WFBG001

Biology

MUIC Term 1 2016

Macquarie University International College

Contents

General Information

Unit convenor and teaching staff
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Credit points
3

Prerequisites

Corequisites

Co-badged status

Unit description
In Biology, students gain knowledge and an understanding about fundamental concepts related to living organisms and their environments. This includes general biological principles, the structure, function and processes of cells. Topics are drawn from cell theory and function, evolution and genetics, including the structure and function of DNA. Through class work and practical activities, students will develop their skills and techniques in scientific thinking and problem-solving; gathering and analysing data; recording and effectively communicating scientific information; as well as the safe use of laboratories and scientific equipment.

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:

Discuss the applications and impacts of Biology in society and on the environment.

Use fundamental discipline specific terminology to express concepts and ideas related to Biology.

Describe how scientific understanding and technology have changed scientific thought in the field of Biology over time.

Demonstrate familiarity with the process of collecting, recording and analysing Biology data.

Use scientific equipment to plan and conduct investigations in a safe manner.

Apply scientific thinking and problem-solving techniques to practical problems.

General Assessment Information

Requirements to Pass

In order to pass this unit a student must:

- Attempt all assessment tasks
- Pass the final examination or final assessment task
- Achieve a Standard Numerical Grade (SNG) of 50 or more in the unit
- Attend at least 80% of scheduled classes

For further details about grading, please refer to the Grading Policy.

Submission of Assessment Tasks

A student must attempt all assessment tasks in order to be able to pass this unit. Assessments must be submitted following instructions provided in class. Assessment tasks which have not been submitted as required will not be marked. They will be considered a non-submission and zero marks will be awarded.

Turnitin

Turnitin compares electronically submitted papers to a database of academic publications, internet sources and other papers that have been submitted into the system to identify matching text. It then produces an Originality Report which identifies text taken from other sources, and generates a similarity percentage to judge whether plagiarism has occurred (see Academic Honesty section below).

Multiple submissions may be possible via Turnitin prior to the due date of an assessment and originality reports may be made available to students. In such cases they should be used to check work for plagiarism prior to a final submission. As a general guideline, a similarity percentage of below 15% will probably indicate that plagiarism has not occurred. However, if there is a matching block of text then this could be considered plagiarism unless its has been correctly referenced.

Where there is a requirement for assessment tasks to be submitted through Turnitin, it is the student's responsibility to ensure that work is submitted correctly prior to the due date. Hard copies will not be accepted unless indicated otherwise by a teaching staff member. Records in Turnitin will be taken as records of submission. For assistance submitting through Turnitin, you may approach your teacher, lodge a OneHelp Ticket, refer to the IT help page or seek assistance from Student Connect.

Students should note that for a first time submission the Originality Report will be available immediately post submission but for any subsequent submissions it will take 24 hours for the report to be generated. This may be after the due date so students should plan their submission carefully.

Missed Assessments

The University recognises that students may experience unexpected events and circumstances that adversely affect their academic performance in assessment activities, for example illness. In order to support students who have experienced a serious and unavoidable disruption, the University will provide affected students with an additional opportunity to demonstrate that they have met the learning outcomes of a unit. An additional opportunity provided under such circumstances is referred to as special consideration.

The Disruption to Studies Policy applies only to *serious and unavoidable* disruptions that arise after a study period has commenced. Students with a pre-existing disability/health condition or prolonged adverse circumstances may be eligible for ongoing assistance and support. Such support may be sought through Campus Wellbeing and Support Services.

Serious and Unavoidable Disruption The University classifies a disruption as **serious and unavoidable** if it:

- could not have reasonably been anticipated, avoided or guarded against by the student; and
- was beyond the student's control; and
- caused substantial disruption to the student's capacity for effective study and/or completion of required work; and
- occurred during an event critical study period and was at least three (3) consecutive days duration, and / or
- prevented completion of a final examination.

To be eligible for Special Consideration, a student must notify the University of a *serious and unavoidable* disruption within five (5) working days of the commencement of the disruption (Disruption to Studies notification). All Disruption to Studies notifications are to be made online via the University's Ask MQ system. A Disruption to Studies notification must be supported by documentary evidence.

