

ZARA IQBAL

Junior Biomedical Engineer

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Biomedical engineering graduate from Imperial College London with research experience in medical device design and tissue engineering. Completed a **6-month research placement** at a medical device startup, contributing to the development of a **Class IIa implantable sensor**. Proficient in SolidWorks, MATLAB, and biocompatibility testing, with a **First Class Honours (76% average)** and a passion for translating engineering innovation into patient outcomes.

EXPERIENCE

Biomedical Engineering Research Intern, Nemaura Medical, Loughborough Jun 2025 – Nov 2025
Completed a 6-month research placement supporting the R&D team on a continuous glucose monitoring patch.

- Designed **4 iterations of sensor housing** in SolidWorks, optimising for patient comfort and manufacturing feasibility
- Conducted **15 biocompatibility tests** (cytotoxicity, sensitisation) in line with ISO 10993 requirements
- Analysed **200+ hours of sensor data** using MATLAB to evaluate accuracy against reference blood glucose measurements
- Prepared **3 sections of the technical file** for CE marking under EU MDR 2017/745

Undergraduate Research Assistant, Imperial College London - Department of Bioengineering, London Jun 2024 – Aug 2024
Assisted Dr. Elena Sheridan with a tissue engineering research project on 3D-printed bone scaffolds.

- Fabricated **30+ scaffold samples** using a bioprinter and tested mechanical properties (compressive strength, porosity)
- Performed **12 cell culture experiments** to assess osteoblast adhesion and proliferation on scaffold surfaces
- Co-authored a poster presented at the **2024 UK Society for Biomaterials Conference**

EDUCATION

MEng (Hons) Biomedical Engineering in Biomedical Engineering, Imperial College London, London Sep 2021 – Jul 2025
Graduated with First Class Honours (**76% average**).

- Final year project on 3D-printed biodegradable stents for peripheral artery disease, graded **82%**
- Relevant modules: Biomechanics, Medical Device Design, Biomaterials, Signal Processing, Regulatory Affairs

SKILLS

Medical Device Design (ISO 13485), SolidWorks & CATIA V5, MATLAB & Python, Biocompatibility Testing (ISO 10993), Cell Culture & Sterile Technique, 3D Printing (FDM, SLA, Bioprinting), Mechanical Testing (Instron), Regulatory Affairs (EU MDR, CE Marking), Risk Management (ISO 14971), Technical File Preparation, Data Analysis & Visualisation, Scientific Writing

CERTIFICATIONS

IET Graduate Member, Institution of Engineering and Technology Aug 2025 – Aug 2025

LANGUAGES

English - Native, Urdu - Conversational (B1)

PROJECTS

Biodegradable Peripheral Artery Stent - Final Year Project Sep 2024 – May 2025
Designed and 3D-printed a biodegradable PLA stent for peripheral artery disease and tested its mechanical and degradation properties.

- Achieved **radial strength within 10%** of commercial nitinol stents while demonstrating full degradation within 12 months in simulated conditions
- Presented findings to a panel of **5 academics and 2 industry partners**

EXTRA CURRICULAR ACTIVITY

Committee Member - Imperial College BioSoc Sep 2023 – Jun 2025
Organised **4 lab tours** to medtech companies including Smith & Nephew and Medtronic, attended by **25 students** per visit.