



# Undergraduate Foundation Programme Life Sciences





Aston University  
Life & Health Sciences  
Aston Pharmacy School  
est. 1951

Calam

3

ASEPTICS  
STAFF ONLY

# Modules

Modules taught on the **ONCAMPUS** Life Sciences pathway are as shown in the table below. Students will have English incorporated into their study plan if required.

Centre	Biology for Life Sciences	Chemistry for Life Sciences	Skills for Science
<b>ONCAMPUS</b> <b>ASTON</b>	✓	✓	✓
<b>ONCAMPUS</b> <b>LONDON</b>	✓	✓	✓
<b>ONCAMPUS</b> <b>LOUGHBOROUGH</b>	✓	✓	✓
<b>ONCAMPUS</b> * <b>READING</b>	✓	✓	✓
<b>ONCAMPUS</b> <b>SOUTHAMPTON</b>	✓	✓	✓
<b>ONCAMPUS</b> <b>SUNDERLAND</b>	✓	✓	✓
<b>ONCAMPUS</b> <b>UK NORTH</b>	✓	✓	✓

\*The Life Sciences pathway at ONCAMPUS Reading will be delivered at ONCAMPUS London.

# Chemistry for Life Sciences Module

Studying the different aspects of chemistry enables you to comprehend the combinations of physical, inorganic and organic principles. Practical work aims to complement theory and develop your observational, analytical and skills required for future scientific study.

You will gain experience of safe working practice in a laboratory setting and confidence in interpreting experimental data and observations. It gives you the opportunity to apply your knowledge to real life contexts and prepare you for future undergraduate studies within the subject area.



## Topics list

1. Introduction to the Periodic Table
2. Atomic structure
3. Formulae and equations
4. Bonding
5. Shapes of molecules
6. Redox
7. Kinetics
8. Rates
9. Energetics
10. Chemical equilibrium
11. Acids and bases
12. Organic chemistry
13. Experimental techniques

# Learning Outcomes and Assessment Criteria

## 01

**Recall and apply knowledge of the foundations of chemical terms, concepts and principles in a variety of contexts**

1. Define and describe key terms, concepts and principles
2. Use appropriate diagrams and sketches to explain key ideas
3. Recall and use correct chemical formulae and equations to solve quantitative problems
4. Present steps of the method clearly and accurately within answers

## 02

**Apply understanding of chemical principles to theoretical and practical problems, with an awareness of how different areas within the subject relate to each other**

1. Demonstrate the use of judgement for appropriate tools and techniques to solve any given problem
2. Explain and interpret solutions in the context of the original problem
3. Show a coherent understanding of chemical principles by connecting ideas and concepts from different topics

## 03

**Demonstrate an understanding of safe working practice through experimental work, including the selection of appropriate methods**

1. Outline the procedure of an experiment, including an accurate method and list of materials
2. Identify and explain the independent, dependent and controlled variables in relation to a given experiment

## 04

**Record, interpret and analyse methodologies and results in relation to an original hypothesis and make suitable recommendations for future work**

1. Present data clearly and accurately with the use of appropriate tables and graphs
2. Interpret scientific results and identify potential sources of error, uncertainties, and anomalies
3. Critique experimental design and processes within a given experiment
4. Offer suitable recommendations and improvements that can be implemented in future experimental work



# Biology for Life Sciences Module

Studying the different aspects of biology enables you to comprehend how the combinations of cells, tissues and organs work together to allow organisms to live and pass on genetic information.

You will gain experience of safe working practice in a laboratory setting and confidence in interpreting experimental data and observations. It gives you the opportunity to apply your knowledge to real life contexts and prepares you for future undergraduate studies within the subject area.



## Topics list

1. Cells and viruses
2. Cell cycle and division
3. Biological molecules
4. Microscopy
5. Cell membranes
6. Enzymes
7. Blood and circulatory system
8. Mammalian heart
9. Immunity
10. The respiratory system
11. The digestive system
12. Homeostasis
13. The nervous system
14. Cellular respiration
15. DNA, RNA and DNA replication
16. Protein synthesis
17. Inheritance and gene technologies
18. Experimental techniques

# Learning Outcomes and Assessment Criteria

## 01

**Recall and apply knowledge of biological terms, concepts and principles in a variety of contexts**

1. Define and describe key terms, concepts and principles
2. Use appropriate diagrams and sketches to explain key ideas and processes
3. Relate scientific evidence to a variety of contexts in order to support further interpretation understanding and explanation

## 02

**Apply understanding of biological principles to theoretical and practical problems, with an awareness of how different areas within the subject relate to each other**

1. Demonstrate the use of judgement for appropriate concepts and principles to solve any given problem
2. Explain and interpret results in the context of the original problem
3. Show a coherent understanding of biological principles by connecting ideas and concepts from different topics