In submitting a Disruption to Studies notification, a student is acknowledging that they may be required to undertake additional work. The time and date, deadline or format of any required extra assessible work as a result of a disruption to studies notification is not negotiable and in submitting a disruption to studies notification, a student is agreeing to make themselves available to complete any extra work as required.

Please refer to the Disruption to Studies Policy for further details.

Extensions & Late Submissions

To apply for an extension of time for submission of an assessment item, students must submit a Disruptions to Studies notification via ask.mq.edu.au.

Late submissions without an approved extension are possible but will be penalised at 20% per day up to 4 days (weekend inclusive). If a student submits an assessment task 5 or more

days after the due date without grounds for special consideration (See Disruptions to Studies Policy) a record or submission will be made but the student will receive zero marks for the assessment task.

Final Examinations and Final Assessment Tasks

Final exams and final assessments will typically take place in Week 6 or Monday of Week 7. All students enrolled in a teaching session are expected to ensure they are available up until and including Monday of Week 7 to undertake examinations. Passing the final exam or final assessment task is a requirement to pass this unit.

Details of teaching session dates can be found on the Important Dates calendar. Dates for any final examinations and assessment tasks will be provided in the Unit Guide Teaching Schedule.

Planning for an exam is very important. All students should be familiar with the Exam Rules. In addition, students should refer to the below links for other important examination related information.

- Talk to your lecturer
- Revision tips
- What to bring with you
- What not to bring with you
- Where to get help

It is not uncommon for students to have two consecutive examinations in one day.

Conduct During Assessments and Examinations

Students must adhere to the Student Code of Conduct and Academic Honesty Policy at all times.

Students will be provided with instructions relating to conduct during in-class assessment tasks. For all examinations, students will be required to:

- provide their Macquarie University Campus Card as photographic proof of identity for the duration of the examination. This must be visible at all times during the examination.
- leave mobile phones, electronic devices, bags, computers, notes, books and similar items outside a final examination venue or in a designated space
- ensure any water brought into the examination room is in a clear and unmarked bottle
- obey all instructions provided by an Examination Supervisor
- refrain from communicating in any way with another student once they have entered the examination venue.

Students are NOT permitted:

- into an examination venue once one hour from the time of commencement (excluding any reading time) has elapsed

- to leave an examination venue *before* one hour from the time of commencement (excluding any reading time) has elapsed
- to be readmitted to an examination venue unless they were under approved supervision during the full period of their absence
- to obtain or attempt to obtain assistance in undertaking or completing the examination script
- to receive or attempt to receive assistance in undertaking or completing the examination script.

Students should also ensure they follow all requirements of the Final Examination Policy.

Supplementary Examinations

Supplementary final examinations are held during the scheduled Supplementary Final exam Period. This may fall in Week 7 or within the first week of the next teaching term. Results for supplementary exams may not be available for up to two weeks following the supplementary examination. Students in their final term of study who undertake supplementary final exams should note that formal completion of the Foundation Program will not be possible until supplementary results are released and this may impact on their ability to enrol in subsequent programs of study on time.

Retention of Originals

It is the responsibility of the student to retain a copy of any work submitted and produce another copy of all work submitted if requested. Copies should be retained until the end of the grade appeal period each term.

In the event that a student is asked to produce another copy of work submitted and is unable to do so, they may be awarded zero (0) for that particular assessment task.

The University may request and retain the originals of any documentation or evidence submitted to support notifications of disruptions to studies. Requests for original documentation will be sent to the applicant's student email address within six (6) months of notification by the student. Students must retain all original documentation for the duration of this six (6) month period and must supply original documents to the University within ten (10) working days of such a request being made.

Contacting Teaching Staff and Obtaining Help and Feedback

Students may contact teaching staff at any time during the term by using the contact details provided in this guide or using the "Contact your teacher" tool provided in Week 0 of the respective unit in iLearn.

For all university related correspondence, students are required to use their official Macquarie University student email account which may be accessed via the Macquarie University Student Portal. Inquiries from personal email accounts will not be attended to.

Information on how and when students will receive feedback for individual assessment tasks has been provided in this unit guide.

Students may seek additional feedback at any time during the term and general feedback about their performance in a unit up to 6 months following results release.

