

Handbook 2020

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
Environmental Science	Environmental Science (BSc)	<ul style="list-style-type: none"> • Murdoch campus (internal) • Murdoch campus (external)

ENVIRONMENTAL SCIENCE

ENVIRONMENTAL SCIENCE (BSC)

Environmental Science

Availability:

- Murdoch campus (internal)
Murdoch campus (external)

Excluded Minors:

Ecosystem 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.

Course Codes: B1317 B1317A

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 WACE Chemistry 3A/3C and Mathematics 2C/2D.

Recommended Double Majors:

Conservation and Wildlife Biology; Environmental Management and Sustainability; Marine Science

Special Requirements:

This course can be completed internally or externally. External students will be required to attend classes on-campus for some units.

Employment Prospects:

Environmental Science graduates have a wide range of employment opportunities in the areas of climate change, restoration, natural resource management and development, environmental education, policy and planning in consulting firms, government or industry both in Australia and overseas. Employment opportunities are likely to be enhanced for graduates who continue into either Research Honours or the Graduate Certificate in Environmental Assessment and Management or Graduate Certificate or Diploma in Environmental Science.

Recommended Minors:

Environmental Issues; Marine Biology; Resource Management; Waste and Water Management

Environmental Science is a multidisciplinary field that seeks to understand the interrelationships between air, land, water, plants, animals and human society. This understanding is essential to develop successful management strategies and address the challenges arising from interactions between humans and their environment. You will develop capacity in scientific method, knowledge, and problem solving which will enable you to identify and resolve current and future environmental issues. This major emphasises hands-on experience through field work, laboratory and research training, and policy and management.

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

Bachelor of Science (BSc) in Environmental Science

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.

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

MSP100 Career Learning: Managing Your Career - 3 points
MURDOCH: S1-external, S2-external

Core Units - 15 credit points

BIO103 Environmental Biology - 3 points
MURDOCH: S1-internal, S1-external

CHE140 Fundamentals 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

CHE144 Foundations of Chemistry - 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 - 9 credit points

ENV242 Atmospheric Science - 3 points

MURDOCH: S1-internal, S1-external

ENV241 Ecology - 3 points

MURDOCH: S2-internal, S2-external

ENV243 Water and Earth Science - 3 points

MURDOCH: S1-internal, S1-external

General Electives - 9 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 - 9 credit points

ENV328 Environmental Policy and Law - 3 points

MURDOCH: S1-internal, S1-external

ENV331 Environmental Management - 3 points

MURDOCH: S2-internal, S2-external

ENV332 Managing Wetlands and Water - 3 points

MURDOCH: S2-internal, S2-external

General Electives - 9 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)

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)

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)

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)

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)

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)

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)

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: S1-internal (quota of 30 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)

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: S2-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: S2-internal, S2-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: S1-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.

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 (B SportExSc, BSc) or Bachelor Of Sport And Exercise Science/Graduate Diploma In Clinical Exercise Physiology, B1355 Bachelor of Laws / Bachelor of Science (Psychology)

Career Learning: Managing Your Career (MSP100)

Nil.

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)

ENG225 Circuits and Systems I AND MAS182 Applied Mathematics or equivalent.

Clinical Biochemistry I (BMS323)

BIO247 Biochemistry

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 Biology (BIO103)

Nil.

Environmental Management (ENV331)

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 or CHE207 Chemical Analysis..

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.

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 Research Methodology and Evidence Based Practice (BSC206)

100-level Transition Unit.

Managing Wetlands and Water (ENV332)

ENV241/ENV268 Ecology

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

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)

ENG225 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.

Water and Earth Science (ENV243)

Nil.

Personal Study Plan

Unit Sets:

Year	Semester 1	Semester 2
1		
2		
3		
4		