## 03

**Demonstrate an understanding of safe working practice through experimental work, including the selection of appropriate methods**

1. Outline the procedure of an experiment, including an accurate method and list of materials
2. Identify and explain the independent, dependent and controlled variables in relation to a given experiment

## 04

**Record, interpret and analyse experimental investigations in relation to an original hypothesis and make suitable recommendations for enhancing future work**

1. Present data clearly and accurately with the use of appropriate tables and graphs
2. Interpret scientific results and identify potential sources of error, uncertainties, and anomalies
3. Critique experimental design and processes within a given experiment
4. Offer suitable recommendations and improvements that can be implemented in future experimental work



# Skills for Science Module

This module aims to equip you with the skills and strategies required for successful completion of your ONCAMPUS programme and prepare you for future studies. You will gain experience in laboratory work, develop your data analysis skills and understand how to critique your findings. You will be able to draw conclusions from data, organise facts and figures in a logical way and test hypotheses. The module will also develop your ability to become an independent learner, including critical evaluation and reflective skills.





## Learning Outcomes and Assessment Criteria

# 01

**Demonstrate and describe ethical, safe and skilful practical techniques, selecting appropriate methods for an investigation**

1. Recognise the importance of safe working practice within a laboratory environment
2. Explain how to identify potential risks and hazards to an investigation and the environment
3. Demonstrate an analysis of safe equipment use and safe methodology procedures of an investigation

# 02

**Interpret and analyse the importance of reliable results in experimental investigations**

1. Demonstrate ability to identify uncertainties in measurements and select appropriate techniques to perform error calculations
2. Interpret the reliability of results and analyse how potential sources of error, uncertainties, and anomalies impact findings

# 03

**Evaluate the impact of scientific methodologies, making suitable recommendations for future work**

1. Critique experimental design and processes within a given experiment
2. Offer suitable recommendations and improvements that can be implemented in future experimental works

# 04

**Present and communicate information and data effectively to meet audience needs**

1. Produce an effective and informative PowerPoint presentation
2. Demonstrate the necessary skills to deliver a professional presentation to an audience
3. Engage with an audience to explore subject matter in more detail



# Resources and reading list

## Chemistry for Life Sciences

- Braid, K. *et al.* (eds.) (2020). *A-Level Chemistry. Exam Board: AQA. Student Book*. Coordination Group Publications Ltd (CGP).
- Falkner, M. *et al.* (eds.) (2018). *A-Level Chemistry Exam Board: AQA: Complete Revision & Practice*. Coordination Group Publications Ltd (CGP).

## Biology for Life Sciences

- McGlade, C. *et al.* (eds.) (2020). *A-Level Biology Exam Board: AQA: Student Book*. Coordination Group Publications Ltd (CGP).
- Fielding, D. *et al.* (eds.) (2018). *A-Level Biology Exam Board: AQA: Complete Revision & Practice*. Coordination Group Publications Ltd (CGP).

## Skills for Science

- Conoley, C. (2014). *Science Skills A Level Chemistry: Strengthen your science, maths and written communication skills for A level Chemistry*. Collins Educational.
- Boyle, M. (2014). *Science Skills A Level Biology: Strengthen your science, maths and written communication skills for A level Biology*. Collins Educational.
- Galloway, I. (2014). *Science Skills A Level Physics: Strengthen your science, maths and written communication skills for A level Physics*. Collins Educational.

# Example Timetable

Please note this is an example timetable and will vary for every student. Students should anticipate lessons starting earlier than 9am or later than 5pm. Students will be expected to allocate self study and revision hours within their timetable which will be given at the start of the academic term.






	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5
Mon	English	English		Lunch			Chemistry for Life Sciences	Chemistry for Life Sciences
Tues	Personal tutorial	Biology for Life Sciences	Biology for Life Sciences	Lunch	English	English		
Wed	Skills for Science	English	English	Lunch			Chemistry for Life Sciences	Chemistry for Life Sciences
Thur		Biology for Life Sciences	Biology for Life Sciences	Lunch				Skills for Science
Fri	Chemistry for Life Sciences	Chemistry for Life Sciences	Skills for Science	Lunch	Biology for Life Sciences	Biology for Life Sciences		



For more information visit:

**[www.oncampus.global](http://www.oncampus.global)**

Follow our latest news

-  [facebook.com/oncampusglobal](https://facebook.com/oncampusglobal)
-  [instagram.com/oncampus\\_global](https://instagram.com/oncampus_global)
-  [youtube.com/oncampus\\_uusa](https://youtube.com/oncampus_uusa)
-  [linkedin.com/company/oncampus.global](https://linkedin.com/company/oncampus.global)
-  [tiktok.com/@studentsofoncampus](https://tiktok.com/@studentsofoncampus)