Assessment Tasks

Name	Weighting	Due
Class Tasks (4)	20%	2 - 5 (Lesson 2)
Practical Assignment & Report	20%	Week 3 Lesson 4
Video presentation & resource	20%	Week 5 Lesson 3
Final Examination	40%	Week 6 Lesson 4

Class Tasks (4)

Due: **2 - 5 (Lesson 2)**
Weighting: **20%**

There will be a mixture of Multiple choice, cloze passage, and short answer activities which students will be required to complete during lessons. Tasks may be paper based or completed online. Class tasks will be worth 5% each and will be returned & reviewed following lesson.

On successful completion you will be able to:

- Use fundamental discipline specific terminology to express concepts and ideas related to Biology.
- Describe how scientific understanding and technology have changed scientific thought in the field of Biology over time.

Practical Assignment & Report

Due: **Week 3 Lesson 4**
Weighting: **20%**

This assessment will involve conduct of an experiment on pH & enzyme activity and a production of a scientific report on the investigation. Students will be required to design the experiment using templates provided, order equipment using appropriate forms and then conduct the experiment and write report in class time.

On successful completion you will be able to:

- Use fundamental discipline specific terminology to express concepts and ideas related to

Biology.
- Demonstrate familiarity with the process of collecting, recording and analysing Biology data.
- Use scientific equipment to plan and conduct investigations in a safe manner.
- Apply scientific thinking and problem-solving techniques to practical problems.

Video presentation & resource

Due: **Week 5 Lesson 3**
Weighting: **20%**

In pairs or small groups students will be required to present a recorded audio-visual presentation on the evidence used to support the Theory of Evolution. Students will also need to produce a learning resource for the rest of the class. Recordings may be done using smartphones or other mediums. The recording will be uploaded to iLearn along with the learning resource for the class to view / complete.

On successful completion you will be able to:
- Discuss the applications and impacts of Biology in society and on the environment.
- Use fundamental discipline specific terminology to express concepts and ideas related to Biology.

Final Examination

Due: **Week 6 Lesson 4**
Weighting: **40%**

The final examination will entail a mixture of multiple choice, short answer and extended answer responses. It will be completed in the last lesson of Week 6.

On successful completion you will be able to:
- Discuss the applications and impacts of Biology in society and on the environment.
- Use fundamental discipline specific terminology to express concepts and ideas related to Biology.
- Describe how scientific understanding and technology have changed scientific thought in the field of Biology over time.
- Demonstrate familiarity with the process of collecting, recording and analysing Biology data.
- Apply scientific thinking and problem-solving techniques to practical problems.

Delivery and Resources

Scheduled Class Time & Timetables

Weekly face to face contact for this unit will be 10 hours consisting of four 2.5 hour lessons (60 hours per term).

Students will be able to enrol in their classes and view their personal timetable via eStudent and may also view general timetable information via Macquarie University's Timetable page.

In addition to scheduled classes, students will be required to complete online extension activities modules each Term. Further information on extension activities is available in the Learning and Teaching Activities section below.

Attendance Requirements - All students

All students are required to attend at least 80% of scheduled class time to pass this unit.

Attendance will be monitored in each lesson & students will be able to see their attendance records for a unit via iLearn.

Where a student is present for a part of a lesson (for example arrives late, leaves early, leaves the class frequently or for lengthy periods, engages in inappropriate or unrelated activities or does not participate actively in the majority of the lesson) the teacher reserves the right to mark a student absent for that part of the lesson.

Because of the intensive nature of this program, students should be aware that their attendance in this unit will fall to 80% when they miss 12 hours of class time (4.8 lessons) without justifiable grounds. If attendance drops below 80%, the student will not be able to pass the unit.

A student will be able to monitor their attendance in a unit via iLearn. Where a student is at risk of not meeting the 80% attendance requirement in a unit, they will be alerted in writing or counselled by the teaching or administrative staff and may be advised to withdraw from the unit.

In cases of unavoidable non-attendance due to illness or circumstances beyond control, students should lodge a Disruption to Studies Notification via ask.mq.edu.au within 5 working days and supply relevant supporting documentation, even if they have not missed a formal assessment task. This will ensure that that appropriate records of unavoidable absences can be made on their student record.

For further information on attendance, please refer to the Attendance and Study Load Policy.

