

Handbook 2019

Coursecode

B1317A

Murdoch University

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Cancellation of Courses, Majors, Minors and Units

The University reserves the right to cancel, without notice, any course, major, minor or unit if the number of students enrolled falls below limits set by the University or in other unforeseen circumstances.

Alternative Formats

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Cancellation of Courses, Majors, Minors and Units

The University reserves the right to cancel, without notice, any course, major, minor or unit if the number of students enrolled falls below limits set by the University or in other unforeseen circumstances.

Group	Course	Offerings
Marine Science	Marine Science (BSc)	<ul style="list-style-type: none"> • Murdoch campus (internal) • Some units only; Murdoch campus (external)

MARINE SCIENCE

MARINE SCIENCE (BSC)

School of Veterinary and Life Sciences

Bachelor of Science (BSc) in Marine Science

Course Codes: B1317 B1317A

Restriction: Enrolment is subject to restriction due to constraints on unit enrolments.

Duration: 3 years full-time or part-time equivalent

Availability:

- Murdoch campus (internal) Some units only: Murdoch campus (external)

Murdoch University offers a Marine Science major at undergraduate level to enable students to develop an understanding of the complex physical, chemical, biological and ecological processes in the ocean. Students learn to assess the state of the marine environment as well as identify and mitigate impacts. Specialised units cover marine biodiversity, marine biology, oceanography, marine ecology and students also develop skills in coastal and marine management.

Murdoch's Bachelor of Science is a flexible degree which gives you the opportunity to build deep understanding and practical experience as well as to supplement your studies by engaging with industry and the community on relevant problems. You can even undertake studies through another discipline to broaden your understanding of the way in which science operates in relation to social, business, health and policy environments.

Employment Prospects:

Through a combination of required and elective units, students can direct their studies towards employment opportunities in marine environmental management, fisheries, aquaculture, the offshore oil and gas industry, tourism and recreation, marine biotechnology, biodiversity conservation and marine ecology.

Admission Requirements (Onshore):

As per normal undergraduate admission requirements. There are no prerequisites for admission but it is highly desirable for students to have undertaken ATAR: Chemistry or WACE: Chemistry 3A/3B and at least ATAR: Mathematics Applications or TEE: Discrete Mathematics or WACE: Mathematics 2C/2D. Students not undertaking these recommended subjects will need to take additional units in their first year at university.

Special Requirements:

Students undertaking units in Marine Science will not be required to kill any vertebrate animal but they will be required to work with fresh tissue from dead animals in certain units.

Recommended Double Majors:

Biological Sciences; Conservation and Wildlife Biology; Environmental Science

Recommended Minors:

Applied Statistics; Fisheries Science; Marine Biology

Main Research Areas:

Marine biology and ecology, fisheries science, coastal and marine management, oceanography, marine pollution, marine biodiversity conservation, marine biotechnology, hydrodynamics, air-sea interaction.

Course Commencement:

Students are advised that a Semester 1 intake is preferred. A Semester 2 start will require 3.5 years to complete.

Major Prerequisites

Chemistry Background

Students who achieved a final scaled score of 50 percent or more

in Chemistry 3A/3B or Chemistry ATAR within the past three years should seek an exemption from their Academic Chair for CHE140 Fundamentals of Chemistry. Students who have completed previous chemistry not stated above should also consult their Academic Chair for clarification of their enrolment requirements.

Mathematics Background

Students need to have completed one of the following within the past three years:

Mathematics Applications ATAR (or Mathematics 2C/2D) with a final scaled score of 55 percent or more

OR

MAS164 Fundamentals of Mathematics - 3 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

Students who have completed previous mathematics not stated above should consult the Academic Chair for clarification of their enrolment requirements.

Course Structure - 72 credit points

Part I - 24 credit points

Year 1 - 24 credit points

Transition Unit - 3 credit points

BSC100 Building Blocks for Science Students - 3 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

Breadth Unit for Degree - 3 credit points

BSC150 What is Science? - 3 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

Core Units - 15 credit points

BIO180 Introduction to Marine Biology - 3 points
MURDOCH: S1-internal

CHE140 Fundamentals of Chemistry - 3 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

CHE144 Foundations of Chemistry - 3 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

ENV102 Foundations of the Environment - 3 points
MURDOCH: S2-internal, S2-external

MAS183 Statistical Data Analysis - 3 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

General Electives - 3 credit points

Select from any 100-level units offered by the University, subject to individual unit prerequisites. Students are advised to consider using General Elective points to meet the requirements of a second major or minor. Any recommended double majors and minors will be included in the major's description.

