Science First Year Course Guide

First year science course list

Course	Title	Semester 1	Semester 2
ASTR1001	Astrophysics	*	*
BIAN1001	The Human Voyage: Introduction to Biological Anthropology		*
BIOL1003	Biology 1: Evolution, Ecology and Genetics	*	
BIOL1004	Biology 2: Molecular and Cell Biology [1]		*
BIOL1008	Human Biology	*	
BIOL1009	Diversity of Life		*
CHEM1101	Chemistry 1 [2]	*	
CHEM1201	Chemistry 2		*
COMP1100	Programming as Problem Solving	*	*
COMP1110	Structured Programming	*	*
COMP1130	Programming as Problem Solving (Advanced)	*	
COMP1140	Structured Programming (Advanced)		*
COMP1600	Foundations of Computing (formerly COMP2600)		*
COMP1710	Web Development and Design		*

Course	Title	Semester 1	Semester 2
COMP1720	Art and Interaction in New Media		*
COMP1730	Programming for Scientists	*	*
EMSC1006	The Blue Planet: An Introduction to Earth System Science	*	
EMSC1008	EARTH: The Chemistry and Physics of our Planet		*
ENGN1217	Introduction to Mechanics		*
ENGN1218	Introduction to Electronics		*
ENVS1001	Environment and Society: Geography of Sustainability	*	
ENVS1003	Introduction to Environmental and Social Research	*	
ENVS1004	Australia's Environment		*
ENVS1008	Sustainable Development		*
HLTH1001	Health in the 21st Century	*	
HLTH1002	Research Methods in the Health Sciences		*
MATH1003	Algebra and Calculus Methods [3]	*	

1 Students should note that BIOL1004, together with CHEM1101 and CHEM1201, are prerequisites for many later-year courses offered by the Research School of Biology.

2 To enrol in the course, you must have completed either years 11 and 12 (or equivalent) chemistry at School or College or a Chemistry Bridging Course

3 To enrol in the course, you must have completed ACT Mathematical Methods or NSW HSC Mathematics or equivalent.

Course	Title	Semester 1	Semester 2
MATH1013	Mathematics and Applications 1 [4]	*	*
MATH1014	Mathematics and Applications 2	*	*
MATH1042	Philosophy of the Cosmos	*	
MATH1113	Mathematical Foundations for Actuarial Studies		*
MATH1115	Advanced Mathematics and Applications 1 [5]	*	
MATH1116	Advanced Mathematics and Applications 2		*
PHIL1005	Logic and Critical Thinking		*
PHYS1001	Foundations of Physics	*	
PHYS1004	Life Physics		*

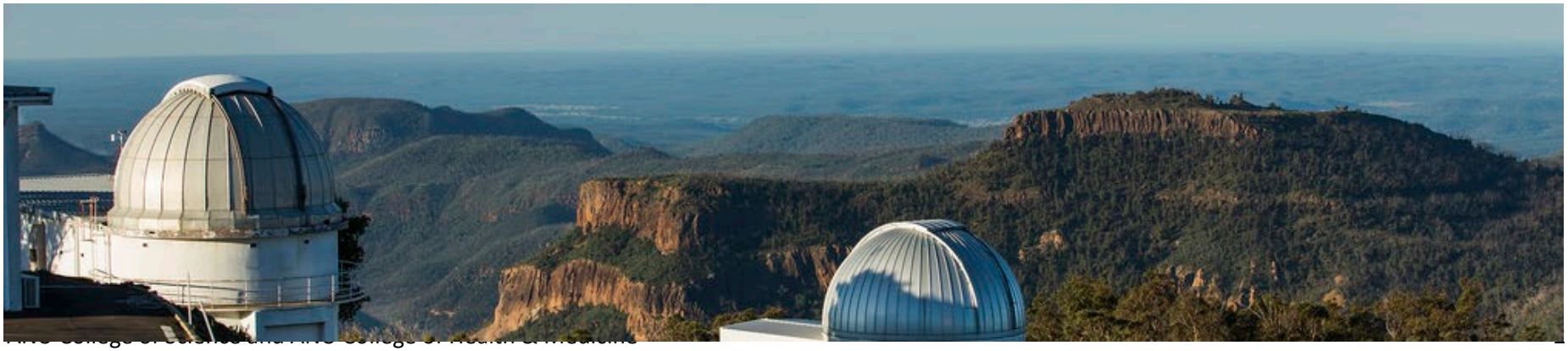
Course	Title	Semester 1	Semester 2
PHYS1101	Physics I [6]	*	*
PHYS1201	Physics 2		*
PSYC1003	Psychology 1: Understanding Mind, Brain and Behaviour	*	
PSYC1004	Psychology 2: Understanding People in Context		*
PSYC1005	The Wellbeing Formula: The Science and Practice of Making a Good Life		*
SCOM1001	Science Communication 1: Science and Public Awareness	*	
SCOM1002	Science Communication 2: Scientific Evidence and Social Change		*
STAT1003	Statistical Techniques	*	
STAT1008	Quantitative Research Methods	*	*