Attendance requirements - International Students

International students must also attend at least 80% of scheduled class time for all the units they are taking in a Term in order to meet the conditions of their visa. The table below shows how a an international student's attendance would drop as a result of missing different amounts of class time:

Attendance	Student enrolled in 2 Units	Student enrolled in 1 Unit
100%	Attends all classes	Attends all classes
90%	Misses 12 hours of classes	Misses 6 hours of classes
85%	Misses 18 hours of classes	Misses 9 hours of classes
80%	Misses 24 hours of classes	Misses 12 hours of classes

Where an international student is at risk of not meeting the 80% attendance requirement across their enrolled units, they will be contacted and counselled by administrative staff through ask.mq.edu.au, via their student email, or by phone. It is the student's responsibility to ensure that their contact details are correct in eStudent and that they check their student email at least 3 times per week.

Once an international student fails to meet the 80% attendance requirement across their units in a term, they may be reported to the Department of Immigration and Boarder Protection (DIBP) for non-attendance and their visa may be cancelled.

In cases of unavoidable non-attendance due to illness or circumstances beyond control, students should lodge a Disruption to Studies Notification via ask.mq.edu.au within 5 working days and supply relevant supporting documentation, even if they have not missed a formal assessment task. This will ensure that that appropriate records of unavoidable absences can be made on their student record.

For further information on attendance, please refer to the Attendance and Study Load Policy.

iLearn

iLearn is Macquarie's online learning management system and a principal resource which will be used throughout the term. Students should access iLearn at least 3 times per week as it will contain important information including:

- Announcements - Teaching staff will communicate to the class using iLearn announcements.
- A link to the unit guide for the unit and staff contact details
- Lecture notes and recordings where available
- Learning and teaching activities and resources
- Assessment information
- Tutorial questions and solutions
- Assessment submission tools such as Turnitin
- Other relevant material

For any technical or support issues using iLearn, please contact the IT helpdesk (Ph. 02 9850

4357) or lodge a ticket using OneHelp.

Required and Recommended Texts and Materials

Prescribed Texts(s)

- Heineman Biology (Third Edition), Brotherton, J. and Mudie, K. Pearson Secondary, 2010, ISBN: 978 144 251 794 3

Handouts and relevant worksheets will be distributed in class.

Technology Used and Required

- Access to internet (Available on Campus using Macquarie OneNet)
- Access to iLearn
- Access to Macquarie University Library catalogue
- Access to Microsoft Office Word and Excel (available in Labs)

Unit Schedule

Week	Lesson	Topic / Content Covered	Associated tasks	Assessment Task (if applicable)
1	**Lesson 1**	Writing Scientific Reports & Biological Drawings	Write notes on the purpose of each section in a Scientific report	
	Lesson 2	Microscope skills	"Valid" and "Reliable" in Experiments and Research Label parts, Describe function, Demonstrate wet mounts. Basic Microscope Skills.	
	Lesson 3	Homeostasis, Feedback Loops and Enzymes	Construct feedback loops Text pages: 8 - 14	
	Lesson 4	Temperature and enzyme practical Temperature and Surface Area practical	Practical work to observe the effect of temperature and surface area on enzyme activity Text pages: 6 - 7	
2	**Lesson 1**	Transport in the blood and implications for homeostasis	Labelling the anatomy of the circulation system Text pages: 15 - 20; 22 - 24; 29 - 30; 39 - 41	Class Assessment Task 1
	Lesson 2	DNA structure and function. Chromosomes and genes. DNA replication, and mutation	Construct a model of DNA Text pages: 170 - 172; 133 - 134; 149; 156; 373	

