

## BACHELOR OF SCIENCE—DEGREE PLANNER 2007

(NB: The plans presented below are designed for full-time candidates)

Credit Points Required = 144 as follows:

**Group 1:** at least 36 cp and not more than 60 cp; at least 24 cp must be from Group 1a (including at least one unit from MATH 101, 102, 110 or STAT 100); no more than 12 cp may be completed from Group 1c

**Group 2:** at least 24 cp, with not more than 24 cp in any one subject; at least 12 cp from Group 2a

**Group 3:** at least 36 cp

You have three options for completing requirements for the BSc:

1. Design your own program of study, which does not have to include completing a major, based on your interests and intended career; or
2. Design your own program of study to include a major, which will be specified on your testamur and transcript of academic record, by designing a program which will enable you to complete 24 cp from Group 3 in a subject, for example, GEOL or CHEM or BOTY or ZOOL, etc.; or
3. Complete one of the prescribed course work programs listed below - the program completed will be specified on your testamur and transcript of academic record.

NB: Students may complete two majors but cannot complete a major and a prescribed course work program.

In the first instance, you should contact the Faculty Office (email: [ppurvis@une.edu.au](mailto:ppurvis@une.edu.au) or telephone: 02 6773 3106) in relation to any questions about your planned program of study

With the approval of the Faculty, other units offered by the University may be substituted for one or more of the approved units listed below.

Before planning your unit choices please refer to the Schedule of Units.

### Approved Units:

#### Group 1

*Group 1a:* BIOL 110, 120; BIOP 111, 112; CHEM 110 or 110A, 120 or 120A; GEOL 110, 120; MATH 101 or 101A, 102 or 102A, 110; PHYS 121 or 121A, 122 or 122A; STAT 100.

*Group 1b:* ABAR 103; AMTH 140, 142; ARPA 102; COMP 131 or 131A, 132 or 132A; GEOL 102; GEPL 111, 112; PSYC 101, 102.

*Group 1c:* CHEM 123; MATH 123; PHIL 101, 102; PHYS 123; RSNR 110, 120; SOCY 321.

#### Group 2

*Group 2a:* AGRO 211; AMTH 246, 247; ANUT 221; AQUA 200; ASTY 221; BCHM 210 or 210A, 220 or 220A; BOTY 211 or 211A, 241, 260, 270; CHEM 201 or 201A, 202 or 202A, 203, 204 or 204A; COMP 280, 282, 283, 284 or 284A, 285, 286, 287, 290; ECOL 202, 210, 220; EM 234; EVOL 211; GENE 210 or 210A; GEOL 201, 202, 205, 206, 207; MICR 220 or 220A; PHAR 222; PHYS 204 or 204A, 211, 212; PMTH 212 or 212A, 213 or 213A; PSIO 210 or 210A, 220 or 220A; SOIL 220; STAT 200, 260, 261; ZOOL 210, 220, 230.

*Group 2b:* ABAR 343; ARPA 326, 361; GEAR 200; GEPL 311, 314, 322; PESS 202; PHIL 330; PSYC 200, 201, 204, 206; WORK 300.

#### Group 3

ABAR 383; AGRO 311, 321, 422; AQUA 300; ARPA 326, 336, 356, 359, 361, 391; BCHM 310 or 310A, 320, 330 or 330A; BIOL 301 or 301A, 302 or 302A; BIOP 320; BOTY 341, 355 or 355A, 360, 370; CHEM 302 or 302A, 303 or 303A, 305 or 305A, 306 or 306A, 307 or 307A; COMP 309, 311, 315, 318, 319, 320, 322, 323, 389 or 389A, 395; ECOL 311, 307; EM 331, 351, 423, 432, 433, 452, 453, 454; ENVE 352, 361; EVOL 311; GENE 322, 335, 340 or 340A, 351; GEOL 303, 304, 305, 306, 307, 308; GEPL 316, 324, 341; HORT 420; HUMN 340; MICR 350, 360 or 360A; MSM 301, 302, 303, 304, 305, 306, 307, 308; PHYS 301 or 301A, 302, 304 or 304A, 305, 311 or 311A; PMTH 332 or 332A, 333 or 333A, 335 or 335A, 336, 338, 339; PSIO 321 or 321A, 322, 323 or 323A, 324 or 324A, 325; PSYC 302, 304, 313, 314, 316, 321, 363, 366; SCI 395; SOIL 310; STAT 300, 354, 356, 357; ZOOL 321, 326, 327, 328.

