Job family: General Workshop & Laboratory Services

Technical Professionals within this job family will delivery infrastructure for education and research activities. These technicians and engineers will apply their technical skills and specialties within their disciplines to run samples, build or repair equipment, perform routine inspections, troubleshoot issues with equipment, create and operate specialist test and calibration facilities, perform calibrations, or provide specialist service or support and expertise.

Their work will not only benefit the lab and workshop users, but they will also have academics and professional services as their customers.



Typical roles: Laboratory Support Staff

Experiences

Activities and responsibilities likely to be required when working at this level

Health & Safety responsibilities

- · Report faults or damage to equipment and assist with simple maintenance tasks
- Promote and follow safe working practices
- Understand and follow safety paperwork, with the ability to identify and report hazards
- Conduct routine compliance tasks
- · Maintain good housekeeping, assisting with waste disposal procedures and cleaning activities
- Core responsibilities
- Contribute to meetings
- Make suggestions to improve the service
- Contribute to and support change
- Assist with stock control and stores operations
- Assist with record keeping, inventory and asset management
- Conduct portering/manual handling duties
- Operate simple equipment following instruction or standard operating procedures
- Organise laboratory spaces in preparation of scheduled activities
- Report faults or damage to infrastructure
- Set up and operate equipment following well-established procedures
- Set up lab coats and laundry

Personal and professional development

Development options to consider when working towards this level

Learning on the job

Gain awareness of how to use basic IT applications Conduct lab inductions for PhDs students and staff (to consider size of the lab and hazard level)

Learning from others

Work shadow colleagues to gain an understanding of new or different work practices Join a Community of Practice Access mentoring support from a colleague or local mentoring scheme

Formal learning

Manual handling training First Aid training Fire Warden training

UCL Ways of Working

These describe expected behaviours in line with UCL culture and values (see pages 66-67). For Ways of Working indicators and steps to development please refer to the Ways of Working website www.ucl.ac.uk/human-resources/policies-advice/ways-working

Transferable skills and competencies

PLANNING AND ORGANISING

DEVELOPING RESULTS AND SETTING CUSTOMER EXPECTATIONS

FOLLOWING INSTRUCTIONS AND PROCEDURES

(see pages 64-65)



Development options to consider when working towards this level

Learning on the job
Develop an understanding of how to carry out simple equipment maintenance
Develop an understanding of how to troubleshoot equipment within area of work
Understand the requirements of specific procedures e.g., clean-up for particular classes or substances, simple ordering and pipetting
Learn about materials most commonly used in the workshops
Conduct background reading on materials, processes, machines etc

Learning from others

Work shadow others to gain an understanding of how to use equipment in workshops

Formal learning

Manual handling training Microsoft Software (Word, Excel) Control of Substances Hazardous to Health (COSHH) training Fire Warden training General workshop health & safety Industry/job specific software training to gain basic proficiency

UCL Ways of Working

Typical role: Workshop Technician, Research Technician, Store Assistant, Laboratory Technician, Junior AIT Engineer

Experiences

Activities and responsibilities likely to be required when working at this level

Health & Safety responsibilities

- · Complete routine equipment maintenance and repairs
- · Liaise with suppliers and manufacturers to resolve simple problems
- Advise on equipment capabilities
- Working with the faculty manager, establish and maintain a safe/compliant working environment
- Assist/complete and update routine safety paperwork (dependent on the risk owner)
- Hold specific safety responsibilities
- Organise and complete compliance tasks (role/department dependent)
- Maintain up-to-date health and safety knowledge, providing support and advice to others

Core responsibilities

- Ensure effective delivery of objectives by planning and managing own workload
- Assist the academic lead/workshop manager with the day-to-day running and supervision of laboratory spaces
- Allocate work to one or more members of technical staff (this may be dependent on the area of work and/or the role)
- · Work collaboratively to deliver objectives
- Contribute to progress and management meetings
- · Assist with record keeping, inventory and asset management
- Manage a small budget, monitoring resource usage and maintaining supplies of key items (this may be dependent on the area of work and/or the role)
- Assist with stores operations including ordering, receiving, processing, and distributing goods
- Source and negotiate with suppliers for routine items
- Provide a high standard of research support, including contributing to reports and publications
- Provide a high standard of teaching support, including preparing for classes and field work
- Support taught course projects by contributing to experimental design and data acquisition
- Prepare and manufacture a range of simple specimens/samples
- Report infrastructure faults and support small-scale building works
- Manage equipment bookings, calculate charges/costs using a pre-existing framework or costing scheme and assist with re-charging (in some areas, this may involve TRAC costing)
- · Update and deliver local inductions
- · Provide training and demonstrations of techniques and equipment
- Share skills and best practice
- · Prepare standard operating procedures and work instructions for methods and/or equipment