	Lesson 3	Protein synthesis.	Text pages: 149 - 155; 372; 374 - 379.	
	Lesson 4	DNA extraction and Gel Electrophoresis	Extract DNA from a nucleus. Text pages: 133 - 134	
3	**Lesson 1**	Mendel's experiments and Laws. Vocabulary of Inheritance.	Text pages: 114 - 119	
	Lesson 2	Monohybrid crosses. Non-Mendelian inheritance.	Use of Punnett Squares to predict inheritance patterns Text pages: 120 - 125; 138 - 141	
	Lesson 3	Modes of inheritance and Family Trees	Use of pedigrees to identify cause of inheritance Text pages: 122 - 125	Class Assessment Task 2
	Lesson 4	Practical Exam		Practical Assignment & Report
4	**Lesson 1**	Meiosis. Gene Mapping	Dihybrid crosses to solve breeding problems Text pages: 390 - 397	
	Lesson 2	Darwin's Theory of Evolution and Natural Selection	Investigate and draw fossils Text pages: 88 - 98; 106 - 108; 164 - 169	
	Lesson 3	Speciation. Reproductive Technologies	Text pages: 164 - 169; 176 - 183; 189 - 190	Class Assessment Task 3
	Lesson 4	Aseptic Techniques and Inoculation methods	Aseptic preparation of Agar plates Inoculation of Agar plates Text pages: 216 - 221	
5	**Lesson 1**	Introduction to Disease	Text pages: 218 - 219; 212 - 215	
	Lesson 2	Infectious diseases & pathogens (Part 1)	Text pages: 221 - 226; 239 - 240	
	Lesson 3	Pathogens (Part 2)	Text pages: 233 - 235	Video presentation & learning resource due
	Lesson 4	Pasteur and Koch	Text pages: 229 - 233; 219 - 221 Inspect inoculated plates	

6	**Lesson 1**	Body defences against infection	Text pages: 222 - 226; 248 - 250	
	Lesson 2	Immune response and Vaccination	Text pages: 255 - 263	Class Assessment Task 4
	Lesson 3	Non-infectious diseases	Text pages: 267 - 278	
	Lesson 4	Final Examination		Final Exam

Learning and Teaching Activities

Scheduled Classes

Lessons will include a mixture of learning and teaching activities. New content and topics will presented in lessons and students will be given problems, practice questions and other interactive activities to apply the knowledge and the skills gained in the lesson. Case studies and real life scenarios will be studied and the course will focus on transforming students into independent thinkers and problem solvers. Students will be required to take notes, complete set class tasks and engage in discussion and individual and group activities. In class, specific time may be dedicated to work on assessment tasks and students will be given guidance and feedback to complete these. Certain lessons may be dedicated to independent research and reading related to the unit whether in the classroom or a computer lab. Attendance of all scheduled class is compulsory (see attendance Policy below). Students must attend at least 80% of scheduled classes in order to meet visa requirements and pass the unit (see additional requirements to pass in Assessment section above).

Extension Activities

In addition to the units a student is enrolled in, they are required to complete extension activities each term. Extension activities are an integral and compulsory part of the Foundation Program. Students cannot successfully complete the Foundation Program without completing Extension Activities. Extension Activities will be made available to students via iLearn and will involve a range of tasks which may be academic in nature or more broadly related to participation within the university. Some tasks will be completed and submitted online while others may require students to attend workshops and other activities within the university. Students do not need to enrol in extension activities, as they will automatically be given access to the relevant module in each Term. If you do not have access to your extension activities module in iLearn, please log a OneHelp ticket via ask.mq.edu.au. It is very important that students complete extension activities

in a timely manner. Some activities will only be available during specified periods of time and others may not be available until certain tasks have been completed. Student progress with extension activities will be monitored throughout the term and students who are not completing extension activities as required will be advised via ask.mq.edu.au, their student email, or by means of a phone call. Students who fail to complete complete extension activities at the end of a Term will receive incomplete grades for any other units they are undertaking. This may mean that a student is unable to graduate (complete the Foundation Program) or it may mean that they require additional Terms to complete their program because they will need to undertake the relevant Extension Activities module again. If you require assistance with extension activities, please contact the supervisor whose details have been provided in the extension activities iLearn module.

Make-up lessons

If any scheduled class falls on a public holiday a make-up lesson may be scheduled, usually on a Wednesday. Where appropriate, the instructor may instead organise an online make-up lesson which would require students to access online learning materials and/or complete activities outside of class rather than attending a make-up lesson. Scheduled make-up days will be announced in class and attendance is taken for both for face to face and online make-up lessons.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central. Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

New Assessment Policy in effect from Session 2 2016 http://mq.edu.au/policy/docs/assessment/policy_2016.html. For more information visit http://students.mq.edu.au/events/2016/07/19/new_assessment_policy_in_place_from_session_2/

Assessment Policy prior to Session 2 2016 http://mq.edu.au/policy/docs/assessment/policy.html

Grading Policy prior to Session 2 2016 http://mq.edu.au/policy/docs/grading/policy.html

Grade Appeal Policy http://mq.edu.au/policy/docs/gradeappeal/policy.html

Complaint Management Procedure for Students and Members of the Public http://www.mq.edu.au/policy/docs/complaint_management/procedure.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the Learning and Teaching Category of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/support/student_conduct/

Results

Results shown in *iLearn*, 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.

