



Sainsbury Wellcome Centre

Job Description

Scientific Instrument Maker

Department: Sainsbury Wellcome Centre

Grade: 8

Salary: £54,931 - £62,903 inclusive of London Allowance

Hours: 36.5

Reports to: Head of FabLab

Available until: 31st October 2030



Context

The SWC Innovations and Fabrications Laboratory (FabLab) supports and accelerates innovative scientific research through the design, development and deployment of new research instruments.

The team provides multi- disciplinary engineering design and manufacturing expertise supporting ground-breaking research within the Centre, enabling the assessment of scientific and technical requirements as well as the proposal and development of engineered solutions.

A high level of investment in the FabLab facilities has equipped the team with state-of-the-art design and manufacturing technologies for the rapid prototyping of electronic, 3D printed, fluidic and precision machined parts.

The FabLab comprises highly skilled and experienced engineers who facilitate a state of the art and multidisciplinary MakerSpace enabling scientists at all career levels to freely and creatively experiment and prototype ideas.

Main purpose of the job

The Scientific Instrument Maker performs highly skilled precision work in the design, development, construction, and validation of scientific instruments.

Central to this role is the ability to design and simulate complex assemblies to a high standard using Autodesk Inventor Pro, enabling scientific concepts to be translated into robust, manufacturable prototypes.

This role requires a high degree of self-management; you will oversee your own workload, identifying when to manufacture in-house and when to prepare professional inventor-based design packages for external partners to ensure effective time management and meet deadlines

You will be a proactive communicator who excels in a collaborative team setting, unafraid to ask insightful questions to clarify requirements and keen to share technical expertise and insights across the team.



Duties and responsibilities

- Ensure designs are optimised for both internal 5-axis machining and external commercial production using 3D modelling software.
- Participate in discussion with scientists, fellow engineers and other collaborators of complex and diverse assignments.
- Knowledge Sharing & Collaboration: Act as a technical bridge within the team; willingly share skills and process knowledge with colleagues and scientists.
- Precision Manufacturing: Program, set, and run high-specification 5-axis CNC machines and 3+1 axis CNC lathes.
- CAM Programming: Perform offline CAM programming for 5-axis CNC mills and lathes (Inventor CAM).
- General Fabrication: Operate a range of fabrication equipment for metal and plastic/acrylic forming and bonding, including thermal line bending and drilling, alongside hand tools to finish products to the highest standard.
- Participate in the complete development lifecycle of experimental scientific equipment, from concept and design through to implementation, validation and deployment in the laboratory.
- Rapid Prototyping: Operate laser cutters, SLS,FDM,LFD,Polyjet 3D printers for final components and "proof of concept" devices.
- Assist in the training of scientists in the safe use of the MakerSpace if required
- Maintains equipment and procures stock to ensure a safe, functional work environment.
- Project & Self-Management: Proactively track the progress of all

tasks, ensuring that both internal milestones and external deadlines are met without constant supervision.

- Evaluate project requirements to determine between in-house fabrication and external procurement.
- Prepare technical packages and actively following through on outsourced work to ensure quality and timely delivery.

General

- Carry out any other duties within the scope, spirit and purpose of the job as requested by the line manager.
- Actively follow and promote all UCL policies including those on Equality, Diversity and Inclusion.
- Maintain an awareness and observation of Fire and Health & Safety Regulations.
- There may, on occasion, be a requirement to work extended hours.
- Follow and actively promote the [UCL Ways of Working](#).
- This job description may be reviewed and be subject to amendment in consultation with the post holder.
- All staff are expected to act professionally, co-operatively and flexibly in line with the post.
- UCL's Sustainability policies and objectives, attend management meetings and undertake such training and development as may be required for the post

Person Specification

Applicants should copy and paste the following essential criteria (which are assessed on the application form) into the “Statement in support of your application” and describe underneath each criterion how they meet it, giving examples.