Part II - 48 credit points

University-Wide Breadth Units - 6 credit points

Select from the prescribed list of University-Wide Breadth Units. A unit cannot be used to satisfy both this Breadth Unit requirement and the requirements of a major or minor. If taken at 100 level the unit(s) will be attributed to Part I. Note that no more than 30 credit points at Part I may be credited towards course completion requirements.

Year 2 - 21 credit points

Research Skills Unit - 3 credit points

The Research Skills unit to be taken will depend on the student's Primary Major enrolment. Select from the following.

For Primary Major in Cognitive Neuroscience and Health

Psychology

BSC201 Psychology: Measurement, Design and Analysis - 3 points
MURDOCH: S1-internal

For Primary Majors in the Health Sciences, as listed

Primary Major in Chiropractic Science, Exercise Physiology, Movement Science, or Sport and Health Science:

BSC206 Introduction to Research Methodology and Evidence Based Practice - 3 points
MURDOCH: S2-internal

For All Other Primary Majors excluding Information Technology

Select from the Research Skills Unit List recommended for each major. A unit cannot be used to satisfy both this Research Skills Unit requirement and the requirements of a major or minor. If taken at 100 level the unit(s) will be attributed to Part I. Note that no more than 30 credit points at Part I may be credited towards course completion requirements.

Core Units - 12 credit points

BIO244 Animal Diversity - 3 points
MURDOCH: S2-internal

BIO254 Marine Botany - 3 points
MURDOCH: S1-internal

ENV244 Oceanography and Marine Pollution - 3 points
MURDOCH: S2-internal (quota of 50 places)

ENV242 Atmospheric Science - 3 points
MURDOCH: S1-internal, S1-external

General Electives - 6 credit points

Select from any 200- to 400-level units offered by the University, subject to individual unit prerequisites. Students are advised to consider using General Elective points to meet the requirements of a second major or minor. Any recommended double majors and minors will be included in the major's description.

Year 3 - 21 credit points**Research Skills Unit - 3 credit points**

The Research Skills unit to be taken will depend on the student's Primary Major enrolment. Select from the following.

For Primary Major in Cognitive Neuroscience and Health Psychology

BSC302 Advanced Quantitative Research Methods - 3 points
MURDOCH: S2-internal

For Primary Majors in the Health Sciences, as listed

Primary major in Chiropractic Science, Movement Science, Sport and Health Science:

BSC306 Research and Evidence Based Practice - 3 points
MURDOCH: S1-internal

For All Other Primary Majors excluding Information Technology

Select from the Research Skills Unit List recommended for each major. A unit cannot be used to satisfy both this Research Skills Unit requirement and the requirements of a major or minor. If taken at 100 level the unit(s) will be attributed to Part I. Note that no more than 30 credit points at Part I may be credited towards course completion requirements.

Core Units - 6 credit points

BIO377 Marine Ecology - 3 points
MURDOCH: S1-internal

ENV333 Coastal and Marine Management - 3 points
MURDOCH: S2-internal (quota of 60 places)

General Electives - 12 credit points

Select from any 200- to 400-level units offered by the University, subject to individual unit prerequisites. Students are advised to consider using General Elective points to meet the requirements of a second major or minor. Any recommended double majors and minors will be included in the major's description.