Attendance

Please refer to Attendance Requirements (above) and the MUIC Attendance and Study Load Policy. Attendance requirements have been explained in further detail in the Delivery and Resources section above.

Academic Honesty

All staff and students must abide by the principles of academic honesty as outlined in the Academic Honesty Policy. This means that:

- all academic work claimed as original must be the work of the person making the claim
- all academic collaborations of any kind must be acknowledged
- academic work must not be falsified in any way
- when the ideas of others are used, these ideas must be acknowledged appropriately.

All breaches of the Academic Honesty Policy are serious and penalties apply. Students should be aware that they may fail an assessment task, a unit or even be excluded from the University for breaching the Academic Honesty Policy.

If you are unsure about how to incorporate scholarly sources into your own work, speak to your teacher or Student Connect prior to your assessment due date. You may also enrol in StudyWise or visit the University's Library Webpage for more resources.

Final Examination Script Viewings and Grade Appeals

A student who has been awarded a final grade for a unit has the right to appeal that grade as outlined in the Grade Appeal Policy. Grade appeals apply to the final Standardised Numerical Grade (SNG) a student receives for a unit of study. They do not apply to results received for individual assessment tasks.

A student is expected to seek feedback on individual assessment tasks prior to the award of a final grade. In particular, a student is expected to view their final examination paper in advance of submitting a grade appeal, if this is relevant to their case. To request a final examination script viewing, please lodge a ticket via ask.mq.edu.au.

Grade appeals must be submitted via ask.mq.edu.au within 20 working days from the published result date for the relevant unit. Before submitting a Grade Appeal, please ensure that you read the Grade Appeal Policy and note valid grounds for appeals.

Students also have the right to request generic feedback from the teaching staff on their overall

performance in the unit, including in a final examination. This can be done at any time in the six month period starting from the day on which the final grade of the relevant unit is published.

Course Progression

The College closely monitors Foundation students' academic progress as per the Progression Policy for Programs delivered by Macquarie University International College.

To maintain Satisfactory Academic Progress, a student must successfully complete 50% or more of their enrolled units in a study Term. To successfully complete a unit, students must meet the requirements to pass as listed in the unit guide, obtain a passing grade **and** fulfil attendance requirements.

Students who fail to make Satisfactory Academic Progress will be classified as "at risk" and will be notified in writing. At-risk student may be required to undergo academic counselling, undertake certain initiatives or have conditions placed upon their enrolment to help them make satisfactory progress.

Students must also pass 50% or more of the units in 2 or more terms in order to meet Minimum Rate of Progress (MRP) requirements. A student is deemed not to be making Minimum Rate of Progress if they fail more than 50% of their enrolled units in two consecutive Terms of study, or if they have failed more than 50% of their subjects after studying two or more terms.

Any domestic student who has been identified as not meeting Minimum Rate of Progress requirements will be issued with an Intention to Exclude letter and may subsequently be excluded from the program.

Any international student who has been identified as not meeting MRP will be issued with an Intention to Report letter and may subsequently be reported to the Department of Immigration and Border Protection (DIBP) for not meeting visa requirement and be subject to exclusion from the program. International students must comply with the MUIC Progress Policy in order to meet the conditions of their visa.

Student Support

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

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

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.

Graduate Capabilities

Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

Learning outcomes

- Discuss the applications and impacts of Biology in society and on the environment.
- Demonstrate familiarity with the process of collecting, recording and analysing Biology data.
- Use scientific equipment to plan and conduct investigations in a safe manner.
- Apply scientific thinking and problem-solving techniques to practical problems.

Assessment tasks

- Practical Assignment & Report
- Video presentation & resource
- Final Examination

Commitment to Continuous Learning

Our graduates will have enquiring minds and a literate curiosity which will lead them to pursue knowledge for its own sake. They will continue to pursue learning in their careers and as they participate in the world. They will be capable of reflecting on their experiences and relationships with others and the environment, learning from them, and growing - personally, professionally

and socially.