Use the following template to design your own program of study - you may include a major if you wish but this is not compulsory.

(The Examples of Enrolment Programs for the Bachelor of Science section in your 2007 Faculty of The Sciences Undergraduate Courses booklet contains information on suggested programs of study which you may find useful in designing your program.)

<b>FIRST YEAR</b>	<i>At least 24 cp from Group 1a (including at least one unit from MATH 101, 102, 110 or STAT 100) with no more than 12 cp from Group 1c and no more than 60 cp from Group 1</i>
<b>Semester One</b>	Unit 1:
	Unit 2:
	Unit 3:
	Unit 4:
<b>Semester Two</b>	Unit 1:
	Unit 2:
	Unit 3:
	Unit 4:
<b>SECOND YEAR</b>	<i>At least 24 cp from Group 2 with not more than 24 cp in any one subject; at least 12 cp from Group 2a</i>
<b>Semester One</b>	Unit 1:
	Unit 2:
	Unit 3:
	Unit 4:
<b>Semester Two</b>	Unit 1:
	Unit 2:
	Unit 3:
	Unit 4:
<b>THIRD YEAR</b>	<i>At least 36 cp from Group 3 (NB: in order to have a Major specified on your testamur and transcript of academic record 24 cp must be completed in a subject, eg, GEOL or CHEM or BOTY or ZOOL, etc.)</i>
<b>Semester One</b>	Unit 1:
	Unit 2:
	Unit 3:
	Unit 4:
<b>Semester Two</b>	Unit 1:
	Unit 2:
	Unit 3:
	Unit 4:

## Prescribed Coursework Programs

### Archaeological Science

(consult the Course Coordinator for Science for advice on structuring this program)

FIRST YEAR	Core Units
	ABAR 103 Aboriginal Archaeology ARPA 102 Human Evolution BIOL 110 Biology I BIOL 120 Biology II CHEM 110 General Chemistry I CHEM 120 General Chemistry II GEOL 110 Geology and the Environment I STAT 100 Statistical Modelling in the Sciences I
SECOND YEAR	Core Units
	ABAR 383 Archaeology of Stone Artefacts ARPA 326 Palaeoanthropology ECOL 210 Principles of Ecology EM 234 Introduction to GIS EVOL 211 Evolution and Biogeography GEOL 202 Introductory Palaeontology
	<b>Elective Units: Choose two from:</b>
	BCHM 210 Introductory Molecular Biology and Biochemistry I CHEM 203 Environmental and Analytical Chemistry CHEM 204 Biological and Organic Chemistry GENE 210 Introductory Genetics GEOL 206 Field Mapping and Sedimentology SOIL 220 Introduction to Soil Science or other relevant units as approved by the Course Coordinator
THIRD YEAR	Core Units
	ARPA 336 Forensic Anthropology ARPA 356 Methods and Problems in Archaeology ARPA 359 Computer Analysis in Archaeology EM 433 Spatial Analysis and Modelling
	<b>Elective Units: Choose four from:</b>
	ARPA 391 Special Option BCHM 330 Molecular Biology (DNA Technology) CHEM 302 Organic Structure and Reactivity CHEM 303 Biological Organic Chemistry GENE 322 Evolutionary and Conservation Genetics GEPL 341 Topics in Geomorphology SCI 395 Science Report WORK 300 Professional Skills Development <b>or other relevant units as approved by the Course Coordinator</b>

