



# BIOL1620

## Foundations in Medical Sciences

Session 1, In person-scheduled-weekday, North Ryde 2023

*School of Natural Sciences*

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

Fleur Ponton

[fleur.ponton@mq.edu.au](mailto:fleur.ponton@mq.edu.au)

Credit points

10

Prerequisites

Corequisites

Co-badged status

Unit description

This unit provides foundation skills required for working in medical and life sciences laboratories. Skills will be learnt in the context of current global health issues including antimicrobial resistance and malaria, health reporters such as immunity and haematology and approaches to disease diagnosis. Students will acquire hands-on laboratory skills, including aseptic technique for microbiology, use of microscopes and spectrophotometers, extraction of bioactive molecules, and data collection and analyses. Students will hear from medical and life science researchers who will provide context for the weekly skills topics and information on the diverse employment areas in medical science. Students also begin to acquire skills in interpreting and citing scientific literature and developing a foundation in communication skills and scientific writing.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

On successful completion of this unit, you will be able to:

**ULO1:** Articulate and practice appropriate health, safety and ethical standards relevant to medical science

**ULO2:** Describe global health issues of significance to society today using appropriate scientific terminology

**ULO3:** Develop and demonstrate competencies in standard laboratory techniques (e.g. dilutions, aseptic technique, imagery and measurement, labelling, diagnostic sample

preparation)

**ULO4:** Describe and practice scientific methods from generating hypotheses and predictions to designing experimental procedures, and undertaking data collection

**ULO5:** Develop competency in working individually or as a team in the laboratory and tutorials

## General Assessment Information

### Requirements to Pass this Unit

To pass this unit you must:

- Attempt all assessments, and
- Participate in, and undertake all the activities for, a minimum of 7 of the 9 weekly workshops, and
- Achieve at least 50% in the final examination

### Hurdle assessments

#### **Practice-based task (5%)**

Development of knowledge and skills requires continual practice at authentic problems in a laboratory-based setting. This unit has weekly laboratory classes and you must demonstrate your progress in developing and communicating knowledge and skills in a minimum of **7 of the 9** classes. This is a hurdle assessment meaning that failure to meet this requirement may result in a **fail** grade for the unit. Students are permitted up to two absences: **additional absences will require a Special Consideration to be applied for** (see below).

#### **Mid-term and Final exams (85%)**

You must attend and attempt both the mid-term and final exams (Practised-based exam and quiz test). This is a hurdle assessment meaning that failure to meet this requirement may result in a **fail** grade for the unit.

### Special Consideration

The [Special Consideration Policy](#) aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable and significantly disruptive, and which may affect their performance in assessment.

*Assessments:* If you experience circumstances or events that affect your ability to complete the assessments in this unit on time, please inform the convenor and submit a Special Consideration request through [ask.mq.edu.au](http://ask.mq.edu.au).

*Weekly practice-based tasks:* To pass the unit you need to demonstrate ongoing development of skills and application of knowledge **in 7 out of 9** of the weekly practical classes. If you miss a weekly practical class due to a serious, unavoidable and significant disruption. Make up classes will be available at the end of term 1 and term 2.

Note that a Special Consideration should **only be applied for** if you miss more than three of the weekly practical classes.

### Descriptions of Assessment Activities and other information

- Competence with skills, data analyses, interpretation and general knowledge in medical sciences are the main forms of assessment in BIOL1620.
- Detailed information for each assessment and marking criteria are outlined under the assessment tab in iLearn.
- Assessments, including quizzes, are your own work.
- Assessments in this class will be done in class, hence late submissions will not be accepted.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Mid-term quiz test</u>	15%	No	Week 1-12
<u>Lab Prep Activities</u>	10%	No	Week 7
<u>Final practice-based exam</u>	30%	No	Week 7
<u>Weekly Practical Classes</u>	5%	Yes	Week 13
<u>Final quiz test</u>	15%	No	Week 13
<u>Mid-term practice-based exam</u>	25%	No	Week 7

### Mid-term quiz test

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 15 hours

Due: **Week 1-12**

Weighting: **15%**

The mid-term exam has a quiz-based section where students will be tested on their knowledge.

On successful completion you will be able to:

- Articulate and practice appropriate health, safety and ethical standards relevant to medical science

- Describe global health issues of significance to society today using appropriate scientific terminology
- Develop and demonstrate competencies in standard laboratory techniques (e.g. dilutions, aseptic technique, imagery and measurement, labelling, diagnostic sample preparation)
- Describe and practice scientific methods from generating hypotheses and predictions to designing experimental procedures, and undertaking data collection

## Lab Prep Activities

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 8 hours

Due: **Week 7**

Weighting: **10%**

Students will be provided with pre-prac information and need to complete a quiz / short written piece before each class (45min x 8 assessment activities).

