

Joshua Campbell

JUNIOR MATERIALS ENGINEER



CONTACT

Sheffield, United Kingdom | joshua.campbell@gmail.com | +44 7481 357 926 | [linkedin.com/in/joshuacampbell-materials](https://www.linkedin.com/in/joshuacampbell-materials)

PROFILE

Materials Science and Engineering graduate from the University of Sheffield with a summer placement at **Tata Steel** in Port Talbot. Performed metallographic analysis on **25 steel samples**, supported **3 failure investigations**, and produced test reports informing quality decisions on production runs worth over **£800,000**. Proficient in SEM, XRD, and tensile testing, with **First Class Honours (70% average)** and IOM3 graduate membership.

EXPERIENCE

Jun 2025 – Aug 2025

Materials Testing Intern (Summer Placement), Tata Steel, Port Talbot

Completed a 12 week summer placement in the quality and metallurgy laboratory at Tata Steel's Port Talbot steelworks.

- Performed metallographic analysis on **25 steel samples** including sectioning, polishing, etching, and optical microscopy to assess grain structure and inclusion content
- Operated the scanning electron microscope (SEM) for **12 detailed examinations** of fracture surfaces and coating quality
- Supported **3 failure investigations** on customer-returned products, preparing reports with root cause analysis and corrective action recommendations
- Produced **18 test reports** for hot-rolled coil products, informing release decisions on production runs worth over **£800,000**

Oct 2023 – May 2025

Bar Staff (Part-time), The Devonshire Cat, Sheffield

Part-time bar work during term and holiday periods.

- Served an average of **150 customers per shift** during peak hours
- Managed stock counts and cellar deliveries, maintaining a variance of under **2%**

EDUCATION

Sep 2022 – Jun 2026

BEng (Hons) Materials Science and Engineering in Materials Science, University of Sheffield, Sheffield

Graduated with First Class Honours (**70% average**). Programme accredited by IOM3 for IEng.

- Final year project on the effect of heat treatment on the microstructure and mechanical properties of additively manufactured Ti-6Al-4V, graded **76%**
- Completed **320 hours of supervised laboratory work** across materials characterisation, mechanical testing, and processing modules

SKILLS

Scanning Electron Microscopy (SEM) • X-Ray Diffraction (XRD) • Metallography • Tensile & Hardness Testing • Failure Analysis • Optical Microscopy • Materials Selection (CES EduPack) • Thermodynamic Modelling (Thermo-Calc) • Technical Report Writing • Quality Management (ISO 9001) • MATLAB • Microsoft Excel

CERTIFICATIONS

Sep 2025 – Sep 2025

IOM3 Graduate Member (GradIOM3), Institute of Materials, Minerals and Mining

LANGUAGES

English - Native

PROJECTS

Sep 2025 – Apr 2026

Heat Treatment of Additively Manufactured Ti-6Al-4V (Final Year Project)

Investigated the effect of 4 different heat treatment cycles on the microstructure and tensile properties of laser powder bed fusion Ti-6Al-4V specimens.

- Prepared and characterised **32 test specimens** using SEM, XRD, and Vickers hardness testing
- Demonstrated that a sub-transus anneal at 920C for 2 hours increased elongation by **18%** with only a **4% reduction** in yield strength
- Produced a **48 page report** with full statistical analysis of results

EXTRA CURRICULAR ACTIVITY

Sep 2024 – May 2026

Sheffield University Materials Society Chair

Led a committee of 6, organised **5 industry talks**, and coordinated a site visit to the Nuclear AMRC for **22 students**.