Essential Criteria	Assessment method (Application/ Interview/ Test)
Qualifications, experience and knowledge	
Completed a recognised apprenticeship at NVQ Level 3, with preferably a higher qualification in Mechanical Engineering, or equivalent professional experience.	A
Advanced CAD Design: Expert use of 3D modelling software (Autodesk Inventor Pro) to design, simulate, and stress-test parts and assemblies.	A/I/T
Innovative and inventive, with demonstrable evidence of delivering novel, creative solutions that achieve positive outcomes.	A/I/T
A proactive communicator, with the ability to present and discuss complex, multi-disciplinary projects and assignments.	A/I/T
Well organised, with the ability to work well independently and as part of a team.	A/I
Substantial experience of working within a fast-paced precision engineering design and manufacturing environment.	A/I
Experience in metal work sheet and plastic fabrication.	A/I
Skills and abilities	
Project management: Operates with a high level of autonomy to self-manage individual project timelines.	A/I
Expert in 3D CAD design using Autodesk Inventor Pro (or equivalent), including modelling, simulation, and stress analysis of parts and assemblies.	A/I/T
Strong capability in producing high-quality CAD files and technical documentation (e.g. drawings, diagrams) suitable for manufacture, maintenance, reproduction, and open science use.	A/I/T
3D printing experience (FDM and Polyjet technologies).	A/I
Acrylic laser and water jet cutting	A/I
Experienced with offline CAM programming (Inventor Cam).	A/I/T

Ability to annotate 2D drawings for outsourcing,	A/I
Excellent knowledge of scientific and engineering materials and how to fabricate with them.	A/I/T
Extensive experience of programming, setting and running 5 axis CNC machine tools and lathe using CAD/CAM software and machine controls (Siemens/Celos) , ProtoTRAK® to maximum efficiency and high-quality standards.	A/I
UCL Ways of Working	
Personal Excellence: Delivering on commitments to tasks and people.	A/I
Working Together: Sharing relevant knowledge and experience.	A/I
Achieving our Mission: Managing multiple projects, leading regular reviews and making changes when necessary.	A/I
Desirable Criteria (to be scored if there is a tie break for shortlisting)	
Applicants should copy and paste the following desirable criteria into the “Statement in support of your application” under the Desirable criteria section and describe underneath each criterion how they meet it, giving examples.	
Commitment to and knowledge of advancing equality, diversity and inclusion’	A
Experience in scientific equipment design and manufacturing.	A

Apply

To apply for this position visit:

ucl.ac.uk/work-at-ucl/search-ucl-jobs

Please complete the online application form and use the supporting statement section to outline your interest in joining SWC and how you meet the essential and desirable criteria for the role.

If you have any queries regarding the application process, please email: swc.hr@ucl.ac.uk

For informal enquiries about the role please contact: robb.barrett@ucl.ac.uk

All candidates will be notified of the outcome of their application.

Probation

Appointments are subject to receipt of satisfactory references and a probationary period of 9 months.

Annual leave

Annual leave is 27 working days for a full-time member of staff + 6 UCL closure days in addition to 8 Bank Holidays.

Pension

Post-holders will be eligible to join the Universities Superannuation Scheme (USS), subject to the Scheme's rules and eligibility conditions.

Hours of Work

UCL's full time working week is 36.5 hours per week. SWC is willing to consider flexible-working arrangements, subject to discussion and agreement with your line manager.

Other benefits

UCL is a dynamic, global university based in one of the most exciting capital cities in the world. Not only does working at UCL offer the opportunity to work with some of the greatest intellects in the world, it also offers competitive terms, conditions and benefits to its staff.

As part of the UCL community you can access free lunch hour lectures, exhibitions and museums and collections. On campus UCL has the Bloomsbury theatre hosting a range of performances and a series of bars, cafes, and other facilities, which UCL staff can use.

In addition to 41 days annual leave (inclusive of public holidays and closure days) and generous pension schemes, UCL provides a number of other [staff benefits](#). UCL benefits and policies apply

equally, whatever the sexual orientation and/or gender identity of employees. Benefits and policies relating to employees partners, includes both different sex and same sex partners.