Transferable skills and competencies

APPLYING EXPERTISE AND TECHNOLOGY

> WRITING AND REPORTING

DEVELOPING RESULTS AND SETTING CUSTOMER EXPECTATIONS

(see pages 64-65)

Personal and professional development

Development options to consider when working towards this level

Learning on the job

Specialise in specific areas of responsibilities e.g. to be a point of contact for specific instruments and tools Broaden knowledge of different materials, machinery and processes Coordinate access to resources and facilities for stakeholders Develop the ability to use personal initiative to work proactively Gain additional experience and be able to provide evidence of completed projects Develop people skills to interact with staff, students, academics. Complete the manufacturing of parts that require a specialist apprenticeship to achieve the tolerances required (postsuccessful apprenticeship)

Learning from others

Increase knowledge to aid troubleshooting processes e.g., include sample preparation and analysis of data; common CAD software issues Work shadow other colleagues to learn how to carry out risk assessments Join a Community of Practice Access mentoring support from

a colleague or local mentoring

scheme

Formal learning

UCL RiskNet training Fire Warden training Relevant training through Higher Education and Technician Educational Development (HEaTED)

UCL Ways of Working

Typical roles: Senior Technician/Technical Specialist, Senior Technician, Senior Workshop Technician, Senior Manufacturing Technician, Database Officer, Lab Coordinator, Laboratory Manager, Stores Manager, Safety Advisor, Deputy Safety Officer, AIT Engineer

Experiences

Activities and responsibilities likely to be required when working at this level

Health & Safety responsibilities

- · Liaise with suppliers and manufacturers to resolve problems and investigate replacement options
- Advise on equipment capabilities demonstrating how results can be achieved
- By developing local procedures, establish and maintain a safe/compliant working environment
- Oversee compliance tasks ensuring timely completion and maintenance of appropriate records
- · Complete accident reporting and assist with investigations
- **Core responsibilities**
- · Provide management, motivation and support to a technical team of broad remit
- Schedule, prioritise and monitor work and performance in line with demands and deadlines
- Assist with aspects of the recruitment process of technical staff
- Hold delegated responsibility from the academic lead for the planning, operation and supervision of a variety
 of laboratory spaces
- · Work collaboratively with other areas to ensure efficiency and elimination of duplicated effort
- Organise and facilitate progress and management meetings
- · Be a key contributor to service development, delivery and planning
- · Contribute to and support change
- Oversee local record keeping, inventory and asset management
- Supervise all stores operations
- Source and negotiate with suppliers for a range of items including specialist parts/equipment
- Create, update and implement procedures to deliver an aligned, efficient and effective service
- Provide a broad range of skilled research support
- · Support taught course projects by delivering skilled technical support
- Prepare and manufacture a range of specimens/samples with limited direction
- Support or oversee small- and large-scale building works
- Manage local access arrangements and/or processes
- Design, develop and deliver inductions, demonstrations and training covering a broad range of activities (not limited to techniques and equipment)
- Assist managers with the identification of training and development needs
- Develop a broad knowledge and skills base, sharing with others
- Mentor junior staff
- Conduct lab inspections

Personal and professional development

Development options to consider when working towards this level

Learning on the job

Take leadership responsibility for short term cover during periods of annual leave Develop specialised knowledge in a specific area of responsibility Contribute to strategic processes e.g. calculate costing and recharges for facilities (applicable to smaller non-TRAC facilities only) Working on new technology, involvement in research projects Contributing to a project led by a specialist

Learning from others

Shadow other team members in their area of responsibility Seek out secondment opportunities Join a Community of Practice Access mentoring support from a colleague or local mentoring scheme

Formal learning

Specific health and safety training e.g. formal safety qualifications Industry recognised qualifications/training Accreditation/ certification from a recognised Professional body UCL Leadership and/or Management training

