Approved Science Electives

Approved Science Electives

Approved Level I Science Electives

Subject Area & Catalogue Number	Course Name	Units	Availability			
			SS	S1	WS	S2
BIOLOGY 1101	Biology I: Molecules, Genes and Cells	3		✓		
BIOLOGY 1201	Biology I: Human Perspectives	3				✓
BIOLOGY 1202	Biology I: Organisms	3				✓
COMP SCI 1102	Object Oriented Programming	3		✓		✓
CHEM 1100	Chemistry IA	3		✓		
CHEM 1101	Foundations of Chemistry IA	3		✓		
CHEM 1200	Chemistry IB	3				✓
CHEM 1201	Foundations of Chemistry IB	3				✓
~~CHEM 1310~~	~~Chemistry IA(S)~~	Not available in 2024				
CHEM 1311	Chemistry IB(S)	3	✓			
CHEM 1312	Foundations of Chemistry IS	3	✓			
ENG 1002	Programming (Matlab and C)	3		✓		✓
ENV BIOL 1002	Ecological Issues I	3				✓
FOOD SC 1001WT	Nutrition I	3		✓		
GEOLOGY 1100	Planet Earth	3				✓
GEOLOGY 1103	Building a Habitable Planet	3		✓		
GEOLOGY 1300	Extra-Terrestrial Geoscience	3			✓	
MATHS 1011	Mathematics IA	3		✓		✓
MATHS 1012	Mathematics IB	3	✓	✓		✓
MATHS 1013	Mathematics IM	3		✓		✓
PHYSICS 1002	Astronomy I	3		✓		
PHYSICS 1008	Physical Aspects of Nature I	3		✓		
PHYSICS 1100	Physics IA	3	✓	✓		
PHYSICS 1101	Physics for the Life and Earth Sciences IA	3		✓		
PHYSICS 1200	Physics IB	3				✓
PHYSICS 1201	Physics for the Life and Earth Sciences IB	3				✓
SCIENCE 1500	Introductory Data Science - Becoming Smart About Data	3		✓		✓
STATS 1000	Statistical Practice I	3		✓		✓
STATS 1005	Statistical Analysis and Modelling I	3				✓

Approved Level II Science Electives

Subject Area & Catalogue Number	Course Name	Units	Availability			
			SS	S1	WS	S2
~~APP MTH 2105~~	~~Optimisation and Operations Research II~~	Not available in 2024				
BIOCHEM 2500	Biochemistry II: Molecular and Cell Biology	3		✓		
BIOCHEM 2501	Biochemistry II: Metabolism	3				✓
CHEM 2530	Environmental & Analytical Chemistry II	3		✓		
CHEM 2540	Medicinal & Biological Chemistry II	3				✓
CHEM 2545	Organic Chemistry II	3		✓		
CHEM 2550	Physical and Inorganic Chemistry II	3				✓
COMP SCI 2000	Computer Systems	3		✓		✓
COMP SCI 2005	Systems Programming	3		✓		
COMP SCI 2103	Algorithm Design & Data Structures	3		✓		✓
COMP SCI 2201	Algorithm & Data Structure Analysis	3		✓		✓
COMP SCI 2203	Problem Solving & Software Development	3				✓
COMP SCI 2207	Web & Database Computing	3		✓		
ENV BIOL 2500	Botany II	3		✓		
ENV BIOL 2501	Evolutionary Biology II	3				✓
ENV BIOL 2502	Ecology II	3				✓
ENV BIOL 2503	Zoology II	3		✓		
ENV BIOL 2510	Plant Identification II	3				✓

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Approved Science Electives

Approved Level II Science Electives (contd.)

