BIOL341

Parasitology

S3 Day 2015

Dept of Biological Sciences

Contents

General Information

Unit convenor and teaching staff
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Credit points
3

Prerequisites
39cp including (BIOL208(P) or CBMS215)

Corequisites

Co-badged status

Unit description
This unit considers the intricate associations between parasites and their hosts. The unit begins with an exploration of the major parasitic groups including key taxonomic features, life-cycles and disease impacts. We then discuss topics including: diagnosis, host-parasite co-evolution, emerging diseases, wildlife conservation, climate change and parasites, and others. These major areas will encompass topical research themes. The practical work includes identification of common parasite species, parasite isolation, molecular diagnostics and phylogenetics. Students who are interested in human, animal and plant disease, evolution and whole-animal biology will enjoy this unit.

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:

Distinguish key parasite species according to current taxonomic framework and contrast methods used for taxonomic classification

Relate parasite life strategies to key species

Describe impacts of parasitism relative to disease, behaviour and evolution of the host

Infer and interpret evolutionary relationships of parasites

Identify work health and safety aspects associated with manipulating parasites and samples in a laboratory

Analyse and interpret experimental data, and convey findings in the form of a scientific

paper

Evaluate scientific literature and synthesise findings in written format

General Assessment Information

All assignments must be uploaded to iLearn and include a Faculty of Science cover sheet that has been completed, signed and attached to the cover of your assignment. The coversheet is available from http://web.science.mq.edu.au/intranet/lt/barcode/coversheet.php. A penalty of 10% of the allocated mark will be deducted per day for any work that is submitted late. Only a medical certificate or a letter with appropriate supporting documents outlining other serious or extenuating circumstances can be used to submit an assignment after the due date without penalty. Applications for special consideration or extension must be sought *before the due date* unless this is absolutely impossible. All applications for extensions of deadlines must be submitted to ask.mq.edu.au and include evidence to support requests.

Assessment Tasks

Name	Weighting	Due
Abstract and critique	15%	24th December
Poster	10%	18th January
On line Journal	15%	various
Practical exam	20%	19th January
Final examination	40%	TBA

Abstract and critique

Due: **24th December**
Weighting: **15%**

The objective of this assessment is to provide experience in the critical evaluation and comprehension of a scientific paper, and to use this evaluation to formulate an abstract for a scientific publication.

On successful completion you will be able to:

- Describe impacts of parasitism relative to disease, behaviour and evolution of the host
- Analyse and interpret experimental data, and convey findings in the form of a scientific paper
- Evaluate scientific literature and synthesise findings in written format

Poster

Due: **18th January**
Weighting: **10%**

One of the fun aspects of being a scientist is participation in scientific conferences. The role of a conference is to enable dissemination of research outcomes in oral or poster format. Ideally we would choose a topic from the practical classes and have you prepare outcomes for a poster presentation but time constraints prevent this. So we will make the topic of our conference Parasite diversity

On successful completion you will be able to:

- Relate parasite life strategies to key species
- Analyse and interpret experimental data, and convey findings in the form of a scientific paper
- Evaluate scientific literature and synthesise findings in written format

On line Journal

Due: **various**
Weighting: **15%**

A series of pre and post laboratory associated tasks have been established to prepare you for performing the practical tasks, place the content of each practical into context with current parasite research, diagnosis or control and to evaluate laboratory outcomes. The tasks include listening to pod-casts, reading papers and answering questions via on-line quizzes, making a post on the unit discussion board and informal group presentations in discussion classes. You will need to keep an on-line journal in iLearn.

On successful completion you will be able to:

- Distinguish key parasite species according to current taxonomic framework and contrast methods used for taxonomic classification
- Relate parasite life strategies to key species
- Describe impacts of parasitism relative to disease, behaviour and evolution of the host
- Infer and interpret evolutionary relationships of parasites
- Identify work health and safety aspects associated with manipulating parasites and samples in a laboratory
- Analyse and interpret experimental data, and convey findings in the form of a scientific paper
- Evaluate scientific literature and synthesise findings in written format

Practical exam

Due: **19th January**
Weighting: **20%**

You will demonstrate skills learnt in the unit in a laboratory based practical exam.

On successful completion you will be able to:

- Distinguish key parasite species according to current taxonomic framework and contrast methods used for taxonomic classification
- Relate parasite life strategies to key species

Final examination

Due: **TBA**
Weighting: **40%**

You will apply terminology and concepts learnt in lecture and practical components to answer a variety of questions and problems.

On successful completion you will be able to:

- Relate parasite life strategies to key species
- Describe impacts of parasitism relative to disease, behaviour and evolution of the host
- Infer and interpret evolutionary relationships of parasites

Delivery and Resources

BIOL341 is being offered in session 3 as an intensive mode unit. Attendance is compulsory from 9am until 5pm December 9, January 5 to 7 (3 days), January 11 to 14 (4 days) and January 18 and 19 (2 days). The morning sessions cover theory through lectures, discussion groups and student-led activities. The afternoon sessions develop concept and build on the morning sessions though practical activities.

Students also need to do pre-on campus preparation tasks (approximately 10-12 hours) in your own time from start of session December 8.

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

Assessment Policy http://mq.edu.au/policy/docs/assessment/policy.html

Grading Policy http://mq.edu.au/policy/docs/grading/policy.html

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

Grievance Management Policy http://mq.edu.au/policy/docs/grievance_management/policy.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.

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://informatics.mq.edu.au/help/.

When using the University's IT, you must adhere to the Acceptable Use Policy. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

Learning outcomes

- Distinguish key parasite species according to current taxonomic framework and contrast methods used for taxonomic classification
- Analyse and interpret experimental data, and convey findings in the form of a scientific paper

Assessment task

- On line Journal

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

- Infer and interpret evolutionary relationships of parasites
- Identify work health and safety aspects associated with manipulating parasites and samples in a laboratory
- Evaluate scientific literature and synthesise findings in written format

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

- Distinguish key parasite species according to current taxonomic framework and contrast methods used for taxonomic classification
- Relate parasite life strategies to key species
- Describe impacts of parasitism relative to disease, behaviour and evolution of the host
- Analyse and interpret experimental data, and convey findings in the form of a scientific paper

Assessment tasks

- Abstract and critique
- Poster
- On line Journal
- Practical exam
- 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

- Distinguish key parasite species according to current taxonomic framework and contrast methods used for taxonomic classification
- Describe impacts of parasitism relative to disease, behaviour and evolution of the host
- Infer and interpret evolutionary relationships of parasites
- Analyse and interpret experimental data, and convey findings in the form of a scientific paper
- Evaluate scientific literature and synthesise findings in written format

Assessment tasks

- Abstract and critique
- On line Journal
- 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

- Distinguish key parasite species according to current taxonomic framework and contrast methods used for taxonomic classification
- Analyse and interpret experimental data, and convey findings in the form of a scientific paper

Assessment tasks

- On line Journal
- 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

- Distinguish key parasite species according to current taxonomic framework and contrast methods used for taxonomic classification
- Analyse and interpret experimental data, and convey findings in the form of a scientific paper
- Evaluate scientific literature and synthesise findings in written format

Assessment tasks

- Abstract and critique
- Poster
- Practical exam
- 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 outcome

- Analyse and interpret experimental data, and convey findings in the form of a scientific paper

Assessment tasks

- Poster
- 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 outcome

- Identify work health and safety aspects associated with manipulating parasites and samples in a laboratory

Assessment task

- Final examination