Bachelor of Science (Advanced)

Note: These rules should be read in conjunction with Academic Program Rules parts 1, 2, and 3 of the Bachelor of Science.

These Program Rules should be read in conjunction with the University's policies (http://www.adelaide.edu.au/policies).

1 Academic Progress

A candidate must maintain the prescribed level of performance for progression from each of Levels I, II, and III. Any candidate who fails to maintain a minimum cumulative GPA of 5.00 or greater (based on the first attempt result for each course) may be required to transfer into the Bachelor of Science program. Candidates in this position will be written to in December of the year concerned to show cause. The letter will outline the show cause procedures.

2 Qualification requirements

2.1 To qualify for the degree a candidate shall pass courses to the value of 72 units which satisfy the following requirements:

a a candidate shall present passes in Level I courses to the value of not more than 30 units

b a candidate shall present passes in Level III courses to the value of at least 24 units

c a candidate shall complete a major in a science discipline as set out in 2.3.3 below, and may complete an additional major in accordance with Academic Program Rule 4.4 in the Bachelor of Science.

In all cases, a candidate may substitute an appropriate course chosen from Level II to fulfil the requirements of Level I, or from Level III to fulfil the requirements of Level I or II.

2.3 Academic program

2.3.1 Level I Sciences

Level I courses, which shall include:

i passes in core course

Semester 1

SCIENCE 1100 Principles and Practice of Science I 3

ii passes in level I courses to the value of 9 units chosen from:

Semester 1

BIOLOGY 1101 Biology I: Molecules, Genes & Cells 3
CHEM 1100 Chemistry IA 3
CHEM 1101 Foundations of Chemistry IA 3
GEOLOGY 1103 Earth Systems I 3
MATHS 1011 Mathematics IA 3
MATHS 1013 Mathematics IMA 3
PHYSICS 1008 Physical Aspects of Nature I 3
PHYSICS 1100 Physics IA 3
PHYSICS 1101 Physics for the Life & Earth Sciences IA 3

iii passes in level I courses to the minimum value of 9 units chosen from:

Semester 2

BIOLOGY 1201 Biology I: Human Perspectives* 3
BIOLOGY 1202 Biology I: Organisms* 3
CHEM 1200 Chemistry IB 3
CHEM 1201 Foundations of Chemistry IB 3
GEOLOGY 1100 Earth's Interior I 3
MATHS 1011 Mathematics IA 3
MATHS 1012 Mathematics IB 3
PHYSICS 1200 Physics IB 3
PHYSICS 1201 Physics for the Life & Earth Sciences IB 3

*Only one of BIOLOGY 1201 Biology I: Human Perspectives and BIOLOGY 1202 Biology I: Organisms may be presented towards the B.Sc (Advanced).

** Students who successfully complete CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB and who wish to continue their study of Chemistry at Level II will be required to undertake an additional course, CHEM 1300 Foundations of Chemistry IS during Summer School (offered for the first time in 2013) before commencing Level II Chemistry studies.

iv if required, passes in additional level I course to the value of 3 units chosen from:

Semester 2

ENV BIOL 1002 Ecological Issues I 3
STATS 1000 Statistical Practice I 3
STATS 1004 Statistical Practice (Life Sciences) I 3
PHYSICS 1002 Astronomy I 3

or

courses selected in accordance with Academic Program Rule 4.2 of the Bachelor of Science.

2.3.2 Level II Science

i passes in core course

Semester 1

SCIENCE 2100 Principles and Practice of Research II 3

ii passes in level II courses to the minimum value of 6 units chosen from:

Semester 1

BIOCHEM 2500 Biochemistry II: Molecular and Cell Biology 3
CHEM 2510 Chemistry IIA 3
ENV BIOL 2500 Botany II 3
ENV BIOL 2503 Zoology II 3
GENETICS 2510 Genetics IIA: Foundation of Genetics 3
GEOLOGY 2500 Sedimentary Geology II 3
GEOLOGY 2501 Structural Geology II 3
MICRO 2500 Microbiology II 3
PHYSICS 2510 Physics IIA 3
SOIL&WAT 2500WT Soil & Water Resources II 3
SOIL&WAT 2501 Spatial Information and Land Evaluation II 3
MATHS 2101 Multivariable & Complex Calculus ^ 3
MATHS 2102 Differential Equations ^ 3

iii passes in level II courses to the minimum value of 6 units chosen from:

Semester 2

BIOCHEM 2501 Biochemistry II: Metabolism 3
CHEM 2520 Chemistry IIB 3
ENV BIOL 2501 Evolutionary Biology II 3
ENV BIOL 2502 Ecology II 3
GENETICS 2520 Genetics IIB: Function & Diversity of Genomes 3
GEOLOGY 2502 Igneous and Metamorphic Geology II 3
GEOLOGY 2503 Landscape Processes and Environments II 3
MICRO 2501 Immunology & Virology II 3
PHYSICS 2520 Physics IIB 3
PHYSICS 2530 Astrophysics II 3
PHYSICS 2532 Classical Physics II 3
PHYSICS 2534 Electromagnetism II 3

^ students enrolling in MATHS 2101 Multivariable & Complex Calculus and MATHS 2102 Differential Equations ^ must choose their additional 6 units from Academic Program 2.3.2ii.

iv If required, passes in additional level II course to the maximum value of 9 units chosen in accordance with Academic Program Rules 4.2, 4.5.3 and 4.5.4 of the Bachelor of Science.

2.3.3 Level III Science

Level III courses which shall include:

i pass in core course:

SCIENCE 3100 Principles and Practice of Research (Advanced) III 3

ii passes in core courses in a Science discipline major to a minimum value of 9 units:

For a major in Biochemistry

BIOCHEM 3000 Molecular & Structural Biology III 6

BIOCHEM 3001 Cancer, Stem Cells & Developmental Biology III 6

For a major in Botany

ENV BIOL 3006 Research Methods in Environmental Biology 3

and at least two of:

ENV BIOL 3002 Australian Biota: Past, Present and Future III 3

ENV BIOL 3009 Ecophysiology of Plants III 3

PLANT SC 3500WT Soil & Plant Nutrition III 3

For a major in Chemistry

CHEM 3111 Chemistry III 6

and at least two of the following Chemistry courses:

CHEM 3211 Heterocyclic Chemistry & Molecular Devices III 3

CHEM 3212 Materials Chemistry III 3

CHEM 3213 Advanced Synthetic Methods III 3

CHEM 3214 Medicinal & Biological Chemistry III 3

CHEM 3530 Environmental & Analytical Chemistry III 3

CHEM 3540 Research Methods in Chemistry III 3

For a Double major in Chemistry

CHEM 3111 Chemistry III 6

and at least four of the following Chemistry courses:

CHEM 3213 Advanced Synthetic Methods III 3

CHEM 3211 Heterocyclic Chemistry & Molecular Devices III 3

CHEM 3212 Materials Chemistry III 3

CHEM 3214 Medicinal & Biological Chemistry III 3

CHEM 3530 Environmental & Analytical Chemistry III 3

CHEM 3540 Research Methods in Chemistry III 3

For a major in Ecology

ENV BIOL 3121 Concepts in Ecology III 3

ENV BIOL 3006 Research Methods in Environmental Biology III 3

and at least two of:

ENV BIOL 3004 Freshwater Ecology III 3

ENV BIOL 3008 Conservation & Restoration III 3

ENV BIOL 3010 Marine Ecology III 3

SOIL&WAT 3016WT Soil Ecology and Nutrient Cycling III 3

For a double major in Ecology and Spatial Science

SOIL&WAT 3007WT GIS for Environmental Management 3

ENV BIOL 3121 Concepts in Ecology III 3

ENV BIOL 30006 Research Methods in Environmental Biology III 3

SOIL&WAT 3010 Remote Sensing III 3

and at least two of the following:

ENV BIOL 3004 Freshwater Ecology III 3

ENV BIOL 3008 Conservation & Restoration III 3

ENV BIOL 3010 Marine Ecology III 3

SOIL&WAT 3016WT Soil Ecology and Nutrient Cycling III 3

For a major in Geology

GEOLOGY 3013 Tectonics III 3

GEOLOGY 3016 Igneous & Metamorphic Geology III 3

GEOLOGY 3019 Field Geoscience Program III 3

GEOLOGY 3504 Basins, Sediments & Regoliths III 3

For a major in Geophysics and Applied Geology

GEOLOGY 3008 Geophysics III 3

GEOLOGY 3500 Exploration Methods III 3

GEOLOGY 3502 Mineral and Energy Resources III 3

SOIL&WAT 3010 Remote Sensing III 3

or

SOIL&WAT 3007WT GIS for Environmental Management 3

For a major in Genetics

GENETICS 3111 Genes, Genomes & Molecular Evolution III 6

GENETICS 3211 Genetic Expression & Human and Developmental Genetics III 6

For a major in Microbiology and Immunology

MICRO 3000 Infection and Immunity IIIA 6

MICRO 3001 Infection and Immunity IIIB 6

For a major in Physics

PHYSICS 3002 Experimental Physics III 3

PHYSICS 3542 Physics III 6

and another Level III Physics course.

For a major in Experimental and Theoretical Physics

Courses to the value of at least 18 units, which include:

PHYSICS 3002 Experimental Physics III 3

and

PHYSICS 3542 Physics III 6

and at least one of

PHYSICS 3006 Advanced Dynamics and Relativity III 3

or

PHYSICS 3544 Quantum Mechanics III 3

Together with additional Physics courses as required:

PHYSICS 3532 Atmospheric & Astrophysics III 3

PHYSICS 3534 Computational Physics III 3

PHYSICS 3540 Optics & Photonics III 3

For a major in Theoretical Physics

PHYSICS 3542 Physics III 6

and

PHYSICS 3006 Advanced Dynamics and Relativity III 3

or

PHYSICS 3544 Quantum Mechanics III 3

and another Level III Physics course.

For a major in Soil Science

Courses to the value of 12 units, which include:

SOIL&WAT 3016WT Soil Ecology & Nutrient Cycling III 3

SOIL&WAT 3017WT Soil & Water: Management & Conservation 3

and two of the following courses:

GEOLOGY 3504 Basins, Sediments & Regoliths 3

PLANT SC 3500WT Soil and Plant Nutrition III 3

SOIL&WAT 3004WT Environmental Toxicology & Remediation 3

For a major in Zoology

ENV BIOL 3006 Research Methods in Environmental Biology III 3

ENV BIOL 3011 Evolution & Biodiversity of Insects III 3

ENV BIOL 3003 Ecophysiology of Animals III 3

ENV BIOL 3122 Evolution & Palaeobiology III 3

ii passes in additional level III courses chosen in accordance with Academic Program Rules 4.5.5 and 4.5.6 of the Bachelor of Science.

2.4 Unacceptable combinations of courses

No candidate will be permitted to count towards an award any course, together with any other course, which, in the opinion of the Faculty, contains a substantial amount of the same material, and no course or portion of a course may be counted twice towards an award.

Note: A list of unacceptable combinations of courses is available from the Faculty of Sciences.

Notes (not forming part of the Academic Program Rules)

1 Work required to complete an Adelaide degree program (policy of the Faculty of Sciences)

a Graduates in another Faculty who wish to qualify for the degree of Bachelor of Science (Advanced) and to count towards that degree courses that have already been presented for another degree may do so, provided that the courses presented fulfil the requirements of 2.1 and 2.2 above, and include a major in a science discipline and Level III courses to the value of at least 24 units that have not been presented for any other degree.

b Students coming from other institutions and wishing to obtain a University of Adelaide degree, are required as a minimum to complete Level III courses from 2.2.3 with an aggregate units value of 24 including a major in a science discipline.

c With the special permission of the Faculty, a student who has completed most of the degree at the University of Adelaide including Level III courses with an aggregate value of 12 units and a major in a science discipline may be permitted to complete the requirements for the degree at another institution. All applications must be made in writing to the Faculty.

2 No candidate may present the same course towards more than one major.

3 Under certain circumstances, and only with prior approval from the Faculty, courses to the value of not more than 6 units selected from the following list may be presented towards the degree of Bachelor of Science in lieu of Level III courses in 2.3.3ii:

AGRONOMY 3026RW Ecology & Management of Rangelands (MY)* 3

PATHOL 3003 General Pathology IIIHS 6

PLANT SC 3030AEX/BEX Integrated Weed Management.....3

Student wishing to present any of these courses towards the B.Sc. must apply in writing to the Faculty Office prior to enrolling in these courses.

*(MY) - taught in the mid-year break