Transferable skills and competencies

ANALYSING

PLANNING AND ORGANISING

COPING WITH PRESSURE AND SETBACKS

(see pages 64-65)

UCL Ways of Working

General Workshop & Laboratory Services – Grade 8 – Specialist Pathway

Typical Roles: Senior Technical Specialist, Senior AIT Technician

Transferable skills and competencies

DECIDING AND INITIATING ACTION

ADAPTING AND RESPONDING TO CHANGE

LEADING AND SUPERVISING

(see pages 64-65)

Experiences

Activities and responsibilities likely to be required when working at this level

Health & Safety responsibilities

- Advise and oversee all equipment purchases relevant to the specialism ensuring compliance and alignment to facility priorities
- Plan and oversee all maintenance and repair activities including the completion of in-house, highly skilled repairs and maintenance
- Ensure that all equipment linked to the specialism is appropriately maintained
- Lead investigations into new equipment purchases/modifications
- · Hold specific safety responsibilities relevant to the specialism e.g. laser safety officer
- Ensure all safety paperwork relevant to the specialism is completed/reviewed
 - Oversee completion of all compliance tasks related to the specialist area
 - Complete accident reporting and assist with investigations
 - Maintain in-depth and up-to-date health and safety knowledge relevant to the specialism
 - Maintain relevant up-to-date health and safety knowledge providing expert support/advice

Core responsibilities

- Provide direct line-management support, schedule, prioritise and monitor work and performance in line with demands and deadlines
- · Supervise other staff and students working within the specialism
- Work collaboratively with other areas of the University to achieve efficiency and elimination of duplicated effort
- Organise and facilitate meetings as necessary and attend and present at School/Department meetings and forums
- Lead the introduction and development of new and cutting-edge equipment and techniques
- Contribute to/support local change
- · Manage budgets relating to the specialism, monitoring resource usage
- · Source and negotiate with suppliers for a range of items including specialist parts/equipment
- Contribute data to influence budget setting processes
- Hold overall responsibility for ensuring that the specialist area delivers against the needs of teaching and research, and that all assets relating to the specialism are utilised
- Provide highly skilled and highly-specialised teaching, research and taught course support. This will include the development of new techniques or new practical class activities to students and staff at all levels
- Ensure that the management of facilities relating to the specialism is robust and compliant
- Assess, develop and implement training and development arrangements relating to the specialism
- Contribute to the design of technical projects to enable the development of unique prototype scientific
 apparatus. This may include the manufacture of quality assured components and the dimensioned drawings
 of the specialised tolerance standards etc.
- Contribute to the design of mechanical components would include detailed Finite Element Analysis and material specification required for critical applications
- · Maintain in-depth specialist knowledge, sharing with others e.g. presenting at conferences
- Mentor/coach junior staff
- Assist with the recruitment of new staff
- Ensure invoices and internal transfers are processed correctly

Personal and professional development

Development options to consider when working towards this level

Learning on the job

Provide short term cover during periods of annual leave, for senior management Provide consultancy with internal and external stakeholders Develop and deliver training sessions for staff Review grant funding applications and publications Edit academic papers Co-develop specialised equipment and device with leading manufacturers Take a leading role in a small project, building scientific apparatus (working with others), Designing parts and sending them to contractors, Developing processes and techniques

Learning from others

Work shadow other team members in their area of responsibility Seek out secondment opportunities Access mentoring support from a colleague or local mentoring scheme Attend and present at relevant conferences Participate in boards and international committees

Formal learning

Accreditation/certification from a recognised professional body Specialised training related to the specific area UCL Leadership and management programmes Apply for training through a mid-career apprenticeship programme

