

Job Title	Photonics Intern
Grade	£25,552.80
Locations	Bristol-Newport
Employment Type	☐ Permanent ☒ Fixed Term ☐ Agency/Contract
Hiring Manager	Senior Photonics Engineer
Direct Reports	Principal Team Lead

Job Summary:

As a photonics intern, you'll be working within a team of talented engineers to deliver live projects. The Internship will last one year and throughout that year you will be expected to develop and learn whilst laying the foundations for a successful career in engineering.

The intern is expected to have a good general knowledge of electronics or a related discipline. Prior photonics experience is desirable but not essential. They will support photonics testing and implementation in the lab at Catapult's Future Telecoms Hub, with opportunities to develop their skills. The intern will also be expected to contribute to STEM activities throughout the year.

The intern will report to and support the Principal Engineer and will exemplify the behaviours and values of the Catapult of collaboration, innovation, and trust. They should have excellent team working skills, working collaboratively and cooperatively with colleagues, and should be able to communicate to other team members in an encouraging and supportive way.

Key Responsibilities:

- Work on projects working closely with the Project Manager and Technical Authority (TA) to deliver tasks on time and to scope

Capture and document design requirements and specifications

- Assist with schematic design, where required by the project
- Support PCB layout and manufacture, where required by the project
- Assist with embedded software and graphical user interface development, where required by the project
- Support optical and electrical characterisation of photonic devices, including measurement setup, data collection and analysis, under supervision in the labs at CSA Catapult's Future Telecoms Hub
- Technical reporting to project team and wider audience to demonstrate regular progress
- Adhere to the company's design standards
- Support the development of automated instrument control and data analysis using Python

Accountability:

- Complete assigned technical tasks on time and to scope under supervision, working closely with the Project Technical Lead and Project Manager.
- Produce high-quality technical work under the guidance of the Project TA, documenting results and reporting progress regularly to a Senior Engineer.
- Follow approved risk assessments for technical tasks and lab work, and contribute to their preparation under the supervision of a Senior Engineer.

Experience

Expected Experience

- Practical knowledge of debugging and implementing design in the lab using testing equipment (such as oscilloscopes, power supplies, waveform generators etc.)
- A desire to learn and develop.
- Enthusiasm, drive, commitment: manage your own workload and use your initiative.

Desirable Experience

- Practical programming experience, preferably in Python, for data analysis, instrument control or test automation. University and personal projects are welcome.
- Experience in multi-disciplinary engineering activities including design, test, manufacture, and instrumentation development
- Interest in photonics and optoelectronic devices
- Experience of practical laboratory or engineering projects, including university or personal projects
- Proficient in Microsoft Office products
- Knowledge of embedded software development using C/C++
- Experience of GUI development using Python or equivalent
- Knowledge of analogue and digital hardware design at PCB. E.g. circuit design, schematic capture, simulation, PCB assembly design & debug.
- Experience of prototyping designs using breadboards/veroboard

Qualifications:

Undergraduate studying a degree in Electrical and Electronic Engineering (EEE) or equivalent in related engineering or science field.

Managerial & Supervisory:

The intern will be offered mentorship throughout their internship.

The intern will work alongside other engineers and lab technicians as part of an integrated project team to deliver technical work packages.

Key relationships

Internal Relationships

- Report to and support the Senior Photonics Engineer – reporting project progress and supporting capability development
- Project Manager – deliver tasks to the PM to ensure projects are on time, quality, and cost
- Engineering and Technology Team – work alongside other engineers in a collaborative and supportive way

External Relationships

- On collaborative Research & Development programmes the Engineer will develop close working relationships with the respective TAs from the programme lead company

Autonomy:

Perform technical activities whilst in close consultation with the Project Technical Lead and Head of Technology

Pressure and Working Environment

- Work is of technical nature that requires high levels of effort and concentration
- Project deadlines may mean extra time and effort is required at key moments
- Work is split between the office and the lab with a higher effort expected in the lab. The Engineer may work from home depending on workload and in line with company policy
- The Engineer may be required to work on multiple projects at once maintaining progress and quality

Authority and Risk:

- Provide technical inputs on projects to the Project Technical lead and Head of Technology to ensure quick and accurate decision making
- Follow approved risk assessments for technical tasks and lab work, and seek guidance from a Senior Engineer before starting unfamiliar activities.

Behaviours

- Demonstrate the Catapult behaviours by being inclusive, challenging, and supportive.
- Exemplify the Catapult values of collaboration, innovation, and trust.