Research Skills Unit List**Animal Health Major**

BSC200 Research in the Physical and Life Sciences - 3 points
Not available this year

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

BIO282 Molecular Biology - 3 points
MURDOCH: S1-internal

BIO394 Genetic Engineering - 3 points
MURDOCH: S1-internal

ENV303 GIS for Environmental Management and Planning - 3 points
MURDOCH: S2-internal (quota of 70 places), S2-external (quota of 20 places)

COM103 Foundations of Communication - 3 points
MURDOCH: S2-internal, S2-external

BMS317 Human Pharmacology - 3 points
MURDOCH: S1-internal

Animal Science Major

BSC200 Research in the Physical and Life Sciences - 3 points
Not available this year

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

BIO246 Microbiology - 3 points
MURDOCH: S1-internal

BMS316 Parasitology: People, Pets and Wildlife - 3 points
MURDOCH: S2-internal

ENV303 GIS for Environmental Management and Planning - 3 points
MURDOCH: S2-internal (quota of 70 places), S2-external (quota of 20 places)

BIO282 Molecular Biology - 3 points
MURDOCH: S1-internal

BIO394 Genetic Engineering - 3 points
MURDOCH: S1-internal

COM103 Foundations of Communication - 3 points
MURDOCH: S2-internal, S2-external

Crop and Pasture Science

BSC200 Research in the Physical and Life Sciences - 3 points
Not available this year

ENV303 GIS for Environmental Management and Planning - 3 points
MURDOCH:

S2-internal (quota of 70 places), S2-external (quota of 20 places)

BMS316 Parasitology: People, Pets and Wildlife - 3 points
MURDOCH: S2-internal

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

BIO246 Microbiology - 3 points
MURDOCH: S1-internal

BIO257 Australian Biodiversity - 3 points
MURDOCH: S2-internal

BIO282 Molecular Biology - 3 points
MURDOCH: S1-internal

BIO394 Genetic Engineering - 3 points
MURDOCH: S1-internal

Biological Sciences Major

BSC200 Research in the Physical and Life Sciences - 3 points
Not available this year

ENV303 GIS for Environmental Management and Planning - 3 points
MURDOCH:
S2-internal (quota of 70 places), S2-external (quota of 20 places)

BMS316 Parasitology: People, Pets and Wildlife - 3 points
MURDOCH: S2-internal

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

BIO282 Molecular Biology - 3 points
MURDOCH: S1-internal

BIO394 Genetic Engineering - 3 points
MURDOCH: S1-internal

BIO377 Marine Ecology - 3 points
MURDOCH: S1-internal

BIO388 Forensic Science and Miscarriages of Justice - 3 points
MURDOCH: W-internal

CHE207 Chemical Analysis - 3 points
MURDOCH: S1-internal, S1-external

BIO393 Tropical Marine Biology - 3 points
MURDOCH:
W-internal (quota of 40 places) (closed as the offering has reached capacity)

Conservation and Wildlife Biology Major

BSC200 Research in the Physical and Life Sciences - 3 points
Not available this year

ENV303 GIS for Environmental Management and Planning - 3 points
MURDOCH:
S2-internal (quota of 70 places), S2-external (quota of 20 places)

BIO246 Microbiology - 3 points
MURDOCH: S1-internal

BMS316 Parasitology: People, Pets and Wildlife - 3 points
MURDOCH: S2-internal

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

BIO282 Molecular Biology - 3 points
MURDOCH: S1-internal

BIO394 Genetic Engineering - 3 points
MURDOCH: S1-internal

BIO377 Marine Ecology - 3 points
MURDOCH: S1-internal

ENV328 Environmental Policy and Law - 3 points
MURDOCH: S1-internal, S1-external

SUS305 Economics of Sustainability - 3 points
MURDOCH: W-internal, W-external

COD302 Creative Ways to Work with Community - 3 points
MURDOCH: S2-internal, S2-external

BIO247 Biochemistry - 3 points
MURDOCH: S2-internal

ENV332 Managing Wetlands and Water - 3 points
MURDOCH: S2-internal, S2-external

BIO393 Tropical Marine Biology - 3 points
MURDOCH:
W-internal (quota of 40 places) (closed as the offering has reached capacity)

Environmental Management and Sustainability Major

BSC200 Research in the Physical and Life Sciences - 3 points
Not available this year

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

BIO393 Tropical Marine Biology - 3 points
MURDOCH:
W-internal (quota of 40 places) (closed as the offering has reached capacity)

MAS182 Applied Mathematics - 3 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

MAS353 Statistical Design and Data Analysis - 3 points
MURDOCH: S2-internal, S2-external