UCL Ways of Working

General Workshop & Laboratory Services – Grade 8 Management Pathway Typical Roles: Technical Manager, Deputy Unit Manager, Facilities and Lab Operations Manager, Building Manager, Safety Officer Transferable skills and **Experiences** competencies Activities and responsibilities likely to be required when working at this level **Health & Safety responsibilities** Advise and oversee significant equipment purchases ensuring compliance and alignment to School/ • DECIDING AND INITIATING ACTION Department/Faculty/Research Centre/Research Group priorities in conjunction with Senior Specialist Technicians where appropriate Ensure that all equipment is appropriately maintained in conjunction with Senior Specialist Technicians • where appropriate ADAPTING AND To be responsible for the implementation of the University's health and safety policy, translating this into RESPONDING • TO CHANGE effective local policies and procedures Hold specific safety responsibilities (e.g. membership of School/Department/Faculty/Research Centre/ Research committees) LEADING AND · Work with Principal Investigators to ensure all necessary safety paperwork is completed/reviewed across the SUPERVISING School/Department Lead safety inspections and accident investigations Maintain up-to-date health and safety knowledge providing expert support/advice to others (see pages 64-65) **Core responsibilities** • Provide management, motivation and support to the School/Department/Faculty/Research Centre/Research technical team developing the team to keep pace with changing teaching, research and technology needs · Schedule, prioritise and monitor work and performance in line with demands and deadlines • Be responsible for the recruitment of all technical staff Manage all space and its allocation ensuring that it is used to maximum effect · Work collaboratively with other areas of the University to achieve efficiency and elimination of duplicated effort Organise and facilitate meetings as necessary and attend and present at School/Department/Faculty/ Research Centre/Research meetings and forums · Lead the development of School/Department services and facilities ensuring that they remain fit-for-purpose and deliver maximum benefit · Lead change-management initiatives at a local level in collaboration with more senior staff Hold responsibility for the effective operation of stock control, whole life costings and asset management/ inventory systems across the School/Department/Faculty/Research Centre areas Contribute data to influence budget-setting processes · Hold overall management responsibility for all facilities ensuring that local facility management arrangements are robust and compliant Lead small- and large-scale buildings works Oversee School/Department/Faculty/Research Centre/Research Group security and access control arrangements Assess, develop and implement School/Department/Faculty/Research Centre/Research-wide training/ development arrangements · Develop and maintain a broad knowledge and skills base, sharing with others Mentor/coach junior staff

- Ensure invoices and internal transfers are processed correctly
- Manage specific specialist laboratory or facility areas of work

General Workshop & Laboratory Services – Grade 8 – Management Pathway

Personal and professional development

Development options to consider when working towards this level

Learning on the job

Provide short term cover during periods of annual leave, for senior management Provide consultancy with internal and external stakeholders Develop and run training sessions for staff Deputise for day to day tasks as required for the line manager Take ownership of projects at a higher level Delegate pieces of work to junior members of staff Leading on small facility, equipment, leading on large scale design/developing engineering projects or policy projects Provide advice on the implementation of policy, Provide costs of equipment and/ or infrastructure for research funding applications and other projects, Developing an understanding of how lab/workshops are managed

Learning from others

Work shadow other team members in their area of responsibility Seek out secondment opportunities Seek out mentoring opportunities Attend and present at relevant conferences Participate in boards and international committees

Formal learning

Accreditation/certification from a recognised professional body Specialised training related to the specific area UCL Leadership and/or Management training Apply for training through a mid-career apprenticeship programme

UCL Ways of Working

General Workshop & Laboratory Services – Grade 9 – Specialist Pathway

Typical Roles: Senior Technical Expert, Senior Technical Specialist, Principal AIT Engineer

Transferable skills and competencies

PERSUADING AND INFLUENCING

CREATING AND INNOVATING

ENTREPRENEURIAL AND COMMERCIAL THINKING

(see pages 64-65)

Experiences

Activities and responsibilities likely to be required when working at this level

Health & Safety responsibilities

- Specialise in a skillset deemed to be expert in their area and/or including project management of major technical projects
- Be responsible for the overall technical project management of research projects, including the design and implementation of systems
- Lead a major technical project, facility or team.
- By developing local procedures, establish and maintain a safe/compliant working environment within the specialist area
- Hold specific safety responsibilities relevant to the specialism e.g. laser safety officer
- · Complete accident reporting and assist with investigations
- Maintain in-depth and up-to-date health and safety knowledge relevant to the specialism

