Reuben Ford

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reubenford77.github.io/portfolio/

Professional Summary

Mechanical Engineering and Applied Physics student (graduating mid-2026) with 2 years' experience designing and manufacturing biological safety cabinets, HEPA filtration systems, and custom sheet metal assemblies. Skilled in mechanical design with proven ability to manage full product lifecycle from concept to commissioning. Strong academic background with a strong interest in working on leading edge technologies.

Education

Bachelor of Engineering (Honours) / Bachelor of Science **March 2021 – May 2026 (expected)**
University of Technology Sydney

Mechanical Engineering & Applied Physics (Double Major)

- 6.8/7 GPA (High Distinction average)
- Capstone project (in progress): Design, build and test a hybrid rocket motor
- Classes taken include: Thermofluids, Mechanical Systems Design Studio, Dynamic Systems and Control, Solid State Physics

Technical Skills

Mechanical Design & CAD:

- Autodesk Inventor (Advanced)
- SolidWorks (Intermediate)
- 2D drawings (Advanced)
- Design of large assemblies including mechanical and electrical components

Manufacturing & Fabrication

- Sheet metal fabrication and assembly: laser cutting, press brake bending, welding, assembly
- 3D printing and rapid prototyping
- Design for manufacture (DFM) and design for assembly (DFA)

Programming & Analysis

- Python scripting (Intermediate)
- MATLAB (Intermediate)
- Excel automation with VBA and PowerQuery
- AI coding tools (Cursor, OpenAI Codex)
- Git version control

Standards & Compliance

- Design mechanical systems to comply with AS and ISO standards
- ISO 9000 series quality management system
- Product testing and commissioning to AS and ISO standards

Work History

Mechanical Engineer **November 2023 – Current**
AES Environmental

- Design complex assemblies for critical applications in healthcare, pharmaceutical and laboratories (custom biological safety cabinets, laminar flow booths, HEPA filtration products, fume cabinets, HEPA capture hoods).
- Full product lifecycle: design, manufacture, test and commission various air purification products to relevant AS & ISO standards (AS 1807, ISO 16890, AS 2252).
- Create detailed technical drawings and manufacturing specifications for complex assemblies and components.

- Design and implement manufacturing processes for efficient production of assembled (biological safety cabinets, fume cupboards etc.) and welded products (trolleys, stainless steel benches)
- Hands-on fabrication using laser cutter, press brake, and laser welding

Café Manager **March 2022 – November 2023**

Dolly's Donuts

- Led and supervised team of 8+ employees, developing strong leadership and communication skills
- Collaborate closely with business owner to implement operational improvements
- Successfully managed inventory and employee rostering
- Developed skills applicable to engineering environments

Data Entry Clerk **March 2021 – March 2022**

Dr Martin Grehan

- Maintained confidentiality and accuracy while handling sensitive patient data in regulated healthcare environment.
- Demonstrated strong attention to detail.
- Managed document control and administrative systems.

Referees

Available upon request.