ENV332 Managing Wetlands and Water - 3 points
MURDOCH: S2-internal, S2-external

ENG341 Water Conservation and Auditing - 3 points
MURDOCH: S1-internal, S1-external

COM103 Foundations of Communication - 3 points
MURDOCH: S2-internal, S2-external

BIO257 Australian Biodiversity - 3 points
MURDOCH: S2-internal

SUS305 Economics of Sustainability - 3 points
MURDOCH: W-internal, W-external

COD302 Creative Ways to Work with Community - 3 points
MURDOCH: S2-internal, S2-external

ENV241 Ecology - 3 points
MURDOCH: S2-internal, S2-external

Environmental Science Major

BSC200 Research in the Physical and Life Sciences - 3 points
Not available this year

ENV303 GIS for Environmental Management and Planning - 3 points
MURDOCH:

S2-internal (quota of 70 places), S2-external (quota of 20 places)

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

BIO393 Tropical Marine Biology - 3 points
MURDOCH:
W-internal (quota of 40 places) (closed as the offering has reached
capacity)

ENV334 Environmental Restoration - 3 points
MURDOCH:
S1-internal (quota of 60 places), S1-external (quota of 60
places)

ENG341 Water Conservation and Auditing - 3 points
MURDOCH: S1-internal, S1-external

COM103 Foundations of Communication - 3 points
MURDOCH: S2-internal, S2-external

BIO257 Australian Biodiversity - 3 points
MURDOCH: S2-internal

MAS182 Applied Mathematics - 3 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

Marine Science Major

BSC200 Research in the Physical and Life Sciences - 3 points
Not available this year

ENV303 GIS for Environmental Management and Planning - 3
points
MURDOCH:
S2-internal (quota of 70 places), S2-external (quota of 20
places)

BIO246 Microbiology - 3 points
MURDOCH: S1-internal

BMS316 Parasitology: People, Pets and Wildlife - 3 points
MURDOCH: S2-internal

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

ENV241 Ecology - 3 points
MURDOCH: S2-internal, S2-external

BIO393 Tropical Marine Biology - 3 points
MURDOCH:
W-internal (quota of 40 places) (closed as the offering has reached
capacity)

Biomedical Science Major

BSC200 Research in the Physical and Life Sciences - 3 points
Not available this year

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

BIO282 Molecular Biology - 3 points
MURDOCH: S1-internal

BIO394 Genetic Engineering - 3 points
MURDOCH: S1-internal

BIO367 Forensic Toxicology - 3 points
MURDOCH: S2-internal

BIO246 Microbiology - 3 points

MURDOCH: S1-internal

BMS218 Haematology - 3 points
MURDOCH:
S2-internal (quota of 80 places) (closed)

BMS323 Clinical Biochemistry I - 3 points
MURDOCH:
S2-internal (quota of 25 places)

BMS316 Parasitology: People, Pets and Wildlife - 3 points
MURDOCH: S2-internal

BMS317 Human Pharmacology - 3 points
MURDOCH: S1-internal

Clinical Laboratory Science Major

BSC200 Research in the Physical and Life Sciences - 3 points
Not available this year

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

BIO394 Genetic Engineering - 3 points
MURDOCH: S1-internal

BIO367 Forensic Toxicology - 3 points
MURDOCH: S2-internal

BIO246 Microbiology - 3 points
MURDOCH: S1-internal

BIO388 Forensic Science and Miscarriages of Justice - 3 points
MURDOCH: W-internal

BMS317 Human Pharmacology - 3 points
MURDOCH: S1-internal

Forensic Biology and Toxicology Major

BSC200 Research in the Physical and Life Sciences - 3 points
Not available this year

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

BIO388 Forensic Science and Miscarriages of Justice - 3 points
MURDOCH: W-internal

BIO394 Genetic Engineering - 3 points
MURDOCH: S1-internal

BMS218 Haematology - 3 points
MURDOCH:
S2-internal (quota of 80 places) (closed)

BMS323 Clinical Biochemistry I - 3 points
MURDOCH:
S2-internal (quota of 25 places)

BMS317 Human Pharmacology - 3 points
MURDOCH: S1-internal

Genetics and Molecular Biology Major

MAS223 Applied Statistics - 3 points
MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
MURDOCH: S1-internal, S1-external