Subject Area & Catalogue Number	Course Name	Units	Availability			
			SS	S1	WS	S2
GENETICS 2510	Genetics IIA: Foundation of Genetics	3		✓		
GENETICS 2520	Genetics IIB: Function and Diversity of Genomes	3				✓
GEOLOGY 2500	Sedimentary Geology II	3		✓		
GEOLOGY 2501	Structural Geology II	3		✓		
GEOLOGY 2502	Igneous and Metamorphic Geology II	3				✓
GEOLOGY 2505	Geochemistry II	3				✓
GEOLOGY 2515	Geophysics II	3		✓		
MATHS 2100	Real Analysis II	3				✓
MATHS 2101	Multivariable & Complex Calculus II	3		✓		
MATHS 2102	Differential Equations II	3		✓		
MATHS 2103	Probability & Statistics II	3		✓		
MATHS 2104	Numerical Methods II	3				✓
MICRO 2500	Microbiology II	3		✓		
MICRO 2501	Immunology & Virology II	3				✓
PHYSICS 2510	Quantum Mechanics II	3		✓		
PHYSICS 2520	Solid State Physics & Photonics II	3				✓
PHYSICS 2530	Astrophysics II	3				✓
PHYSICS 2532	Classical Physics II	3				✓
PHYSICS 2534	Electromagnetism II	3				✓
PLANT SC 2510WT	Foundations in Plant Science II	3		✓		
PURE MTH 2106	Algebra II	3		✓		
SCIENCE 2550	International Experience II	3	✓	✓	✓	✓
SOIL&WAT 2500WT	Soil and Water Resources II	3		✓		
STATS 2107	Statistical Modelling and Inference II	3				✓

Approved Level III Science Electives

Subject Area & Catalogue Number	Course Name	Units	Availability			
			SS	S1	WS	S2
APP MTH 3001	Applied Probability III	3		✓		
APP MTH 3002	Fluid Mechanics III	3		✓		
APP MTH 3014	Optimisation III	3		✓		
APP MTH 3016	Random Processes III	3				✓
APP MTH 3021	Modelling with Ordinary Differential Equations III	3		✓		
APP MTH 3023	Partial Differential Equations and Waves III	3				✓
APP MTH 3124	Decision Science III	3				✓
BIOCHEM 3000	Molecular and Structural Biology III	6		✓		
BIOCHEM 3001	Cancer, Stem Cells & Development III	6				✓
BIOCHEM 3004	Molecular and Structural Biology (Theory) III	3		✓		
BIOCHEM 3520	Cancer, Stem Cells and Development (Theory) III	3				✓
BIOINF 3000	Bioinformatics III	3				✓
BIOINF 3010	Genomics Applications III	3		✓		
CHEM 3211	Synthesis of Materials III	3				✓
CHEM 3212	Fundamentals of Materials III	3				✓
CHEM 3213	Advanced Synthetic Methods III	3				✓
CHEM 3214	Medicinal and Biological Chemistry III	3				✓
CHEM 3600	Environmental and Analytical Chemistry III	3		✓		
CHEM 3610	Inorganic Chemistry III	3		✓		
CHEM 3620	Organic Chemistry III	3		✓		
CHEM 3630	Physical Chemistry III	3		✓		
COMP SCI 3001	Computer Networks & Applications	3		✓		
COMP SCI 3004	Operating Systems	3				✓
COMP SCI 3006	Software Engineering & Project	3				✓
COMP SCI 3007	Artificial Intelligence	3		✓		
COMP SCI 3012	Distributed Systems	3				✓

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Approved Level III Science Electives (contd. 1/2)