4 To enrol in the course, you must have completed a satisfactory result in ACT Specialist Mathematics Major-Minor or NSW HSC Mathematics Extension 1 or equivalent. Students with a good pass in ACT Specialist Mathematics Major or NSW HSC Mathematics or equivalent will be considered. Students with a level of mathematics equivalent to ACT Mathematical Methods should enrol in the bridging course MATH1003.

5 To enrol in the course, you must have completed a satisfactory pass in the ACT Specialist Mathematics double major, NSW HSC Mathematics Extension 2 or equivalent. Students with excellent results in either the ACT Specialist Mathematics major-minor, NSW HSC Mathematics Extension 1, or equivalent, may be permitted to enrol.

6 To enrol in this course, you must have successfully completed or be currently studying MATH1013 or MATH1115.

Please note this list should be used as a guide only. Course delivery may vary from year to year. See **programsandcourses.anu.edu.au** for up to date information.



Science majors and compulsory courses for first year

Science Majors	Semester 1		Semester 2	
	Compulsory Courses	**Other Courses to Consider** (depending on later-year course selection)	**Compulsory Courses**	**Other Courses to Consider** (depending on later-year course selection)
Agricultural Innovation		ENVS1003		ENVS1004
Astronomy and Astrophysics	PHYS1101 **(S1S2)**, MATH1013 **(S1S2)** or MATH1115	STAT1003	PHYS1201, MATH1014 **(S1S2)** or MATH1116	COMP1730 **(S1S2)**
Biochemistry	CHEM1101	BIOL1003	BIOL1004, CHEM1201	
Biodiversity Conservation	ENVS1003 or BIOL1003		ENVS1004 or BIOL1009	
Biological Anthropology	BIOL1003 or BIOL1008 or ANTH1002* or ARCH1111* or ANTH1003* **(S2)** or ARCH1112* **(S2)**	CHEM1101, PSYC1003	BIAN1001	BIOL1004, CHEM1201, PSYC1004
Cell & Molecular Biology	BIOL1003, CHEM1101	PSYC1003	BIOL1004, CHEM1201	PSYC1004
Chemistry	CHEM1101		CHEM1201	BIOL1004
Climate Science	EMSC1006 MATH1003 or MATH1013 **(S1S2)**, or MATH1115 CHEM1101 or PHYS1001 or PHYS1101 **(S1S2)**			
Computer Science	COMP1100 **(S1S2)** or COMP1130 or COMP1730 **(S1S2)**, Any 1000 level MATH course		COMP1600, COMP1140 or COMP1110 **(S1S2)**	
Earth Science	CHEM1101 or PHYS1101 **(S1S2)** or PHYS1001, MATH1003 or MATH1013 **(S1S2)** or MATH1115	EMSC1006	EMSC1008	
Environmental Science	EMSC1006, ENVS1003	EMSC1008 or BIOL1003 or BIOL1009 or any 1000 level CHEM, MATH, PHYS or SCOM course	ENVS1004	
Evolution, Ecology and Organismal Biology	BIOL1003	CHEM1101, PSYC1003	BIOL1004, BIOL1009	CHEM1201, PSYC1004
Geography	ENVS1001, ENVS1003			ENVS1004 or ENVS1008 or EMSC1006 **(S1)**
Human Biology	BIOL1003, CHEM1101	BIOL1008	BIOL1004	CHEM1201
Human Evolutionary Biology	BIOL1003	BIOL1008, CHEM1101	BIAN1001	BIOL1004, BIOL1009, CHEM1201