BIO388 Forensic Science and Miscarriages of Justice - 3 points
MURDOCH: W-internal

BMS211 Medical Immunology and Molecular Genetics - 3 points
MURDOCH: S2-internal

BMS327 Diagnostic Genomics - 3 points
 MURDOCH:
 S2-internal (quota of 25 places)

BIO367 Forensic Toxicology - 3 points
 MURDOCH: S2-internal

BIO359 Forensic DNA Analysis - 3 points
 MURDOCH: S1-internal

BMS218 Haematology - 3 points
 MURDOCH:
 S2-internal (quota of 80 places) (closed)

BMS323 Clinical Biochemistry I - 3 points
 MURDOCH:
 S2-internal (quota of 25 places)

BMS317 Human Pharmacology - 3 points
 MURDOCH: S1-internal

Chemistry Major

MAS221 Mathematical Modelling - 3 points
 MURDOCH: S2-internal, S2-external

CHE309 Advanced Projects in Chemistry and Mineral Science - 3
 points
 MURDOCH: S1-internal, S2-internal, SUM-internal

BSC304 Innovation and Ethics in Science - 3 points
 MURDOCH: S1-internal, S1-external

Physics and Nanotechnology Major

MAS223 Applied Statistics - 3 points
 MURDOCH: S2-internal, S2-external

MAS222 Probability and Statistical Inference - 3 points
 MURDOCH: S1-internal, S1-external

ICT289 Computer Graphics Principles and Programming - 3 points
 MURDOCH: S1-internal, S1-external

ICT283 Data Structures and Abstractions - 3 points
 MURDOCH: S1-internal, S1-external

ENG297 Circuits and Systems II - 3 points
 MURDOCH: S1-internal

ENG207 Principles of Electronic Instrumentation - 3 points
 MURDOCH: S2-internal, W-internal

ICT319 Intelligent Systems - 3 points
 MURDOCH: S2-internal, S2-external

MAS221 Mathematical Modelling - 3 points
 MURDOCH: S2-internal, S2-external

MAS351 Environmental and Biological Modelling - 3 points
 MURDOCH: S1-internal, S1-external

MAS354 Modelling and Simulation - 3 points
 MURDOCH: S2-internal, S2-external

BSC304 Innovation and Ethics in Science - 3 points
 MURDOCH: S1-internal, S1-external

Mathematics and Statistics Major

MAS220 Mathematical Methods - 3 points
 MURDOCH: S1-internal, S1-external

MAS222 Probability and Statistical Inference - 3 points
 MURDOCH: S1-internal, S1-external

ICT283 Data Structures and Abstractions - 3 points
 MURDOCH: S1-internal, S1-external

MAS351 Environmental and Biological Modelling - 3 points
 MURDOCH: S1-internal, S1-external

MAS352 Time Series Analysis - 3 points
 MURDOCH: S1-internal, S1-external

ICT373 Software Architectures - 3 points
 MURDOCH: S1-internal, S1-external

ICT374 Operating Systems and Systems Programming - 3 points
 MURDOCH: S2-internal, S2-external

Engineering Technology Major

MAS221 Mathematical Modelling - 3 points
 MURDOCH: S2-internal, S2-external

The following unit is no longer available - contact the Academic
 Chair for advice:

BEN200 Scientific Method in Engineering - 3 points

MAS223 Applied Statistics - 3 points
 MURDOCH: S2-internal, S2-external

BEN300 Innovation and Ethics in Engineering - 3 points
 MURDOCH: S1-internal

BSC304 Innovation and Ethics in Science - 3 points
 MURDOCH: S1-internal, S1-external

MAS351 Environmental and Biological Modelling - 3 points
 MURDOCH: S1-internal, S1-external

MAS354 Modelling and Simulation - 3 points
 MURDOCH: S2-internal, S2-external

ENG336 Engineering Finance, Management and Law - 3 points
 MURDOCH: S2-internal

Mineral Science Major

ENG255 Chemical Process Kinetics - 3 points
 MURDOCH: S1-internal, S1-external

MAS221 Mathematical Modelling - 3 points
 MURDOCH: S2-internal, S2-external

The following unit is no longer available - contact the Academic
 Chair for advice:

BEN200 Scientific Method in Engineering - 3 points

ENG299 Control Systems and Process Dynamics - 3 points
 MURDOCH: S2-internal

BEN300 Innovation and Ethics in Engineering - 3 points
 MURDOCH: S1-internal

MAS351 Environmental and Biological Modelling - 3 points
 MURDOCH: S1-internal, S1-external

MAS354 Modelling and Simulation - 3 points
 MURDOCH: S2-internal, S2-external

ENG336 Engineering Finance, Management and Law - 3 points
 MURDOCH: S2-internal

Marine Biology Major

BSC200 Research in the Physical and Life Sciences - 3 points
 Not available this year

ENV303 GIS for Environmental Management and Planning - 3
 points
 MURDOCH:
 S2-internal (quota of 70 places), S2-external (quota of 20
 places)

BIO246 Microbiology - 3 points
 MURDOCH: S1-internal

BMS316 Parasitology: People, Pets and Wildlife - 3 points
 MURDOCH: S2-internal

MAS223 Applied Statistics - 3 points
 MURDOCH: S2-internal, S2-external

MAS224 Biostatistical Methods - 3 points
 MURDOCH: S1-internal, S1-external

BIO282 Molecular Biology - 3 points
MURDOCH: S1-internal

PREREQUISITES

Advanced Projects in Chemistry and Mineral Science (CHE309)

Students need to have completed a minimum of 24 points at 200 and 300 level.

Advanced Quantitative Research Methods (BSC302)

BSC201 Psychology: Measurement, Design and Analysis OR PSY212: Psychology: Measurement, Design and Analysis.

Animal Diversity (BIO244)

BIO103 Introduction to Environmental Biology/Environmental Biology or BIO180 Introduction to Marine Biology

Applied Mathematics (MAS182)

MAS164 Fundamentals of Mathematics OR at least a pass in the Year 11 course Introduction to Calculus together with a final scaled score of 55% or more in TEE Applicable Mathematics OR a final scaled score of 55% or higher in ATAR Mathematics Methods (WACE Mathematics 3C/3D).

Applied Statistics (MAS223)

MAS183 Statistical Data Analysis.

Atmospheric Science (ENV242)

Nil.

Australian Biodiversity (BIO257)

Nil.

Biochemistry (BIO247)

BIO152 Cell Biology/Foundations of Cell and Molecular Biology/Foundations of Cell Biology

Biostatistical Methods (MAS224)

MAS180 Introduction to Statistics or MAS183 Statistical Data Analysis.

Building Blocks for Science Students (BSC100)

Enrolment in a Bachelor of Science, Bachelor of Animal Science, Bachelor of Environmental Management, Bachelor of Environmental Science, Bachelor of Extractive Metallurgy, Bachelor of Forensics, Bachelor of Information Technology Management, Bachelor of Marine Science, Bachelor of Sports Science, Bachelor of Technology in Engineering Technology, Bachelor of Sustainability, Bachelor Of Sport And Exercise Science, Bachelor of Sport and Exercise Science + Psychology (BSPortExSc, BSc) or Bachelor Of Sport And Exercise Science/Graduate Diploma In Clinical Exercise Physiology, B1355 Bachelor of Laws / Bachelor of Science (Psychology)

Chemical Analysis (CHE207)

CHE144 Foundations of Chemistry/PEC144 Chemical Principles.

Chemical Process Kinetics (ENG255)

All Part I units in the Chemical and Metallurgical Engineering Honours major.

Circuits and Systems II (ENG297)

ENG125 Circuits and Systems I AND MAS182 Applied Mathematics or equivalent.

Clinical Biochemistry I (BMS323)

BIO247 Biochemistry

Coastal and Marine Management (ENV333)

CHE144 Foundations of Chemistry/PEC144 Chemical Principles, ENV242/ENV213 Atmospheric Science, ENV244/ENV282 Oceanography and Marine Pollution and BIO384 Marine and Estuarine Biology/BIO377 Marine Ecology

Computer Graphics Principles and Programming (ICT289)

ICT167 Principles of Computer Science OR ICT104 Principles of Computer Science. Students are encouraged to also complete

MAS162 Foundations of Discrete Mathematics AND ICT170 Foundations of Computer Systems.