This graduate capability is supported by:

Learning outcomes

- Discuss the applications and impacts of Biology in society and on the environment.
- Use fundamental discipline specific terminology to express concepts and ideas related to Biology.
- Describe how scientific understanding and technology have changed scientific thought in the field of Biology over time.
- Demonstrate familiarity with the process of collecting, recording and analysing Biology data.
- Use scientific equipment to plan and conduct investigations in a safe manner.
- Apply scientific thinking and problem-solving techniques to practical problems.

Assessment tasks

- Class Tasks (4)
- Practical Assignment & Report
- Video presentation & resource
- Final Examination

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Discuss the applications and impacts of Biology in society and on the environment.
- Use fundamental discipline specific terminology to express concepts and ideas related to Biology.
- Describe how scientific understanding and technology have changed scientific thought in the field of Biology over time.
- Demonstrate familiarity with the process of collecting, recording and analysing Biology data.
- Use scientific equipment to plan and conduct investigations in a safe manner.

- Apply scientific thinking and problem-solving techniques to practical problems.

Assessment tasks

- Class Tasks (4)
- Practical Assignment & Report
- Video presentation & resource
- Final Examination

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

- Discuss the applications and impacts of Biology in society and on the environment.
- Describe how scientific understanding and technology have changed scientific thought in the field of Biology over time.
- Demonstrate familiarity with the process of collecting, recording and analysing Biology data.
- Use scientific equipment to plan and conduct investigations in a safe manner.
- Apply scientific thinking and problem-solving techniques to practical problems.

Assessment tasks

- Class Tasks (4)
- Practical Assignment & Report
- Video presentation & resource
- Final Examination

Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Demonstrate familiarity with the process of collecting, recording and analysing Biology data.
- Use scientific equipment to plan and conduct investigations in a safe manner.
- Apply scientific thinking and problem-solving techniques to practical problems.

Assessment tasks

- Practical Assignment & Report
- Final Examination

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcomes

- Discuss the applications and impacts of Biology in society and on the environment.
- Use fundamental discipline specific terminology to express concepts and ideas related to Biology.

Assessment tasks

- Class Tasks (4)
- Practical Assignment & Report
- Video presentation & resource
- Final Examination

Engaged and Ethical Local and Global citizens

As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded, sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

This graduate capability is supported by:

Learning outcomes

- Discuss the applications and impacts of Biology in society and on the environment.
- Use fundamental discipline specific terminology to express concepts and ideas related to Biology.
- Describe how scientific understanding and technology have changed scientific thought in the field of Biology over time.
- Use scientific equipment to plan and conduct investigations in a safe manner.
- Apply scientific thinking and problem-solving techniques to practical problems.

Assessment tasks

- Class Tasks (4)
- Practical Assignment & Report
- Video presentation & resource
- Final Examination

Socially and Environmentally Active and Responsible

We want our graduates to be aware of and have respect for self and others; to be able to work with others as a leader and a team player; to have a sense of connectedness with others and country; and to have a sense of mutual obligation. Our graduates should be informed and active participants in moving society towards sustainability.

This graduate capability is supported by:

Learning outcomes

- Discuss the applications and impacts of Biology in society and on the environment.
- Describe how scientific understanding and technology have changed scientific thought in the field of Biology over time.
- Demonstrate familiarity with the process of collecting, recording and analysing Biology data.
- Use scientific equipment to plan and conduct investigations in a safe manner.

Assessment tasks

- Class Tasks (4)
- Practical Assignment & Report
- Video presentation & resource
- Final Examination

Changes from Previous Offering

On January 2nd, 2016, Julian May checked the Unit Schedule. Many of the "Text pages" were

changed to more accurately reflect lesson content. Otherwise, various typos were fixed.

On January 6th, Julian May changed the order of lessons in Week 2/3, swapping the "DNA" and "Mendel" blocks to present a better progression of learning. Class Assessment Tasks were then adjusted in timing to co-ordinate with when their tested content would be finished in class.

Changes since First Published

Date	Description
06/01/2016	Julian May changed the order of lessons in Week 2/3, swapping the "DNA" and "Mendel" blocks to present a better progression of learning. Class Assessment Tasks were then adjusted in timing to co-ordinate with when their tested content would be finished in class.