



Frewer Engineering – Year-in-Industry Job Description (2024/2025 Academic Year)

Year-in-Industry Placement:

Undergraduate Design and Analysis Engineer

About us!

Frewer Engineering is an agile Small to Medium-sized Enterprise (SME) consultancy business, focusing on mechanical and aerospace engineering design and analysis.

We work in a broad range of industries including aeronautical, space, automotive, renewables, naval and nuclear. Our work typically includes a combination of detailed **3D CAD design**, **Finite Element Analysis (FEA)** and **Computational Fluid Dynamics (CFD)**, supported by hand calculations and analytical methods.

At Frewer Engineering, our mission is to provide sustainable, creative, and innovative solutions to complex problems through world-class design, analysis and engineering services. Team fit and company culture are paramount in the recruitment process at Frewer Engineering. As such, we are committed to ensuring that we offer a diverse and inclusive environment for all our staff. We are a dynamic, high-talent, special projects team. Authentic enthusiasm for the profession is counted as highly as academic achievement.

Frewer Engineering prides itself in offering an agile environment tailored to developing engineers through from undergraduate to chartership. Good ideas are always listened to by the people who can help make them happen, with undergraduates given responsibility and ownership of key tasks and projects. The variety in size and complexity of our work provides opportunities to gain experience leading smaller projects, as well as making a name for yourself within large programmes of national significance.

Role description

We pride ourselves on tasking placement students with real and live project requirements. You will find yourself taking ownership and responsibility for project tasks and carrying out the following:

- Engineering and Mechanical Design work tasks in support of customer projects.
- 3D CAD and drafting of mechanical engineering components, working from concept to detail.
- Finite Element Analysis (FEA) of components and assemblies - linear, non-linear, and thermal analyses.
- Computational Fluid Dynamics (CFD) analysis in both 2D and 3D domains.
- Hand calculations supporting analytical models for concept-level analysis and validation.
- Visiting customer sites, viewing hardware, and performing sales functions where needed.

Qualification Requirements

Minimum

- Predicted 1st Class or 2:1 BEng or MEng Degree in Mechanical, Aerospace Engineering or equivalent.
- Experience using 3D CAD modelling software.
- Excellent MS Office skills, particularly Excel, Word and PowerPoint.
- Good communication skills, comfortable presenting in-person and virtually.
- Creative and innovative mindset, with a drive to learn new skills and develop engineering experience.
- Ability to communicate well in both spoken and written English.
- Full driving license valid in the UK.



Agile

Swift, accurate & cost-effective response



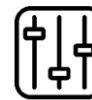
Sustainable

Contributing to a low-carbon, circular economy



Secure

Respectful of client & project confidentiality



Customised

The right solution for customers' individual needs



Cutting-Edge

Investing in new tools, technology & staff development



Desired

- Portfolio of project work to bring to interview for discussion.
- Understanding of Finite Element Analysis (FEA) and / or Computational Fluid Dynamics (CFD).
- Understanding of stress analysis and material science.
- Understanding of Fluid Dynamics.
- Experience of designing, analysing and / or manufacturing using composite materials.
- Experience of conducting thermal analysis.
- Experience in software and web development / coding using Python, VBA, C/C++, Javascript, HTML.
- Experience in analytical scripting using MATLAB or equivalent.

Benefits

Frewer Engineering offer a range of benefits to our employees including:

- Chartership mentoring, professional development training and support.
- Competitive placement salary.
- Social events with the team!

Location

Frewer Engineering are based near Ockley, Surrey. The office location is remote and as such, it is essential that all undergraduates have a full driving license valid in the UK, prior to commencement.

As the role is fully office-based, applicants must be able to relocate for the term of the placement.

Equal Opportunities

Frewer Engineering is an equal opportunities employer. We highly value diversity and inclusion and welcome applications from candidates from all backgrounds. We particularly welcome applications from sections of the community which are currently under-represented at Frewer Engineering including females, Black, Asian and Minority Ethnic candidates and applicants with disabilities. Please note we will not use any personal information relating to your background at any stage of the application process. All applicants will be evaluated equally, irrespective of background.

Testimonials

Here's what our placement engineers say about us:-

Chris M - MEng - University of Surrey 2021/2022

"Friendly, professional, and fulfilling. These are the main terms I would use to describe my time at Frewer Engineering. From modal analysis with bespoke FEA software to delivering presentations to external clients, this placement helped me develop greater awareness of institutional practices, exposure to different engineering software and compliance with codes and standards. These skills have transferred to my current position as an analytical engineer."

Sam S - MEng - University of Bristol 2022/2023

My placement at Frewer Engineering has been an incredibly rewarding experience. In one year, my technical understanding of engineering has increased greatly. I've been responsible for both computational and traditional calculation analysis that has driven key design decisions."

Sukhneet G - MEng - Imperial College London 2022/2023

"Over my yearlong placement I was made to truly feel like a member of the team. I was exposed to an incredible breadth of content which took the knowledge I had learnt at university and built on it ten-fold. From very early on I was directly involved with customers and was given real project-critical responsibilities. I was supported by everyone at Frewers the whole time and never felt uncomfortable. I would recommend a placement at Frewer's to anyone who wants to be involved in real world engineering."

How to apply!

Email your CV, cover letter and portfolio (desired but not essential) to r.lock@frewer-engineering.com.

We look forward to hearing from you!