

APPROVED**OCCH6002: Laboratory Practices****Module Details**

Module Code:	OCCH6002
Title:	Laboratory Practices APPROVED
Long Title:	Laboratory Practices
NFQ Level:	Fundamental
Valid From:	Semester 1 - 2019/20 (September 2019)
Duration:	1 Semester
Credits:	5
Field of Study:	8620 - Occupational Health
Module Delivered in:	6 programme(s)
Module Description:	The emphasis in this module is on the development and use of fundamental practical laboratory skills in a safe, accurate and efficient manner.

Learning Outcomes	
<i>On successful completion of this module the learner will be able to:</i>	
#	Learning Outcome Description
LO1	Identify and control hazards associated with the laboratory environment.
LO2	Summarize legislation relevant to the safety of personnel working in laboratories
LO3	Describe and use techniques for efficient performance in a laboratory.
LO4	Perform basic laboratory calculations and assess the quality of experimental data
LO5	Formulate scientific reports and present data in an approved manner.

Dependencies	
Module Recommendations	
Incompatible Modules	
13366	OCCH6002 Laboratory Practices
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
No requirements listed	

Indicative Content
Safety in the Laboratory Recognition and control of hazards encountered in chemistry and physics laboratories. Hazard and precautionary statements. Sources of Safety Information. Safety Data Sheets. Occupational Exposure Limits. Handling, Storage and Waste disposal protocols.
Scientist and The Law An overview of legislation and regulations pertinent to science personnel in the workplace.
General Laboratory Techniques Theory and practice of a range of techniques used in a chemistry laboratory.
Experimental Data Units of measurements, precision, accuracy; sources and analysis of errors; laboratory calculations
Practicals Performance of experiments involving fundamental techniques; weight and volume measurements, solution preparation and dilution, volumetric analyses, colorimetry, separation and purification. Formulation of written reports.

Module Content & Assessment

Assessment Breakdown	%
Coursework	100.00%

Assessments

Coursework			
Assessment Type	Short Answer Questions	% of Total Mark	20
Timing	Week 5	Learning Outcomes	1,2
Assessment Description In-class assessment on hazards and safety in the laboratory			
Assessment Type	Short Answer Questions	% of Total Mark	40
Timing	Week 13	Learning Outcomes	2,3,4
Assessment Description Theory assessment on lab techniques and fundamental laboratory calculations			
Assessment Type	Practical/Skills Evaluation	% of Total Mark	40
Timing	Every Week	Learning Outcomes	1,3,4,5
Assessment Description Performance of practicals, formulation of reports and calculations assignments			
No End of Module Formal Examination			
Reassessment Requirement			
Repeat examination <i>Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.</i>			

Module Workload

Workload: Full Time					
Workload Type	Contact Type	Workload Description	Frequency	Average Weekly Learner Workload	Hours
Lecture	Contact	Theory	Every Week	2.00	2
Lab	Contact	Laboratory session	Every Week	2.00	2
Independent & Directed Learning (Non-contact)	Non Contact	Personal study	Every Week	3.00	3
Total Hours					7.00
Total Weekly Learner Workload					7.00
Total Weekly Contact Hours					4.00

Workload: Part Time					
Workload Type	Contact Type	Workload Description	Frequency	Average Weekly Learner Workload	Hours
Lecture	Contact	Theory	Every Week	2.00	2
Lab	Contact	Laboratory session	Every Week	2.00	2
Independent & Directed Learning (Non-contact)	Non Contact	Personal Study	Every Week	3.00	3
Total Hours					7.00
Total Weekly Learner Workload					7.00
Total Weekly Contact Hours					4.00

Module Resources

Recommended Book Resources

Dean John R., Holmes D., Jones, A., Weyers J., Reed R.. (2017), Practical Skills in Chemistry, 3rd. Pearson, [ISBN: 9781292139920].
 Hill Robert H., Finster David C.. (2016), Laboratory Safety for Chemistry Students, 2nd. Wiley, [ISBN: 9781119027669].

Supplementary Book Resources

Silyn-Roberts, Heather. (2013), Writing for Science and Engineering, 2nd. Elsevier Ltd, [ISBN: 9780080982854].
 Weinberg S. (2003), Good Laboratory Practice Regulations, Dekker, [ISBN: 0824708911].
 Armour M. (2003), Hazardous Laboratory Chemicals Disposal Guide, Lewis, [ISBN: 1566705673].

This module does not have any article/paper resources

Other Resources

Website, Health & Safety Authority. Chemicals,
<http://www.hsa.ie/eng/Chemicals/>
 Website, Classification & Labelling, Health & Safety Authority,
http://www.hsa.ie/eng/Your_Industry/Chemicals/Legislation_Enforcement/Classification_and_Labelling/
 Website, REACH Regulations, European Chemicals Agency (ECHA),
<https://echa.europa.eu/regulations/reach/understanding-reach>
 Website, CLP Regulations, European Chemicals Agency (ECHA),
<https://echa.europa.eu/regulations/clp/understanding-clp>

Module Delivered in

Programme Code	Programme	Semester	Delivery
CR_SCHQA_8	Bachelor of Science (Honours) in Analytical Chemistry with Quality Assurance	-1	Mandatory
CR_SESST_8	Bachelor of Science (Honours) in Environmental Science and Sustainable Technology	-1	Mandatory
CR_SCHEM_7	Bachelor of Science in Analytical and Pharmaceutical Chemistry	-1	Mandatory
CR_SCHEM_6	Higher Certificate in Science in Chemistry	-1	Mandatory
CR_SOMNI_8	Physical Sciences (Common Entry)	-1	Mandatory
CR_SOMNI_7	Physical Sciences (Common Entry)	-1	Mandatory