The Bachelor of Philosophy/Master of Research (BPhil/MRes) combines advanced disciplinary coursework and structured research training, to provide graduates with greater recognition for their academic progress, enhanced employment opportunities and pathways to further study in Australia and overseas. The two-year full-time BPhil/MRes is the main pathway to a PhD at Macquarie University.

DEPARTMENT OF BIOLOGICAL SCIENCES

The Department of Biological Sciences hosts a vibrant community of researchers working across a wide range of disciplines including animal behavior, climate change, conservation, ecology, evolution, genetics and genomics, palaeobiology and physiology.

Our commitment to research-led teaching ensures that our students graduate with a broad base in contemporary biological thought, a passion for life-long learning and strong foundations for a career in the biological sciences and related areas. Through the BPhil/MRes program we provide opportunities for students to undertake research in their chosen field. For each student we provide mentoring and training in the latest scientific methods and guidance as students develop key research skills such as project management, data analysis and scientific writing.

Our teaching and research facilities include world-class digital laboratories, glasshouses for plant growth experimentation, a new sea water facility for experiments in marine systems, outdoor experimental ponds for freshwater research, a large fauna park and nature reserve for ecological studies, and cutting-edge molecular biology research laboratories.

PROGRAM STRUCTURE

The MRes program consists of 80 credit points in Year 1 and research experiences (equivalent to 80 credit points) in Year 2. Students have access to a range of units from a variety of subject areas across the University. This allows the construction of a program relevant to your specific interests and skills, subject to academic approval.

Domestic students may study part-time but most international students must study full time.

YEAR 1

<table>
<thead>
<tr>
<th>Program Structure: Year 1 Units (8 units required)</th>
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</thead>
<tbody>
<tr>
<td>FOSE7000 Research Communications Unit (compulsory)</td>
</tr>
<tr>
<td>BIOL7900 Research Frontiers Unit (compulsory)</td>
</tr>
<tr>
<td>Advanced Disciplinary Units (choose six units)</td>
</tr>
<tr>
<td>BIOL7920 Topics in Evolution</td>
</tr>
<tr>
<td>BIOL7925 Biology in the 21st Century</td>
</tr>
<tr>
<td>BIOL7935 Advanced Research Topics in Biology</td>
</tr>
<tr>
<td>BIOL7610 Conservation and Management of Wild Populations</td>
</tr>
<tr>
<td>BIOL7130 Research Skills for Biology Conservation</td>
</tr>
<tr>
<td>BIOL7870 Regional and Global</td>
</tr>
<tr>
<td>7000 lvl units from other departments / faculties subject to academic approval.</td>
</tr>
</tbody>
</table>

Note: Students have the flexibility to undertake units across all disciplines in the University, subject to academic approval.

Year 1 Example Unit Contents

BIOL7925: This unit provides students with hands-on experience in biological research. Students will work with research groups in the Department of Biological Sciences. Work may be in laboratory and field environments or a combination, through which students will learn methods used by the group and develop skills and a project plan for their own research.

BIOL7610: This unit deals with the theory and practice of the conservation of wild populations, with an emphasis on Australasian vertebrates. Lectures and practical classes explore the origins, diversity and evolutionary adaptations of the Australasian fauna; current and emerging threats; and the theoretical aspects and practical tools for wildlife conservation.
YEAR 2

Year 2 of the MRes will be made up of structured research preparation and training, where candidates will:

- Extend their knowledge of research innovations in their discipline;
- Survey the current literature related to their particular research interest;
- Engage with the latest research methods in their field;
- Receive training in project management and plan a major research project, and
- Complete a significant individual research project of their own design, with support of a thesis supervisor.

Program Structure: Year 2 (Jan-Oct) or (Jul-Apr)

Five Core Activities

1) Thesis (50 pages) based on a research project
2) Research Frontiers 2
3) Literature Review
4) Research Planning
5) Research Methods

Year 2 Example Projects

The following is a list of some of the research areas for MRes projects in Biological Sciences. For more information on any research area or potential projects, please contact the MRes Advisor for Biological Sciences: fse.biomres@mq.edu.au.

- Weed invasion in native bush land
- Biodiversity and urban ecosystems
- Parasites in native wildlife
- Humans, pollution, and antibiotic resistance
- Sexual selection in invertebrates
- Palaeoecology of marine ecosystems
- Behavioural biology fruit flies
- Heat and carbon dioxide tolerance in crops
- Behaviour, learning and memory in bees
- Ecology of sea walls, seagrasses and other estuarine environments
- Learning and navigational behaviour of ants
- River and groundwater ecology and pollution impacts
- Behaviour, ecology and evolution of fishes
- Behaviour and ecology of Australian birds
- Phylogeny, biodiversity, ecology of invertebrates during the Cambrian period
- Landscape genetics and conservation

ELIGIBILITY

‘An undergraduate or postgraduate degree from a recognised institution and a GPA of at least 4.38 overall (7 point scale), and at least 5.25 at 300-level.

Candidates who have a complete Bachelor Honours degree or relevant Masters by coursework may receive up to 80 credit points towards the program (dependent on the content of previous study), making it possible to start the program from Year 2.

APPLICATION

Applications are submitted online: https://www.mq.edu.au/research/phd-and-research-degrees/how-to-apply

APPLICATION DEADLINE for 2021 PROGRAM

- Domestic: 30th November 2020 (Year 1 only)
- International: 15th September 2020

STIPENDS AND SCHOLARSHIPS

Information on Domestic and International MRes Scholarships can be found at: https://www.mq.edu.au/research/phd-and-research-degrees/scholarships

FURTHER INFORMATION

http://www.bio.mq.edu.au/
https://www.mq.edu.au/research/phd-and-research-degrees

* Information in this flyer is correct at the time of print, 15th Oct 2020