medical device product development

2. Key tasks and critical work functions

Key tasks	• Translating clinical and market requirements into product specifications • Selecting and developing appropriate textile materials and components • Designing and developing product concepts and prototypes • Coordinating product testing, validation and refinement • Ensuring compatibility with manufacturing and sterilisation processes • Maintaining product documentation and design history files • Collaborating with cross-functional teams including QA, regulatory and production • Managing product development timelines and milestones • Supporting product launch and post-market evaluation
Critical work functions	• Ensuring products meet clinical safety and performance requirements • Maintaining alignment between design, materials and manufacturing processes • Preventing design flaws that impact patient outcomes or usability • Ensuring compliance with regulatory and quality frameworks • Maintaining traceability and documentation across the product lifecycle • Supporting efficient and scalable production • Enabling innovation while managing risk and compliance • Supporting successful market entry and product performance

3. Technical skills

Product design	Developing biomedical textile products and systems
Material selection	Choosing fibres, fabrics and components for performance and compatibility
Prototyping	Creating and refining product prototypes
Testing and validation	Coordinating and interpreting product testing
Manufacturing integration	Ensuring compatibility with production processes
Documentation	Maintaining design history files and technical specifications
Regulatory compliance	Applying ISO 13485, TGA and relevant standards
Project management	Managing timelines, milestones and development workflows

4. Generic Skills

Attention to detail	Ensuring accuracy in design and specifications
Analytical thinking	Evaluating performance and design data
Communication	Working with clinicians, engineers and production teams
Problem solving	Resolving design and development challenges
Teamwork	Supporting cross-functional collaboration
Time management	Managing development timelines and deliverables
Adaptability	Responding to changing requirements and technologies
Professionalism	Maintaining compliance and documentation standards

5. Emerging skills

Emerging skills	• Smart biomedical textiles and wearable medical devices • Advanced biomaterials and bioengineered textiles • Digital design tools and simulation technologies • Additive manufacturing and rapid prototyping • Data-driven product development and analytics • Sustainable and circular product design principles
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6. VET Qualifications and Skill Sets

Entry-level preparation	MST40122 Certificate IV in Textile Design or equivalent in Product Development or Manufacturing
Advanced development	Bachelor's degree in Textile Engineering, Biomedical Engineering, Industrial Design or related field

7. Job progression

Possible job progression	Product Development Assistant → Product Developer → Senior Product Developer → Product Development Manager → Technical or Innovation Director
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8. Classification

Australian Qualifications Framework	Level 4-7
Australian Bureau of Statistics (ABS) Skill Levels	Skill Level 1-2
Open Source Classification of Occupations for Australia (OSCA)	Product Developer – Biomedical Textiles



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