Control Systems and Process Dynamics (ENG299)

PEC152/PEN152 Principles of Physics; MAS161 Calculus and Matrix Algebra or co-requisite MAS208 Mathematical Modelling; ENG109 Computing for Scientists and Engineers; ENG192 Energy, Mass and Flow or CHE144 Foundations of Chemistry.

Creative Ways to Work with Community (COD302)

Nil.

Data Structures and Abstractions (ICT283)

ICT167/ICT104 Principles of Computer Science. Students are encouraged to also complete MAS162 Foundations of Discrete Mathematics AND ICT170 Foundations of Computer Systems.

Diagnostic Genomics (BMS327)

BIO282 Molecular Biology

Ecology (ENV241)

BIO103 Environmental Biology/Introduction to Environmental Biology or BIO180 Introduction to Marine Biology.

Economics of Sustainability (SUS305)

Nil.

Engineering Finance, Management and Law (ENG336)

Nil.

Environmental Policy and Law (ENV328)

Nil.

Environmental Restoration (ENV334)

BIO103 Environmental Biology/Introduction to Environmental Biology. Students are strongly recommended to complete ENV268/ENV241 Ecology.

Environmental and Biological Modelling (MAS351)

MAS221/MAS208 Mathematical Modelling OR MAS220/MAS261 Mathematical Methods.

Forensic DNA Analysis (BIO359)

BIO202 Molecular Biology I or BIO212 Genetic Engineering or BIO282 Molecular Biology

Forensic Science and Miscarriages of Justice (BIO388)

PEC103/CHE103 Introduction to Forensic Science OR CRM100 Introduction to Criminology OR permission of the Unit Co-ordinator.

Forensic Toxicology (BIO367)

Successful completion of, or concurrent enrolment in, either BIO247/BIO270 Biochemistry/Biochemistry I or BMS261/VET272 Human and Comparative Biochemistry/Comparative Mammalian Biochemistry.

Foundations of Chemistry (CHE144)

A thorough knowledge of Chemistry ATAR is assumed. Students who did not achieve a final scaled score of 50 percent or more in Chemistry ATAR within the three years immediately preceding this enrolment are required to pass CHE140 Fundamentals of Chemistry before enrolling in this unit.

Foundations of Communication (COM103)

Nil.

Foundations of the Environment (ENV102)

Nil.

Fundamentals of Chemistry (CHE140)

Knowledge of chemistry to the level of Year 10 (fourth year of WA secondary school) or equivalent and reasonable grounding in basic mathematics are assumed.

Fundamentals of Mathematics (MAS164)

Nil.

GIS for Environmental Management and Planning (ENV303)

Completion of 24 points or enrolment in an appropriate graduate

qualification.

Genetic Engineering (BIO394)

BIO282 Molecular Biology

Haematology (BMS218)

BIO152 Cell Biology/Foundations of Cell and Molecular Biology/Foundations of Cell Biology.

Human Pharmacology (BMS317)

Essential: BIO247 Biochemistry or BMS206 Biomedical Physiology OR VET272 Comparative Mammalian Biochemistry.
Recommended: BRD202 Drugs in Society

Innovation and Ethics in Engineering (BEN300)

BEN200 Engineering Research Skills; MAS261/MAS220 Mathematical Methods OR MAS208/MAS221 Mathematical Modelling.

Innovation and Ethics in Science (BSC304)

Completion of one 200-level research skills unit recommended for your major.

Intelligent Systems (ICT319)

ICT167 Principles of Computer Science OR ICT104 Principles of Computer Science.

Introduction to Marine Biology (BIO180)

Nil.

Introduction to Research Methodology and Evidence Based Practice (BSC206)

100-level Transition Unit.

Managing Wetlands and Water (ENV332)

ENV241/ENV268 Ecology

Marine Botany (BIO254)

BIO103 Environmental Biology/Introduction to Environmental Biology or BIO180 Introduction to Marine Biology.