(S1): Course only available in Semester 1 **(S2):** Course only available in Semester 2 **(S1S2):** Course available in Semester 1 & 2

* Will not count as Science Courses

Science Majors	**Semester 1**		**Semester 2**	
	Compulsory Courses	**Other Courses to Consider** (depending on later-year course selection)	**Compulsory Courses**	**Other Courses to Consider** (depending on later-year course selection)
Mathematical Economics	MATH1115, STAT1003 or STAT1008 **(S1S2)**		MATH1116, ECON1101 **(S1S2)**, ECON1102 **(S1S2)**	
Mathematical Finance	MATH1115 or MATH1113 **(S2)** STAT1003 or STAT1008 **(S1S2)**		MATH1116 or MATH1014 **(S1S2)**, FINM1001 **(S1S2)**	
Mathematical Modelling	MATH1013 **(S1S2)** or MATH1115 or MATH1113 **(S2)**, STAT1003 or STAT1008 **(S1S2)**, COMP1100 **(S1S2)** or COMP1130 or COMP1730 **(S1S2)**		MATH1014 **(S1S2)** or MATH1116	
Mathematics	MATH1013 **(S1S2)** or MATH1115		MATH1014 **(S1S2)** or MATH1116	
Physics	MATH1013 **(S1S2)** or MATH1115, PHYS1101 **(S1S2)**		MATH1014 **(S1S2)** or MATH1116, PHYS1201	
Psychology	PSYC1003		PSYC1004	
Quantitative Biology	MATH1013 **(S1S2)** or MATH1115, STAT1003 or STAT1008 **(S1S2)**, BIOL1003		MATH1014 **(S1S2)** or MATH1116	BIOL1004, COMP1730 **(S1S2)**
Quantitative Environmental Modelling	MATH1013 **(S1S2)** or MATH1115		MATH1014 **(S1S2)** or MATH1116	
Resource and Environmental Management	ENVS1003		ENVS1004	
Science Communication	SCOM1001		SCOM1002	
Statistics	MATH1013 **(S1S2)** or MATH1115, STAT1003 or STAT1008 **(S1S2)**		MATH1014 **(S1S2)** or MATH1116 or MATH1113	
Sustainability Studies	ENVS1001, ENVS1003		ENVS1008	
Water Science	EMSC1006, CHEM1101 or PHYS1001 or PHYS1101 **(S1S2)** or MATH1003 or MATH1013 **(S1S2)** or MATH1115			CHEM1201, MATH1014 **(S1S2),** MATH1113, EMSC1008

(S1): Course only available in Semester 1 **(S2):** Course only available in Semester 2 **(S1S2):** Course available in Semester 1 & 2

