



# BIOL700

## Research Frontiers in Biology

S1 Day 2015

*Dept of Biological Sciences*

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## General Information

Unit convenor and teaching staff Katherine McClellan <a href="mailto:katherine.mcclellan@mq.edu.au">katherine.mcclellan@mq.edu.au</a>
Credit points 4
Prerequisites Admission to MRes
Corequisites
Co-badged status
Unit description This unit is designed to expose MRes students to the broad range of topics that are currently dominating biological sciences. This unit is a seminar and conference unit that will allow students to engage deeply with current research topics and encourages them to reflect on current research trends.

## 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:

- Learn how science is communicated
- Gain skills in efficiently understanding a new topic
- Understand process behind enquiry
- Discuss constructively the interpretations of scientific mediums
- Attain an understanding on how to network effectively
- Develop a process to generate new ideas

## Assessment Tasks

Name	Weighting	Due
<a href="#">Seminar Attendance</a>	10%	Weekly

Name	Weighting	Due
<a href="#"><u>Tutorials + Discussions</u></a>	25%	Weekly (Wks 1-6)
<a href="#"><u>Blogging</u></a>	25%	Weekly, weeks 1-6
<a href="#"><u>Blog Peer Assessment</u></a>	10%	Week 1, Week 6
<a href="#"><u>Working Group Proposal</u></a>	30%	Monday Week 7

## Seminar Attendance

Due: **Weekly**

Weighting: **10%**

Presentations in the Biology Seminar Series occur each week from 1-2 pm, generally on Wednesdays. This is a forum for visiting scientists to convey topics of interest to the department and an excellent opportunity for Department members learn about cutting edge research. You are required to attend 12 of these seminars (in weeks 1 to 13) during the semester. They will form the basis for the discussion groups and blog postings. In addition to the Departmental seminar program you will also be required to attend 3 seminars elsewhere. These seminars can be in other departments at Macquarie University and/or outside Macquarie at institutions such as, but not limited to, other universities, museums, botanical gardens or other research oriented institutions. The aim is to broaden your horizons. *Taking photographs, filming or recording the audio during these presentations is not permitted, but we strongly recommend taking a notebook/laptop.*

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## Tutorials + Discussions

Due: **Weekly (Wks 1-6)**

Weighting: **25%**

Each Tuesday in Weeks 1-6 there will be a tutorial. These will vary from to explanations and exploration of assessment, skills training, individual discussions about proposals and opportunities to discover the breath of research carried out in the Department of Biological Sciences at Macquarie by meeting academics. It is anticipated that these will be very interactive.

After each seminar in Weeks 1-6 there will be a discussion about the topic. Discussions following a seminar or conference allow researchers to explore more deeply the topics covered, benefit from the knowledge and thoughts of others and at times question the speaker more closely. *Proactive participation in a discussion group subsequent to the departmental seminar is required.* Early in the program we will examine effective ways to provide constructive

contributions to discussion groups. You will then be required to apply these skills each week in a discussion group. The challenge will be to synthesise the information provided by the seminar speaker and place their work in a broader framework. Ultimately as a group we want to attain an understanding of the significance of the research and future research directions. Preparation for these seminars and discussion will involve researching the speaker and their previous research. Each week pairs of students will drive the discussions. These discussion leaders are expected to have put in significant preparation and be well versed on the speaker and their research. This discussion group will not assess the quality of the talk but focus on the contribution of the work to the field. On occasion the speaker will join the discussion to afford you an opportunity to ask further questions and learn more.

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## Blogging

Due: **Weekly, weeks 1-6**

Weighting: **25%**

There are many ways to communicate science. One approach with increasing popularity is the use of online forums to convey not only the researchers work but also summarise the work of others. Online forums include blogging, social media tools and podcasting. These tools provide an opportunity to convey science a much larger and demographically broader audience – a constant and important challenge for a modern day scientist. The most successful blogs are regularly posted, accurate, engaging, and articulate and convey new and complex topics in a simple, exciting and memorable way. Doing this efficiently is facilitated by a diverse knowledge base to recognise where novel and significant contributions in research are made. By comparing and contrasting research, you should also be able to identify potential opportunities for interdisciplinary collaborations.

In this exercise you will post a blog weekly related to the Departmental Seminar for 4 seminars (Weeks 1-4). In addition you will be asked to post a blog on one of the three seminars attended outside of the Departmental Seminar Series. The blogs must summarise the seminar topic, place the seminar in context of the speaker's other work, and provide an in depth analyses of how the seminar topic contributes to the field of interest. The blogs should not criticise the style of seminar delivery. We expect evidence that you have read some primary literature on the topic, you have grasped the concepts and findings explained in the seminar and understand their significance. The blogs also need to be accessible (i.e. the challenge will be to provide a blog that a first year student would be able to understand), hence students should aim to be accurate, engaging, articulate and memorable.

Marks will be allocated according to a rubric available early on in the semester. Blogs will be due every Monday at 10am. The blogging interface will be Wordpress.

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## Blog Peer Assessment

Due: **Week 1, Week 6**

Weighting: **10%**

You will be required to critically assess two blogs of the conveners choosing for each student. The first blog will be selected early on and this activity is designed to help students identify effective blogging styles. The second will be the same blog you select for assessment conducted on a seminar outside the department. Using the workshop tool in ilearn and the rubric designed for assessing blogs you will be asked to critically assess the blogs of all other participants within the course.