## Biomedical Science

FIRST YEAR	Core Units	
<b>Semester One</b>	BIOL 110	Biology I
	CHEM 110	General Chemistry I
	PSYC 101	Introductory Psychology I <b>or</b>
	BIOP 111	Biophysics I
	MATH 110	Introductory Mathematical Methods <b>or</b>
	STAT 100	Statistical Modelling in the Sciences I
<b>Semester Two</b>	BIOL 120	Biology II
	CHEM 120	General Chemistry II
	PSYC 102	Introductory Psychology II <b>or</b>
	BIOP 112	Biophysics II
	PHIL 101	Bioethics <b>or</b>
	STAT 100	Statistical Modelling in the Sciences I
SECOND YEAR	Core Units	
<b>Semester One</b>	BCHM 210	Introductory Molecular Biology and Biochemistry I
	PSIO 210	Introductory Physiology I
<b>Semester Two</b>	BCHM 220	Introductory Biochemistry II
	MICR 220	Introductory Microbiology
	PSIO 220	Introductory Physiology II
<b>Semesters One &amp; Two</b>	<b>plus three units chosen from those listed under Electives</b>	
THIRD YEAR	Core Units	
<b>Semester One</b>	HUMN 340	Issues in Human Nutrition II
	MICR 350	Clinical Microbiology and Virology
<b>Semester Two</b>	BCHM 320	Clinical Biochemistry and Molecular Medicine
<b>Semesters One &amp; Two</b>	<b>At least one unit from:</b> PSIO 321 Blood, Cardiovascular and Respiratory Physiology PSIO 322 Neuroscience: Exploring the Brain PSIO 323 Endocrinology and Reproductive Physiology PSIO 324 Gastrointestinal and Renal Physiology PSIO 325 Special Topics in Physiology <b>plus four units chosen from those listed under Electives</b>	
SECOND & THIRD YEAR	<b>Elective Units: Seven, of which at least two must be at 300-level, chosen from:</b>	
<b>Semesters One &amp; Two</b>	BCHM 310	PSYC 102
	BCHM 330	PSYC 200
	BIOP 111	PSYC 201
	BIOP 112	PSYC 204
	BIOP 320	PSYC 206
	CHEM 204	PSYC 302
	CHEM 303	PSYC 304
	GENE 210	PSYC 313
	GENE 340	PSYC 314
	MATH 110	PSYC 316
	MICR 360	PSYC 321
	PHAR 222	PSYC 363
	PHIL 101	PSYC 366
	PSIO 321	SCI 395
	PSIO 322	SOCY 321
	PSIO 323	STAT 100
	PSIO 324	STAT 200
	PSIO 325	WORK 300
	PSYC 101	

## Biosystematics

(consult the Course Coordinator for Science for advice on structuring this program)

<b>FIRST YEAR</b>	<p>BIOL 110    Biology I BIOL 120    Biology II CHEM 110    General Chemistry I CHEM 120    General Chemistry II GEOL 102    Introductory Palaeontology MATH 101    Algebra and Differential Calculus <b>or</b> MATH 110    Introductory Mathematical Methods MATH 102    Integral Calculus, Differential Equations and Introductory Statistics <b>or</b> STAT 100    Statistical Modelling in the Sciences I</p> <p><b>plus one unit from</b> BIOP 111    Biophysics I GEOL 110    Geology and the Environment I PHIL 102    Critical and Creative Reasoning</p>
<b>SECOND YEAR</b>	<p>BCHM 210    Introductory Molecular Biology and Biochemistry I BOTY 211    Plant Taxonomy ECOL 210    Principles of Ecology EVOL 211*    Evolution and Biogeography GENE 210    Introductory Genetics</p> <p><b>plus one unit from</b> ZOO 210    Invertebrate Zoology ZOO 220    Entomology ZOO 230    Vertebrate Zoology</p> <p><b>plus two units from</b> BOTY 241    Fungi and Flowerless Plants ZOO 210    Invertebrate Zoology ZOO 220    Entomology ZOO 230    Vertebrate Zoology</p> <p><i>* can be completed in either Second or Third Year</i></p>
<b>THIRD YEAR</b>	<p>BCHM 330    Molecular Biology (DNA Technology) BIOL 301    Systematics I BIOL302    Systematics II EVOL 311*    Evolution and Biogeography GENE 322    Evolutionary and Conservation Genetics SCI 395    Science Report</p> <p><b>plus two units from</b> BOTY units ECOL units ZOO units WORK 300    Professional Skills Development</p> <p><i>* can be completed in either Second or Third Year</i></p>