On successful completion you will be able to:

- Articulate and practice appropriate health, safety and ethical standards relevant to medical science
- Describe global health issues of significance to society today using appropriate scientific terminology
- Describe and practice scientific methods from generating hypotheses and predictions to designing experimental procedures, and undertaking data collection
- Develop competency in working individually or as a team in the laboratory and tutorials

## Final practice-based exam

Assessment Type <sup>1</sup>: Practice-based task

Indicative Time on Task <sup>2</sup>: 15 hours

Due: **Week 7**

Weighting: **30%**

The final exam has a practice-based section where students will be tested on their lab skills.

On successful completion you will be able to:

- Articulate and practice appropriate health, safety and ethical standards relevant to medical science
- Describe global health issues of significance to society today using appropriate scientific terminology
- Develop and demonstrate competencies in standard laboratory techniques (e.g. dilutions, aseptic technique, imagery and measurement, labelling, diagnostic sample preparation)
- Describe and practice scientific methods from generating hypotheses and predictions to designing experimental procedures, and undertaking data collection

## Weekly Practical Classes

Assessment Type <sup>1</sup>: Practice-based task

Indicative Time on Task <sup>2</sup>: 5 hours

Due: **Week 13**

Weighting: **5%**

**This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)**

Development of knowledge and skills requires continual practice at authentic tasks. In each weekly practical class, you will undertake a range of activities and record your progress in a lab book. To pass this hurdle assessment, you must be able to demonstrate your progress in developing and communicating knowledge and skills in a minimum of 80% of practical classes.

On successful completion you will be able to:

- Articulate and practice appropriate health, safety and ethical standards relevant to medical science
- Describe global health issues of significance to society today using appropriate scientific terminology
- Develop and demonstrate competencies in standard laboratory techniques (e.g. dilutions, aseptic technique, imagery and measurement, labelling, diagnostic sample preparation)
- Describe and practice scientific methods from generating hypotheses and predictions to designing experimental procedures, and undertaking data collection
- Develop competency in working individually or as a team in the laboratory and tutorials

## Final quiz test

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 15 hours

Due: **Week 13**

Weighting: **15%**

The final exam has a quiz-based section where students will be tested on their knowledge.

On successful completion you will be able to:

- Articulate and practice appropriate health, safety and ethical standards relevant to medical science
- Describe global health issues of significance to society today using appropriate scientific terminology
- Develop and demonstrate competencies in standard laboratory techniques (e.g. dilutions, aseptic technique, imagery and measurement, labelling, diagnostic sample preparation)
- Describe and practice scientific methods from generating hypotheses and predictions to designing experimental procedures, and undertaking data collection

## Mid-term practice-based exam

Assessment Type <sup>1</sup>: Practice-based task

Indicative Time on Task <sup>2</sup>: 15 hours

Due: **Week 7**

Weighting: **25%**

The mid-term exam has a practice-based section where students will be tested on their lab skills.

On successful completion you will be able to:

- Articulate and practice appropriate health, safety and ethical standards relevant to medical science
- Describe global health issues of significance to society today using appropriate scientific terminology
- Develop and demonstrate competencies in standard laboratory techniques (e.g. dilutions, aseptic technique, imagery and measurement, labelling, diagnostic sample

preparation)

- Describe and practice scientific methods from generating hypotheses and predictions to designing experimental procedures, and undertaking data collection

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<sup>1</sup> If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

<sup>2</sup> Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

## Delivery and Resources

### Week 1

- In week 1, the students are requested to read online laboratory safety and academic integrity and honesty information. The students will also have to do an online safety quiz. The students need to pass the quiz to be able to access the teaching laboratories. All information on the iLearn page of the unit are under Tab 3: Week 1.

### Methods of Communication

Convenors will communicate with the students via their university email or through announcements on iLearn. Queries to convenors can either be placed on the iLearn discussion board or sent to [BIOL1620@mq.edu.au](mailto:BIOL1620@mq.edu.au) from your **university email** address.

### COVID Information

For the latest information on the University's response to COVID-19, please refer to the Coronavirus infection page on the Macquarie website: <https://www.mq.edu.au/about/coronavirus-faqs>. Remember to check this page regularly in case the information and requirements change during semester. If there are any changes to this unit in relation to COVID, these will be communicated via iLearn.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)



- [Fitness to Practice Procedure](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

Students seeking more policy resources can visit [Student Policies \(https://students.mq.edu.au/support/study/policies\)](https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au) and use the [search tool](#).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/student-conduct>

## Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Academic Integrity

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing and maths support](#), [academic skills development](#) and [wellbeing consultations](#).

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## The Writing Centre

[The Writing Centre](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Workshops](#)
- [Chat with a WriteWISE peer writing leader](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

## Student Services and Support

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)
- [Student Advocacy](#) provides independent advice on MQ policies, procedures, and processes

## Student Enquiries

Got a question? Ask us via [AskMQ](#), or contact [Service Connect](#).

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.