Subject Area & Catalogue Number	Course Name	Units	Availability			
			SS	S1	WS	S2
COMP SCI 3302	Information Security Professional Practice	Not available in 2024				
COMP SCI 3305	Parallel and Distributed Computing	3		✓		
COMP SCI 3307	Secure Programming	3				✓
COMP SCI 3308	Cybersecurity Fundamentals	3		✓		
COMP SCI 3310	Software Engineering & Project (Artificial Intelligence)	3				✓
COMP SCI 3311	Software Engineering & Project (Data Science)	3				✓
COMP SCI 3312	Software Engineering & Project (Cybersecurity)	3				✓
COMP SCI 3313	Software Engineering & Project (Distributed Systems & Networking)	3				✓
COMP SCI 3314	Introduction to Statistical Machine Learning	3				✓
COMP SCI 3315	Computer Vision	3		✓		
COMP SCI 3316	Evolutionary Computation	3				✓
COMP SCI 3317	Using Machine Learning Tools	3		✓		
ELEC ENG 3088	Computer Architecture	3		✓		
ENV BIOL 3004	Freshwater Ecology III	3		✓		
ENV BIOL 3010	Marine Ecology III	3				✓
ENV BIOL 3121	Concepts in Ecology III	3		✓		
ENV BIOL 3510	Research Methods: Ecology, Marine & Wildlife III	3		✓		
ENV BIOL 3545	Molecular Methods in Ecology and Evolution	3		✓		
ENV BIOL 3560	Evolution of Australian Biota III	3				✓
ENV BIOL 3580	Conservation Biology III	3				✓
ENV BIOL 3590	Evolutionary Biology III	3				✓
GENETICS 3111	Genes, Genomes and Molecular Evolution III	6		✓		
GENETICS 3113	Genes, Genomes and Molecular Evolution (Theory) III	3		✓		
GENETICS 3211	Gene Expression & Human & Developmental Genetics III	6				✓
GENETICS 3520	Gene Expression & Human & Developmental Genetics (Theory) III	3				✓
GEOLOGY 3013	Tectonics III	3		✓		
GEOLOGY 3016	Igneous and Metamorphic Geology III	3		✓		
GEOLOGY 3019	Field Geoscience Program III	3				✓
GEOLOGY 3022	Geophysics IIIA: Potential Fields and Geothermics	3		✓		
GEOLOGY 3023	Geophysics IIIB: Electromagnetics and Seismology	3				✓
GEOLOGY 3505	Earth Systems History III	3				✓
GEOLOGY 3515	Energy Resources III	3		✓		
GEOLOGY 3525	Mineral Resources III	3				✓
MATHS 3012	Financial Modelling: Tools & Techniques III	3				✓
MATHS 3021	Capstone Project in Mathematical Sciences III	3				✓
MATHS 3026	Cryptography III	3				✓
MICRO 3000	Infection & Immunity IIIA	6		✓		
MICRO 3001	Infection and Immunity IIIB	6				✓
MICRO 3007	Infection & Immunity A (Theory) III	3		✓		
MICRO 3520	Infection & Immunity B (Theory) III	3				✓
PALAEO 3000	Field Palaeontology III	3				**T4**
PALAEO 3005	Geochronology, Fossils and Palaeoenvironments III	3		✓		
PHYSICS 3002	Experimental Physics III	3				✓
PHYSICS 3006	Advanced Dynamics and Relativity III	3				✓
PHYSICS 3532	Atmospheric and Astrophysics III	3		✓		
PHYSICS 3534	Computational Physics III	3		✓		
PHYSICS 3540	Optics and Photonics III	3				✓
PHYSICS 3542	Physics III	6		✓		
PHYSICS 3544	Quantum Mechanics III	3				✓
PLANT SC 3200WT	Plant Breeding III	3		✓		
PLANT SC 3505WT	Soil and Plant Nutrition III	3				✓
PLANT SC 3510WT	Plant Health III	3		✓		
PLANT SC 3515WT	Plant Biotechnology III	3				✓
PLANT SC 3530WT	Food Production in a Future Climate III	3				✓
PURE MTH 3002	Topology and Analysis III	3		✓		

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Faculty of Sciences, Engineering and Technology
Approved Science Electives

Subject Area & Catalogue Number	Course Name	Units	Availability			
			SS	S1	WS	S2
PURE MTH 3007	Groups and Rings III	3		✓		
PURE MTH 3009	Integration and Analysis III	3				✓
PURE MTH 3019	Complex Analysis III	3				✓
PURE MTH 3022	Geometry of Surfaces III	Not available in 2024				
PURE MTH 3023	Fields and Modules III	Not available in 2024				
SCIENCE 3200	Communicating Science III	3			✓	
SCIENCE 3500	Science International Study Tour	3	✓	✓	✓	✓
SCIENCE 3510	Science International Study Tour B	3	✓	✓	✓	✓
SCIENCE 3520	Science Experience III	3	✓	✓	✓	✓
SCIENCE 3550	International Experience III	3	✓	✓	✓	✓
SOIL&WAT 3016WT	Soil Ecology and Nutrient Cycling III	3		✓		
SOIL&WAT 3017WT	Soil & Water: Management & Conservation III	3		✓		
SPATIAL 3007WT	GIS for Environmental Management III	3	✓			
SPATIAL 3010	Earth Observation III	3				✓
SPATIAL 3020WT	GIS for Agriculture & Natural Resource III	3			✓	
STATS 3001	Statistical Modelling III	3		✓		
STATS 3006	Mathematical Statistics III	3				✓
STATS 3022	Data Science III	3				✓
STATS 3023	Computational Bayesian Statistics III	3				✓
STEM 3700	STEM Internship	3	✓	✓		✓
STEM 3710	STEM Internship	6	✓	✓		✓