## Ecology

FIRST YEAR	Core Units
<b>Semester One</b>	BIOL 110 Biology I BIOP 111 Biophysics I <b>or</b> GEOL 110 Geology and the Environment I CHEM 110 General Chemistry I MATH 101 Algebra and Differential Calculus <b>or</b> MATH 110 Introductory Mathematical Methods
<b>Semester Two</b>	BIOL 120 Biology II BIOP 112 Biophysics II <b>or</b> GEOL 120 Geology and the Environment II CHEM 120 General Chemistry II MATH 102 Integral Calculus, Differential Equations and Introductory Statistics <b>or</b> STAT 100 Statistical Modelling in the Sciences I
SECOND YEAR	Core Units
<b>Semester One</b>	BOTY 211 Plant Taxonomy ECOL 210 Principles of Ecology STAT 200 Statistical Modelling in the Sciences II
<b>Semester Two</b>	ECOL 202 Aquatic Ecology ECOL 220 Australasian Terrestrial Ecology
<b>Semesters One &amp; Two</b>	ZOOL 210 Invertebrate Zoology <b>or</b> ZOOL 220 Entomology <b>or</b> ZOOL 230 Vertebrate Zoology <b>plus two units from</b> BCHM 210 Introductory Molecular Biology and Biochemistry I BOTY 241 Fungi and Flowerless Plants CHEM 203 Environmental and Analytical Chemistry EVOL 211 Evolution and Biogeography GENE 210 Introductory Genetics SOIL 220 Introduction to Soil Science ZOOL 210 Invertebrate Zoology ZOOL 220 Entomology ZOOL 230 Vertebrate Zoology
THIRD YEAR	Core Units
<b>Semesters One &amp; Two</b>	ECOL 311 Ecology of Australian Vegetation <b>or</b> ECOL 307 Ecology of Plant Populations <b>plus six units from</b> ECOL 311 Ecology of Australian Vegetation <b>or</b> ECOL 307 Ecology of Plant Populations EM 331 Ecology of Plant Populations EM 452 Forestry and Agroforestry EM 453 Biological Conservation EM 454 Limnology MSM 306 Sustainable Use of the Marine Environment SCI 395 Science Report WORK 300 Professional Skills Development ZOOL 327 Ecological and Comparative Physiology

## Horticultural Science

<b>FIRST YEAR</b>	<b>Core Units</b>
<b>Semester One</b>	BIOL 110 Biology I CHEM 110 General Chemistry I MATH 110 Introductory Mathematical Methods
<b>Semester Two</b>	BIOL 120 Biology II CHEM 120 General Chemistry II STAT 100 Statistical Modelling in the Sciences I
<b>Semesters One &amp; Two</b>	<b>choose two units from</b>
	BIOP 111 Biophysics I BIOP 112 Biophysics II RSNR 110 Agriculture, Natural Resources and the Environment RSNR 120 Sustainable Resource Use and Environmental Management
<b>SECOND YEAR</b>	<b>Core Units</b>
<b>Semester One</b>	BCHM 210 Introductory Molecular Biology and Biochemistry I BOTY 211 Plant Taxonomy GENE 210 Introductory Genetics
<b>Semester Two</b>	SOIL 220 Introduction to Soil Science ZOO 220 Entomology
<b>Semesters One &amp; Two</b>	<b>choose three units from</b>
	AGRO 211 Ecology and Adaptation of Agricultural Plants BCHM 220 Introductory Biochemistry II BOTY 241 Fungi and Flowerless Plants ECOL 210 Principles of Ecology ECOL 220 Australasian Terrestrial Ecology MICR 220 Introductory Microbiology STAT 200 Statistical Modelling in the Sciences I
<b>THIRD YEAR</b>	<b>Core Units</b>
<b>Semester One</b>	AGRO 311 Plant Protection BOTY 370 Fungi, Plants and the Environment HORT 420 Horticulture and Viticulture
<b>Semesters One &amp; Two</b>	<b>choose five units from</b>
	AGRO 321 Crop and Pasture Management for Sustainable Agriculture AGRO 422 Integrated Weed Management BCHM 330 Molecular Biology (DNA Technology) ECOL 311 Ecology of Australian Vegetation <b>or</b> ECOL 307 Ecology of Plant Populations EM 452 Forestry and Agroforestry SOIL 310 Environmental Soil Science SCI 395 Science Report WORK 300 Professional Skills Development

