

Bachelor Of Marine Science

Coordinator: Professor John Morrison

Room 19.G012, Phone: 4221 4377

This is a specially-designed flexible 3-year degree that features a broad emphasis on marine sciences taught by leading researchers in marine biology, earth and environmental sciences. Areas of employment opportunity include environmental impacts on marine environments, fisheries biology and management, eco-tourism, coastal and estuarine management, Australia's oceanic responsibilities arising from extended territorial limits.

| First Year Marine Science Course Structure | | cps | Session |
|---|---|------------|----------------|
| Core | | | |
| BIOL103 | Molecules, Cells and Organisms | 6 | 2 |
| BIOL104 | Evolution, Biodiversity and Environment | 6 | 1 |
| CHEM101 | Chemistry 1A | 6 | 1 |
| CHEM102 | Chemistry 1B | 6 | 2 |
| EESC102 | Earth Environments and Resources | 6 | 2 |
| EESC103 | Landscape Change and Climatology | 6 | 1 |
| MATH151 | General Mathematics 1A* | 6 | 1,3 |

* Required if entering the program without at least HSC Mathematics Band 4

Electives:

Select one or two of the following subjects for a total 48 cps for first year:

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| EESC101 | Planet Earth | 6 | 1 |
| EESC104 | The Human Environment | 6 | 2 |
| MATH111 | Applied Mathematical Modelling I | 6 | 2 |
| MGMT110 | Introduction to Management | 6 | 1,2 |
| PHYS233 | Introduction to Environmental Physics | 6 | 1 |
| STS112 | Revolutions in Science: History, Philosophy and Politics of Science | 6 | 2 |
| STS116 | Environment in Crisis: Technology and Society | 6 | 2 |

Or other subjects as approved by the Course Coordinator

At Second Year students choose either a single strand in Marine Biology or Marine Geosciences or a combination of these specialisations. Any variations on the strands and pathways listed below require approval by the degree coordinator. Note that optional subjects selected in Year 2 must be selected to satisfy pre-requisites required for Year 3 subjects.

| Second Year Marine Biology Strand - Marine Ecology Pathway | | cps | Session |
|---|---|------------|----------------|
| Core | | | |
| MARE200 | Introduction to Oceanography | 6 | 1 |
| BIOL241 | Biodiversity: Classification and Sampling | 6 | 2 |
| BIOL251 | Principles of Ecology and Evolution | 6 | 1 |
| BIOL240 | Functional Biology of Plants and Animals | 6 | 1 |
| EESC204 | Introductory Spatial Science | 6 | 1,2 |

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| STAT252 | Statistics for the Natural Sciences | 6 | 2 |
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Electives:

Plus one of the following two subjects:

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| EESC201 | Earth's Inferno | 6 | 1 |
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| EESC203 | Biogeography and Environmental Change | 6 | 1 |
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Plus one of the following three subjects:

| | | | |
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| CHEM214 | Analytical and Environmental Chemistry | 6 | 2 |
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| EESC208 | Environmental Impact of Societies | 6 | 2 |
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| EESC250 | Field Geology (Note: Summer Session Only) | 6 | 3 |
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| Third Year Marine Biology Strand - Marine Ecology Pathway | cps | Session |
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Core

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|---------|---------------------------|---|---|
| MARE300 | Fisheries and Aquaculture | 8 | 2 |
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|---------|--|---|---|
| BIOL332 | Ecological and Evolutionary Physiology | 8 | 1 |
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|---------|--|---|---|
| BIOL351 | Conservation Biology: Marine and Terrestrial Populations | 8 | 1 |
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| BIOL355 | Marine and Terrestrial Ecology | 8 | 2 |
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Electives:

Plus one of the following three subjects:

| | | | |
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| EESC305 | Remote Sensing of the Environment | 8 | 1 |
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| MARE393 | Advanced Marine Science Project | 8 | 1,2,3 |
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| STAT355 | Sample Surveys and Experimental Design (with project) | 8 | 1 |
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Plus one of the following four subjects:

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| EESC302 | Coastal Environments: Process and Management | 8 | 2 |
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| EESC304 | Geographic Information Science | 8 | 2 |
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| MARE357 | Advances in Molluscan Biology | 8 | 3 |
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| MARE393 | Advanced Marine Science Project | 8 | 1,2,3 |
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Or other subjects as approved by the Course Coordinator

