



BIOL1620

Foundations in Medical Sciences

Session 1, In person-scheduled-weekday, North Ryde 2024

School of Natural Sciences

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General Information

Unit convenor and teaching staff

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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 the unit

To pass this unit:

- you must achieve a total mark equal to or greater than 50%
- Participate in, and undertake all the activities in a minimum of 9 practical sessions.

Late assessment submission and penalties

Late Assessment Submission Penalty Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark of the task) will be applied for each day a written report or presentation assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. The submission time for all uploaded assessments is 11:55 pm. A 1-hour grace period will be provided to students who experience a technical concern. For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, please apply for Special Consideration.

Assessments where Late Submissions will be accepted

Assessment "Infographics" – YES, Standard Late Penalty applies

Assessment "Weekly quiz" and "Final exam"- NO, unless Special Consideration is Granted

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.

Written Assessments: If you experience circumstances or events that affect your ability to complete the written assessments in this unit on time, please inform the convenor and submit a Special Consideration request through 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 8 out of 11 of the weekly practical classes. If you miss a weekly practical class due to a serious, unavoidable and significant disruption, contact your convenor ASAP as you may be able to attend another class that week. If it is not possible to

attend another class, you should still access the class material on iLearn to review in your own time. A open lab session will be organised before the final exam to catch up with the practicals you may have missed.

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

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Weekly Practical Classes</u>	5%	Yes	Week 2 to 12
<u>Lab Prep Activities</u>	10%	No	Week 2, 3, 4, 6, 8, 9, 10 & 11
<u>Final exam</u>	45%	No	Week 13
<u>Infographic</u>	40%	No	Week 10

Weekly Practical Classes

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 5 hours

Due: **Week 2 to 12**

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

Lab Prep Activities

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 8 hours

Due: **Week 2, 3, 4, 6, 8, 9, 10 & 11**

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 exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 35 hours

Due: **Week 13**

Weighting: **45%**

The final exam consists of two components, a quiz covering issues and topics taught during the session and a practice-based section where you will be tested on your 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

Infographic

Assessment Type ¹: Poster

Indicative Time on Task ²: 25 hours

Due: **Week 10**

Weighting: **40%**

You will be asked to interview Med Sci academics from Macquarie University (as a group of 10 students) and design an individual (1 per student) infographic reflecting the research of the interviewed academic.

On successful completion you will be able to:

- 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

¹ 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.

² 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

Week 1 lecture consists in an online lecture and an online safety quiz, both available on the ilearn page of the unit. Students are not requested to come to the lab practical.

Methods of Communication

We will communicate with you via your university email and through announcements on iLearn. Queries to convenors can either be placed on the iLearn discussion board or sent to the unit convenor via the contact email on iLearn (biol1620@mq.edu.au).

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 or if you are a Global MBA student contact 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/.

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.

Changes from Previous Offering

We value student feedback to be able to continually improve the way we offer our units. As such we encourage students to provide constructive feedback via student surveys, to the teaching staff directly, or via the FSE Student Experience & Feedback link in the iLearn page. Student feedback from the previous offering of this unit was very positive overall, with students pleased with the clarity around assessment requirements and the level of support from teaching staff. We developed a new assessment in the unit to foster group work and increase student connections. Students will work in a group to develop an infographic about the research of a specific academic at Macquarie University in the field of Medical Sciences.

Unit information based on version 2024.03 of the [Handbook](#)