* Will not count as Science Courses

Science minors and specialisations

Minors

Abnormal Psychology Minor
Applied Statistics Minor
Biodiversity Conservation and Management Minor
Biological Anthropology Minor
Biological Neuropsychology Minor
Biology Minor
Chemistry Minor
Climate Science and Policy Minor
Cognitive Psychology Minor
Computer Science Minor
Developmental Psychology Minor
Earth and Marine Science Minor
Environmental Policy Minor
Forest Science and Policy Minor
Foundational Science Minor
Geography Minor
Human Ecology Minor
Mathematics Minor
Philosophy and Science Minor
Physics Minor
Science Communication Minor
Social Psychology Minor
Soil and Land Management Minor
Sustainable Development Minor
Water Science and Policy Minor

Specialisation and co-requisites majors

Specialisations must be linked to a co-requisite major

Specialisations	Co-requisite major(s)
Advanced Chemistry Specialisation	Chemistry
Advanced Mathematics Specialisation	Mathematics or Mathematical Economics or Mathematical Finance or Mathematical Modelling or Quantitative Biology
Advanced Physics Specialisation	Physics or Theoretical Physics
Advanced Quantitative Biology and Bioinformatics Specialisation	Quantitative Biology
Astronomy and Astrophysics Specialisation	Mathematics or Physics
Biochemistry Specialisation	Cell and Molecular Biology or Chemistry or Human Biology
Biomedical Science Specialisation	Biochemistry or Cell and Molecular Biology or Human Biology
Earth Physics Specialisation	Physics
Environmental Geology Specialisation	Earth Science or Marine Science
Evolution and Ecology Specialisation	Evolution, Ecology and Organismal Biology

Specialisations	Co-requisite major(s)
Genetics Specialisation	Biochemistry or Cell and Molecular Biology or Evolution, Ecology and Organismal Biology or Human Biology
Geochemistry and Petrology Specialisation	Earth Science or Marine Science
Geophysics and Geology Specialisation	Earth Science
Mathematical Physics Specialisation	Mathematics or Physics
Microbiology and Immunology Specialisation	Biochemistry or Cell and Molecular Biology or Evolution, Ecology and Organismal Biology or Human Biology
Neuroscience and Physiology Specialisation	Biochemistry or Cell & Molecular Biology or Human Biology or Psychology
Optics Specialisation	Physics
Plant Science Specialisation	Cell & Molecular Biology or Biochemistry or Evolution, Ecology and Organismal Biology
Professional Science Engagement Specialisation	Science Communication
Psychology Specialisation	Psychology

Compulsory or recommended first-year courses for named degrees

(Please check specific requirements of your degree on **programsandcourses.anu.edu.au**)

Bachelor of Biotechnology and Bachelor of Medical Science	
Semester 1	BIOL1003, CHEM1101
Semester 2	BIOL1004, CHEM1201

Bachelor of Environment and Sustainability OR Bachelor of Environment and Sustainability Advanced (Honours)	
Environmental Science Major	
Semester 1	EMSC1006, ENVS1003
Semester 2	ENVS1004
Quantitative Environmental Modelling Major	
Semester 1	MATH1013 or MATH1115
Semester 2	MATH1014 or MATH1116
Resource and Environmental Management Major	
Semester 1	ENVS1003
Semester 2	ENVS1004
Sustainability Studies Major	
Semester 1	ENVS1001, ENVS1003
Semester 2	ENVS1008

Bachelor of Genetics	
Semester 1	BIOL1003, CHEM1101
Semester 2	BIOL1004, CHEM1201

Please note that in a **single degree**, a **maximum of 60 units** (10 courses) may come from completion of **1000-level courses**.

Bachelor of Health Science	
Applications of Health stream	
Semester 1	HLTH1001, BIOL1008
Semester 2	HLTH1002, BIOL1004
Pre-Medicine stream	
Semester 1	HLTH1001, BIOL1008, CHEM1101
Semester 2	HLTH1002, BIOL1004, CHEM1201

Bachelor of Mathematical Sciences	
Semester 1	MATH1115
Semester 2	MATH1116

Bachelor of Science (Psychology) OR Bachelor of Psychology (Honours)	
Semester 1	PSYC1003
Semester 2	PSYC1004