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|--|------------|----------------|
| Second Year Marine Biology Strand – Biotechnology Pathway | cps | Session |
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Core

| | | | |
|---------|------------------------------|---|---|
| MARE200 | Introduction to Oceanography | 6 | 1 |
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|---------|----------------------------|---|---|
| BIOL213 | Principles of Biochemistry | 6 | 1 |
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|---------|---|---|---|
| BIOL214 | The Biochemistry of Energy and Metabolism | 6 | 2 |
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|---------|-----------------------|---|---|
| BIOL215 | Introductory Genetics | 6 | 2 |
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|---------|--|---|---|
| BIOL240 | Functional Biology of Plants and Animals | 6 | 1 |
|---------|--|---|---|

| | | | |
|---------|---|---|---|
| BIOL241 | Biodiversity: Classification and Sampling | 6 | 2 |
|---------|---|---|---|

| | | | |
|---------|-------------------------------------|---|---|
| BIOL251 | Principles of Ecology and Evolution | 6 | 1 |
| STAT252 | Statistics for the Natural Sciences | 6 | 2 |

Third Year Marine Biology Strand – Biotechnology Pathway **cps** **Session**

Core

| | | | |
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| MARE300 | Fisheries and Aquaculture | 8 | 2 |
| BIOL355 | Marine and Terrestrial Ecology | 8 | 2 |

Options:

Plus three of the following four subjects:

| | | | |
|---------|--|---|---|
| BIOL303 | Biotechnology: Applied Cell and Molecular Biology | 8 | 1 |
| BIOL320 | Molecular Cell Biology | 8 | 1 |
| BIOL332 | Ecological and Evolutionary Physiology | 8 | 1 |
| BIOL351 | Conservation Biology: Marine and Terrestrial Populations | 8 | 1 |

Plus one of the following four subjects:

| | | | |
|---------|--|---|-------|
| BIOL321 | Infection and Immunity | 8 | 2 |
| CHEM320 | Bioinformatics: from genome to structure | 8 | 2 |
| MARE357 | Advances in Molluscan Biology | 8 | 3 |
| MARE393 | Advanced Marine Science Project | 8 | 1,2,3 |

Or other subjects approved by the Course Coordinator

Second Year Marine Geosciences Strand **cps** **Session**

Note: The double major (Marine Biology-Marine Geosciences) in the Marine Geosciences Strand is an option.

| | | | |
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| MARE200 | Introduction to Oceanography | 6 | 1 |
| BIOL241 | Biodiversity: Classification and Sampling | 6 | 2 |
| BIOL251 | Principles of Ecology and Evolution | 6 | 1 |
| EESC201 | Earth's Inferno | 6 | 1 |
| EESC203 | Biogeography and Environmental Change | 6 | 1 |
| EESC204 | Introductory Spatial Science | 6 | 1,2 |
| STAT252 | Statistics for the Natural Sciences | 6 | 2 |

Electives:

Plus one of the following:

| | | | |
|---------|---|---|---|
| CHEM214 | Analytical and Environmental Chemistry | 6 | 2 |
| EESC208 | Environmental Impact of Societies | 6 | 2 |
| EESC250 | Field Geology (Note: Summer Session Only) | 6 | 3 |

Third Year Marine Geosciences Strand **cps** **Session**

Core

| | | | |
|---------|--|---|---|
| EESC302 | Coastal Environments: Process and Management | 8 | 2 |
| EESC305 | Remote Sensing of the Environment | 8 | 1 |

Electives:

Plus two of the following four subjects:

| | | | |
|---------|--|---|-------|
| BIOL351 | Conservation Biology: Marine and Terrestrial Populations | 8 | 1 |
| EESC301 | Plate Tectonics, Macrotopography and Earth History | 8 | 1 |
| EESC303 | Fluvial Geomorphology and Sedimentology | 8 | 1 |
| MARE393 | Advanced Marine Science Project | 8 | 1,2,3 |

Plus two of the following seven subjects:

| | | | |
|---------|---------------------------------------|---|-------|
| BIOL355 | Marine and Terrestrial Ecology | 8 | 2 |
| EESC304 | Geographic Information Science | 8 | 2 |
| EESC306 | Resources and Environments | 8 | 2 |
| EESC308 | Environmental and Heritage Management | 8 | 2 |
| MARE300 | Fisheries and Aquaculture | 8 | 2 |
| MARE357 | Advances in Molluscan Biology | 8 | 3 |
| MARE393 | Advanced Marine Science Project | 8 | 1,2,3 |

Or other subjects approved by the Coordinator

Honours

Marine Science students who achieve the required standard (at least a credit level average for at least three 300-level subjects that comprise a coherent specialisation as defined by the Coordinator) may proceed to an Honours year (a one year research project) within either the School of Biological Sciences or the School of Earth and Environmental Sciences or jointly in both disciplines. Please refer to Section 7.5 for further information about the Honours program including entry requirements, relevant contact details and instructions for how to apply.

Bachelor of Marine Science (Advanced)

Students entering with at least 90 UAI or equivalent, can enrol in the Bachelor of Marine Science (Advanced) degree. See Section 7.4 for details. Students can transfer to the Bachelor of Marine Science (Advanced) degree from the Bachelor of Marine Science after completing 72 credit points of study if they have obtained a distinction average.