Core responsibilities

- Provide direct line-management support, schedule, prioritise and monitor work and performance in line with demands and deadlines
- Supervise other staff and students working within the specialism
- Work collaboratively with other areas of the University to achieve efficiency and elimination of duplicated effort
- Organise and facilitate meetings as necessary and attend and present at School/ Department meetings and forums
- Lead or contribute to and support local change
- Manage budgets relating to the specialism, monitoring resource usage
- · Source and negotiate with suppliers for a range of items including specialist parts/equipment
- Contribute data to influence budget setting processes
- Hold overall responsibility for ensuring that the specialist area delivers against the needs of teaching and research, and that all assets relating to the specialism are utilised
- Provide highly skilled and highly-specialised teaching, research and taught course support. This will include the development of new techniques or new practical class activities
- Ensure that the management of facilities relating to the specialism is robust and compliant
- Contribute to research outputs, including research papers, as a co- or lead author.
- Apply for grant funding from appropriate external funding agencies and internal funding programs.
- Mentor/coach junior staff

Personal and professional development

Development options to consider when working towards this level

Learning on the job

Learning from others

Develop an understanding of managing budgets Management of workshop/lab. Manage a large piece of equipment as a key operator Take on delegated responsibility for the management of a key project/s; aspiring to manage large scale projects independently Work shadow colleagues to gain an understanding of new or different work practices Join a Community of Practice Access mentoring support from a colleague or local mentoring scheme Attend internal or external networking events Seek out secondment opportunities Conference attendance and presentation where possible

Formal learning

Accreditation/certification from a recognised Professional body Relevant training through Higher Education and Technician Educational Development (HEaTED) UCL Leadership and/or Management training Apply for training through a mid-career apprenticeship programme

UCL Ways of Working

General Workshop & Laboratory Services – Grade 9 Management Pathway

Typical Roles: Technical Operations Manager, Biological Services Unit Manager, Advanced Manufacturing Manager, Head of Technical Services

Experiences

Activities and responsibilities likely to be required when working at this level

Health & Safety responsibilities

- · Hold responsibility for a large facility or multiple number of laboratories
- Ensure that the University's health and safety policy is translated into effective local policies and procedures
- · Hold specific safety responsibilities
- · Ensure that all compliance tasks are completed
- Lead safety inspections and accident investigations
- · Maintain up-to-date health and safety knowledge providing expert support/advice to others

Core responsibilities

- · Provide management, motivation and support to the College/Faculty technical teams developing the teams to keep pace with changing teaching, research and technology needs
- · Ensure that all work is appropriately scheduled in line with priorities and deadlines
- Maintain oversight of all technical staff recruitment within the College/Faculty
- Oversee space management and allocation across the College/Faculty
- · Lead the development of College/Faculty services and facilities ensuring that they remain fit-for-purpose and deliver maximum benefit
- · Lead change-management initiatives in collaboration with more senior staff
- · Produce options papers, proposals and reports for senior management review
- · Ensure that inventory and asset management is appropriately managed across the College/Faculty
- Manage College/Faculty budgets (including trading accounts) and those relating to specific projects ensuring that appropriate and compliant systems are in place to deal with purchasing
- Contribute data to influence budget setting processes
- Oversee the management of all College/Faculty facilities, monitoring budgets and overall performance
- Maintain oversight of all large-scale building works leading on those of a significant value/impact
- Oversee College/Faculty security and access control arrangements
- Assess, develop and implement College/Faculty-wide training/development arrangements
- Coach staff
- Set up and chair departmental/faculty committees e.g. health and safety, infrastructure
- Lead on cross faculty engagement and interactions
- Oversee departmental/faculty operations on all levels
- Contribute to research outputs, including research papers, as a co- or lead author.
- Apply for grant funding from appropriate external funding agencies and internal funding programs.

Personal and professional development

Development options to consider when working towards this level

Learning on the job

Develop understanding of managing budgets Management of workshop/lab. Lead on major design/developing engineering projects Leading outside of your area of expertise Develop higher level communication and negotiation skills

Learning from others

Work shadow colleagues to gain an understanding of new or different work practices Join a Community of Practice Access mentoring support from a colleague or local mentoring scheme Attend internal or external networking events Attend conferences and utilise opportunities to present

Formal learning

Accreditation/certification from a recognised professional body UCL Leadership and/or Management training Apply for training through a mid-career apprenticeship programme Budget management training

UCL Ways of Working

These describe expected behaviours in line with UCL culture and values (see pages 66-67). For Ways of Working indicators and steps to development please refer to the Ways of Working website www.ucl.ac.uk/human-resources/policies-advice/ways-working