## Marine Science and Management

FIRST YEAR	Core Units
<b>Semester One</b>	BIOL 110 Biology I CHEM 110 General Chemistry I MATH 101 Algebra and Differential Calculus <b>or</b> MATH 110 Introductory Mathematical Methods
<b>Semester Two</b>	BIOL 120 Biology II CHEM 120 General Chemistry II MATH 102 Integral Calculus, Differential Equations and Introductory Statistics <b>or</b> STAT 100 Statistical Modelling in the Sciences I
<b>Semesters One &amp; Two</b>	<b>choose two units from</b> GEOL 110 Geology and the Environment I GEOL 120 Geology and the Environment II GEPL 111 Earth in Crisis? GEPL 112 Australia: Sustainable Development? <b>or two units from Group 1</b>
SECOND YEAR	Core Units
<b>Semester One</b>	ECOL 210 Principles of Ecology ZOO 210 Invertebrate Zoology
<b>Semester Two</b>	AQUA 200 Aquaculture ECOL 202 Aquatic Ecology ZOO 230 Vertebrate Zoology
<b>Semesters One &amp; Two</b>	<b>choose three units from</b> BCHM 210 Introductory Molecular Biology and Biochemistry I CHEM 203 Environmental and Analytical Chemistry EM 234 Introduction to GIS EVOL 211 Evolution and Biogeography GENE 210 Introductory Genetics GEOL 205 Environmental Geology GEPL 311 Coasts and Catchment MICR 220 Introductory Genetics STAT 200 Statistical Modelling in the Sciences II ZOO 220 Entomology
THIRD YEAR	Core Units
<b>Semesters One &amp; Two</b>	<b>choose six units from</b> MSM 301 Successful Sampling MSM 302 Sampling and Survey Design MSM 303 Science for Management of the Marine Environment MSM 304 Marine Communities as Sentinels of Change MSM 305 Global Climate and Ocean Systems MSM 306 Sustainable Use of the Marine Environment MSM 307 Pollution of the Marine Environment MSM 308 Coral Reefs on the Edge <b>plus two units, other than MSM units, and including WORK 300 to be approved by the Course Coordinator.</b>

## Molecular Biotechnology

<b>FIRST YEAR</b>	<b>Core Units</b>
<b>Semester One</b>	BIOL 110 Biology I CHEM 110 General Chemistry I STAT 100* Statistical Modelling in the Sciences I
<b>Semester Two</b>	BIOL 120 Biology II CHEM 120 General Chemistry II STAT 100* Statistical Modelling in the Sciences I <i>*can be completed in either Semester One or Semester Two</i>
<b>Semesters One &amp; Two</b>	<b>three units to be chosen from</b>
	BIOP 111 Biophysics I BIOP 112 Biophysics II <i>and other Group 1 units</i>
<b>SECOND YEAR</b>	<b>Core Units</b>
<b>Semester One</b>	BCHM 210 Introductory Molecular Biology and Biochemistry I GENE 210 Introductory Genetics
<b>Semester Two</b>	BCHM 220 Introductory Biochemistry II MICR 220 Introductory Microbiology
<b>Semesters One &amp; Two</b>	<b>plus four units from</b>
	BOTY units CHEM units PSIO units ZOOI units EVOL 211 Evolution and Biogeography
<b>THIRD YEAR</b>	<b>Core Units</b>
<b>Semester One</b>	BCHM 310 Proteins - The Machines of Life BCHM 330 Molecular Biology (DNA Technology) MICR 350 Clinical Microbiology and Virology
<b>Semester Two</b>	BCHM 320 Clinical Biochemistry and Molecular Medicine GENE 340 Molecular Genetics and Developmental Biology MICR 360 Biotechnology and Industrial Microbiology
<b>Semesters One &amp; Two</b>	<b>plus two units from</b>
	BOTY units CHEM units GENE units PSIO units ZOOI units BIOL 301 Biosystematics I BIOL 302 Biosystematics II HORT 420 Horticulture and Viticulture SCI 395 Science Report WORK 300 Professional Skills Development