Marine Ecology (BIO377)

BIO261/BIO244 Animal Diversity/Animal Speciation, Radiation, Evolution, or BIO287 Plant Diversity (Marine Science) / BIO254 Marine Botany or BIO265/BIO245 Plant Diversity/Plant Evolution, Radiation and Adaptation, or ENV268/ENV241 Ecology.

Mathematical Methods (MAS220)

MAS161 Calculus and Matrix Algebra OR MAS208/MAS221 Mathematical Modelling OR equivalent.

Mathematical Modelling (MAS221)

MAS182 Applied Mathematics or MAS161 Calculus and Matrix Algebra or equivalent.

Medical Immunology and Molecular Genetics (BMS211)

BIO152 Cell Biology/ Foundations of Cell and Molecular Biology.

Microbiology (BIO246)

BIO152 Cell Biology/Foundations of Cell and Molecular Biology/Foundations of Cell Biology

Modelling and Simulation (MAS354)

MAS161 Calculus and Matrix Algebra OR MAS221/MAS208 Mathematical Modelling OR both MAS182 Applied Mathematics AND MAS167 Computational Mathematics/MAS162 Foundations of Discrete Mathematics

Molecular Biology (BIO282)

BIO152 Cell Biology/Foundations of Cell and Molecular Biology/Foundations of Cell Biology

Oceanography and Marine Pollution (ENV244)

BIO103 Environmental Biology/Introduction to Environmental Biology or BIO180 Introduction to Marine Biology;
ENV213/ENV242 Atmospheric Science; and PEC144 Chemical Principles/CHE144 Foundations of Chemistry.

Operating Systems and Systems Programming (ICT374)

ICT283/ICT209 Data Structures and Abstractions.

Parasitology: People, Pets and Wildlife (BMS316)

BIO152 Cell Biology/Foundations of Cell and Molecular Biology/Foundations of Cell Biology

Principles of Electronic Instrumentation (ENG207)

ENG125 Circuits and Systems I and MAS182 Applied Mathematics.

Probability and Statistical Inference (MAS222)

MAS180 Introduction to Statistics OR MAS183 Statistical Data Analysis OR MAS223 Applied Statistics OR MAS224/MAS230 Biostatistical Methods OR MAS284 Applied Statistics and Process Management. In addition, students must have a calculus background equivalent to at least MAS182 Applied Mathematics.

Psychology: Measurement, Design and Analysis (BSC201)

PSY173 Introduction to Psychological Research Methods

Research and Evidence Based Practice (BSC306)

Completion of BSC206 Introduction to Research Methodology and Evidence Based Practice or special permission of Unit Coordinator.

Research in the Physical and Life Sciences (BSC200)

BSC100 Building Blocks for Science Students; OR enrolment in B1329 Bachelor of Education/Bachelor of Science and BED100 Ideas in Education.

Software Architectures (ICT373)

ICT104 Principles of Computer Science OR ICT167 Principles of Computer Science; ICT231 Systems Analysis and Design OR ICT284 Systems Analysis and Design.

Statistical Data Analysis (MAS183)

Nil.

Statistical Design and Data Analysis (MAS353)

MAS222/MAS278 Probability and Statistical Inference OR MAS223 Applied Statistics OR MAS224/MAS230 Biostatistical Methods OR MAS284 Applied Statistics and Process Management.

Time Series Analysis (MAS352)

MAS222/MAS278 Probability and Statistical Inference OR MAS223 Applied Statistics OR MAS224/MAS230 Biostatistical Methods OR MAS284 Applied Statistics and Process Management or enrolment in a postgraduate IT course. In addition students must have a calculus background equivalent to at least either MAS161 Calculus and Matrix Algebra OR MAS221/MAS208 Mathematical Modelling.

Tropical Marine Biology (BIO393)

BIO261/BIO244 Animal Diversity/Animal Speciation, Radiation, Evolution OR BIO265/BIO245 Plant Diversity/Plant Evolution, Radiation and Adaptation OR BIO287/BIO254 Plant Diversity (Marine Science) /Marine Botany OR ENV268/ENV241 Ecology OR permission of the Unit Coordinator.

Water Conservation and Auditing (ENG341)

Nil.

What is Science? (BSC150)

Nil.

Personal Study Plan

Unit Sets:

Year	Semester 1	Semester 2
1		
2		
3		
4		