Undergraduate Design & Analysis Engineer Job Description

frewer
Engineering, design & analysis

About us!

Frewer Engineering is an agile Small to Medium-sized Enterprise (SME) consultancy focusing on mechanical design and analysis. We work in a broad range of industries including aeronautical, space, automotive, renewables, defence and marine. Leveraging a blend of **3D CAD design, Finite Element Analysis (FEA)**, and **Computational Fluid Dynamics (CFD)**, supported by rigorous analytical methods, allows us to tackle complex engineering challenges with precision and creativity.

Our mission is to provide **innovative, creative, and sustainable solutions** to complex engineering problems. To help achieve this, we're looking for people that can bring **diverse perspectives and ideas** which foster an inclusive environment for innovation.

Our core values - **Trust, Initiative, Innovation, and Collaboration** - are at the heart of everything we do, and team fit and company culture are as important as technical expertise. An appetite to learn on the job to continually develop new skills and enhance existing ones is vital and will be supported by the company.

Our **dynamic, high-talent, special projects team** is united by a passion for solving problems and pushing the boundaries of engineering. We pride ourselves on listening to fresh ideas and ensuring that good concepts are brought to life by the people who can make them happen. This approach provides not only a pathway for professional growth but also a space for innovation that drives real-world impact.

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

Job 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.

Job 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.

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. Please note we will not use any personal information relating to your background at any stage of the application process.

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 info@frewer-engineering.com.