On successful completion you will be able to:

- Learn how science is communicated

## Working Group Proposal

Due: **Monday Week 7**

Weighting: **30%**

New and innovative research can arise from novel combinations of theory, ideas, data and techniques. Working groups are small collections of scientists, who generally have not previously collaborated, who work intensively to integrate these novel mixtures to answer outstanding or new questions and significantly advance science. Working groups tackle research questions that need data synthesis or new concepts or theory – they rarely include collecting new data. Working groups usually involve bringing people from across the globe to a single location and providing a workspace for several days at a time over a couple of months/years, allowing for intensive work.

Key to a successful working group is the mix of participants – they need to have the appropriate skills, data and drive – and a clever concept. There are several funding bodies that provide resources for working groups as they are a very effective and exciting way of producing high impact research. In this exercise you will need to prepare a working group proposal for a hypothetical funding body (we will provide their guidelines). This will involve identifying a novel topic of interest, which individuals will be invited to attend the working group and it will be important to have a strong argument justifying the importance of research. We strongly recommend that you make use of the seminars you have seen as a basis for your proposal (combining an interesting question from one speaker with the methods from another, for

example). Significant thought will need to be given to this project and students are strongly advised to allocate adequate time to thinking about their proposal.

On successful completion you will be able to:

- Understand process behind enquiry
- Attain an understanding on how to network effectively
- Develop a process to generate new ideas

## Delivery and Resources

**Notification of the seminar, speaker and topic will be provided via iLearn.** iLearn and email will be the principle method of communication in this subject. We may also provide materials such as a key paper for each seminar (it will be up to you to do more research), and supporting documents associated with facilitating and participating in discussion groups. Assessment descriptions and marking rubrics will also be available through iLearn.

## Unit Schedule

Week	Day	Time	Location	Activity/ Assignment Due
1	Tuesday	2-4pm	EMC-G230	Tutorials 1 & 2 (Introduction/Blogging)
	Wednesday	1-3pm	Red lab (E8A, groundfloor)	Tutorial 3 (WGP) (not attend G2G launch)
	Friday	1-3:30pm	Biology Tearoom	Seminar 1: Nicky Phillips + Discussion
2	Monday	10am	NA	Blog 1 due, JC to provide feedback for Tues
	Tuesday	2-4pm	EMC-G230	Tutorials 4 & 5 (Peer review Blogs, Asking Qs)
	Wednesday	1-3:30pm	Biology Tearoom	Seminar 2: Rebecca Harris + discussion
3	Monday	10am	NA	Blog 2 due
	Tuesday	2-4pm	EMC-G230	WGP meetings with JC + more time as needed
	Wednesday	1-3:30pm	Biology Tearoom	Seminar 3: Will Figueira + discussion
4	Monday	10am	NA	Blog 3 due
	Tuesday	2-4pm	EMC-G230	Tutorial 6: Meet with academics
	Wednesday	1-3:30pm	Biology Tearoom	Seminar 4: David Christian + discussion
5	Monday	10am	NA	Blog 4 due

	Tuesday	2-4pm	EMC-G230	Tutorial 7: Meet with academics
	Wednesday	1-3:30pm	Biology Tearoom	Seminar 5: Emily Ens, Kate Umbers, Dan Warren + discussion
6	Monday	10am	NA	Draft WGP due
	Tuesday	2-4pm	EMC-G230	Tutorial 8: Meet with academics, External blogs due
	Wednesday	1-3:30pm	Biology Tearoom	Seminar 6: David Shuker & Susan Healy + discussion
	Friday	10pm		Peer reviews due. Comments back on WGP
Holiday Break/Easter				
7	Monday			WGP due, to be marked that week.
7-13	Wednesday	1-2pm	Biology Tearoom	S7-13 Seminar attendance required for final grade.

## 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](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](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](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/](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.m](#)

[mq.edu.au](http://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](http://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](http://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

### PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

### Learning outcome

- Understand process behind enquiry

### Assessment tasks

- Seminar Attendance



- Tutorials + Discussions
- Blogging
- Blog Peer Assessment

## PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

### Assessment tasks

- Seminar Attendance
- Tutorials + Discussions
- Blog Peer Assessment
- Working Group Proposal

## PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

### Learning outcomes

- Gain skills in efficiently understanding a new topic
- Understand process behind enquiry
- Discuss constructively the interpretations of scientific mediums
- Attain an understanding on how to network effectively
- Develop a process to generate new ideas

### Assessment tasks

- Seminar Attendance
- Tutorials + Discussions
- Blogging
- Blog Peer Assessment
- Working Group Proposal

## PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

### Learning outcomes

- Gain skills in efficiently understanding a new topic
- Discuss constructively the interpretations of scientific mediums
- Develop a process to generate new ideas

### Assessment tasks

- Blogging
- Working Group Proposal

## PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

### Learning outcomes

- Learn how science is communicated
- Gain skills in efficiently understanding a new topic
- Discuss constructively the interpretations of scientific mediums
- Attain an understanding on how to network effectively
- Develop a process to generate new ideas

### Assessment tasks

- Seminar Attendance
- Tutorials + Discussions
- Blogging
- Blog Peer Assessment
- Working Group Proposal

## PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in

relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

### **Learning outcomes**

- Discuss constructively the interpretations of scientific mediums
- Develop a process to generate new ideas

### **Assessment tasks**

- Seminar Attendance
- Blogging