Transferable skills and competencies

PERSUADING AND INFLUENCING

CREATING AND INNOVATING

ENTREPRENEURIAL AND COMMERCIAL THINKING

(see pages 64-65)

Case Studies



Niamh Grace

Workshop Manager, The Bartlett Manufacturing and Design Exchange (B-made)

My current role is manager of the Bloomsbury workshop for The Bartlett Manufacturing and Design Exchange (B-made), part of the Bartlett School of Architecture in the UCL Faculty of the Built Environment. I work with a team

of specialists who work across all the various courses imparting physical and digital technological solutions and manage/lead a team of 13 people ranging from Grade 8 to 5, along with 1 apprentice.

In 1985 I dropped out of Art College in Dublin to pursue a Modelmaking apprenticeship, turning a passion for making into a skill I could travel with. I did my apprenticeship in sheet thermoplastics and resin and silicone casting. There were three small firms in Ireland that made models and I spent my school holidays working in one, which also subsidised my college fees.

In 1987 I moved to London where all 10 of the modelmaking firms offered me work, but I chose Arup who offered me an apprenticeship making models in wood. There were eight of us in the workshop that made models for Arup Associates (Architects) and Arup and Partners Engineers. I was the youngest employee at the time, and the only female. The first job I worked on was the area around Saint Paul's where I carved a statue of St Anne, and I later went on to specialise in quick sketch models.

I spent some time traveling around Australia working as a modelmaker in various architectural practices, making card models of Sydney Opera House, Adelade shopping Centre, Newcastle town Centre and managing Backpackers Down Under, in Brisbane. From 1991to 1996 I continued freelance modelmaking in Europe working on projects such as the Eurostar terminal Waterloo, new parliamentary buildings in Westminster, Heathrow terminal buildings, BBC Broadcasting House, and Reichstag Berlin. I also taught Modelmaking in The Caribbean School of Architecture in Kingston, Jamaica.

I updated my education by taking a City and Guilds NC/CNC programming course at South Thames College, in the evenings, and from 1996 to 2010 I ran my own 200 sq metre architectural modelmaking workshop in East London with a core team of 8 (gearing up to 20 when required). I trained some of the staff in an apprenticeship style, often working with universities providing internships, and providing work experience opportunities to secondary school students.

I then decided to retrain as a schoolteacher while my son was young, graduating with a First Class Honours degree (BA(Hons) Design &

Technology Education with QTS) from Goldsmiths College in 2014. I did my QTS in a STEM FE college teaching Engineering and Product design. My teaching qualification and experience gave me the skills required to manage teams and finances in an educational institute, as well as an understanding of how to motivate and focus a team when you are, or are not, the owner of the workshop.

In September 2018 I joined UCL as the Analogue Workshop Manager in the Bartlett School of Architecture. I had originally applied for a Teaching Fellow position, but it was suggested at the interview that my skillset was more suited to a management role. With a restructure in April 2019, I became the Workshop Manager which also included responsibility for the digital parts of the workshop such as CNC.

In 2019 I became a core member of Engineering Technical Staff Community of Practice (CoP) which is involved in working with 'Staff who perform skilled applications of knowledge and processes through accurate manufacturing to produce bespoke components.' This opened new conversations for me with other colleagues in the wider technical staff community.

My current role entails being a Workshop Manager, Personal Tutor, Teacher, Project Manager, Deputy Departmental Safety Officer and recently a Departmental tutor to MA /MLA landscape students. I have first-hand experience of managing records of maintenance (should incidents in the workshop lead to safety investigations), ordering supplies, machines and replacements; maintaining inventories of equipment and other assets while responding to institute plans, managing budgets, control regular and capital purchases, communicate constantly with internal and external stakeholders including the preparation of reports and the monthly bulletin for B-made.

My current and previous roles have involved the recruitment and management of staff, managing their working schedules and supporting their induction and training. My job is extremely rewarding as I feel I am contributing to the future workforce while keeping a link to practice outside HEI.

Lately, I had the pleasure to participate in organising the inaugural 'Technical Staff Showcase at UCL' with the pivotal role of using my experience with exhibitions to organise the exhibition space of such a beautiful event.

I am looking forward to the future and hope to continue inspiring the students, staff and apprentices I work with at B-made.