UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title	Practical and Laboratory Skills
Module Code	BIC6009-A
Academic Year	2022/3
Credits	10
School	UoB International College
FHEQ Level	FHEQ Level 6

Contact Hours	
Type	Hours
Lectures	20
Laboratories	20
Directed Study	60

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Non-Standard Academic Year
BDA	University of Bradford / Semester 1
BDA	University of Bradford / Semester 3

Module Aims

The module provides extended opportunities for students to demonstrate and develop their practical and laboratory skills. The module serves as a refresher for those with laboratory experience but also the opportunity to learn about the requirements of safe working in the laboratory environment for those whose experience is limited.

For all, it provides an opportunity to reflect on the importance of practical work in testing theoretical aspects of studies and to refresh the students' understanding of the regulations and conventions governing practical work in a laboratory or workshop setting. Students will also practise or acquire some basic laboratory techniques as they develop and enhance more fundamental practical skills.

Outline Syllabus

* Laboratory and workshop processes and safety considerations including identification of hazards, whether in terms of the conduct of experiments or awareness of, for example, hazardous chemicals and the care required in handling them. The role of technical staff in the laboratory or workshop.
* Health and safety regulations governing laboratory and workshop practice; the need for appropriate protective clothing when working with machinery, equipment and potentially dangerous tools or substances. The availability of safety equipment and their use, for example, the types of extinguishers used in the case of emergencies involving different materials or equipment.
* Choice and use of appropriate equipment to conduct practical work, for example in selecting glassware and other apparatus in Chemistry. The use of the fume cupboard.
* Accuracy required in weighing materials to be used in experiments and in recording data
* Participation in a range of experiments covering various disciplines in the sciences. Working with machinery in the engineering workshop.
* Use of lab/logbook to record experiments undertaken and findings made
* Use of Excel to interpret and manipulate data
* Use of Word to write reports of experimental or other practical sessions and maintain an up to date lab/logbook

Learning Outcomes

Outcome Number	Description
LO1	Reflect on the health and safety regulations and procedural requirements in a laboratory or workshop context.
LO2	Analyse the hazards and safe working practices in laboratory procedures, use of chemicals, use of machinery.
LO3	Critically reflect on own practice using a lab/logbook with accurately demonstrates calculations and critical observations.
LO4	Evaluate the assembly and use of appropriate apparatus, and other equipment, correctly and safely.

Learning, Teaching and Assessment Strategy

Students are taught this course in a group of up to 18. Delivery is divided between tutor-led seminars which are classroom-based with a focus on requirements and other background material on safety, processes and conventions relevant to practical work, and laboratory or workshop-based sessions, where the teaching in class can be illustrated within the laboratory or workshop environment and tested through practical work. The teaching approach places considerable emphasis on interactivity between teacher and students and between individual students within the group. This is facilitated by the range of activities introduced into laboratory and workshop sessions, with an emphasis on the use of group and pair work in practical situations. Students are encouraged throughout to reflect on their own performance and skills development.

Student progress will be closely monitored by both subject staff and each student's Personal Tutor. Personal Tutors will facilitate one-to-one sessions with students during which they are encouraged to reflect on their progress in meeting their objectives. This monitoring will provide tailored learner support in specific, identified areas for development.

Formative assessment is provided through students' lab/logbooks with the calculations and observations reviewed throughout the course to provide detailed and helpful feedback. These interim discussions do not affect the final course assessment but are used as formative landmarks to assist the students to improve in key areas.

The summative assessment is a review of the portfolio of tasks, including lab/logbooks.

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Coursework - Written	Portfolio of tasks (2500 words)	100%

Reading List
To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:
This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.

---

https://bradford.ac.uk