

SCIENCE

Biology Level 2 (12 BIO AX)			Teacher to see: Mr Grace		
This course gives an introduction into different aspects of biology, from DNA to ecosystems. Students learn investigative skills while studying the growth of different food crops. Topics include genetic variation and change, gene expression, animal adaptations and biological investigations.					
Prerequisites: Pass in Science 101 or success in the biology standards in Science 102.					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	Yes
10	8	18		UE approved	Not applicable
Future possibilities: Related careers include conservation, health sciences, molecular science. Transferable skills include essay writing, data collection and interpretation, analyzing, investigating and collecting information.					

Biology Level 2 (12 BIO A)			Teacher to see: Mr Grace		
This course is designed as an introduction to different aspects of biology and leads onto the Level 3 Biology course. It has more internal assessments and has an emphasis on practical and investigative skills. Topics include microscopes, landscapes, genetic variation and animal adaptations.					
Prerequisites: Consultation with your Science teacher from 2022					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	Yes
14	4	18		UE approved	Not applicable
Future possibilities: Related careers include laboratory technician, health sciences, animal health, conservation. Transferable skills include essay writing, data collection, investigation and collecting information.					

Biology Level 3 (13 BIO AX)			Teacher to see: Mr Grace		
This course follows on from Biology 201 and looks at a range of topics in more depth. There is a high literacy demand in this course. Topics include how genetic variation leads to the formation of a new species, researching a socio-scientific issue such as the use of 1080 in New Zealand, human evolution and how animals control their temperature (homeostasis).					
Prerequisites: Pass in Level 2 Biology.					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	Yes
6	13	19		UE approved	Yes
Future possibilities: Transferable skills include essay writing, researching, data collection and interpretation, collecting information and analyzing. Related careers include: conservation, medical sciences, molecular biology, genetics, veterinarian.					

Biology Level 3 (13 BIO AU)			Teacher to see: Mr Grace		
This course is designed for students who need a science to enable them to enter into tertiary courses. Topics include: human physiology, human evolution, practical investigation and research. This course requires all Achievement Standards to be passed in order to be UE approved.					
Prerequisites: Entry is done on a case by case basis in consultation with your 2022 science teacher.					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards, Unit Standards	Course endorsement	Yes
16	4	20		UE approved	Yes
Future possibilities: Transferable skills include essay writing, researching, investigating, collecting and analysing data. Related careers include health, science professions and trades.					

Chemistry Level 2 (12 CHE AX)				Teacher to see: Ms Regan	
This course contains standards on many of the main topics in Chemistry which are studied through to University. It is for a science student who wishes to pursue a career in which Chemistry is a part.					
Prerequisites: SCI101 with an Achieved grade or higher in Acids and Bases.					
Credits			Standards	Cost	None
Internal	External	Total		Course endorsement	Yes
7	13	20		UE approved	Not applicable
Future possibilities: This course leads on to Level 3 chemistry and the practical skill of titrating is useful in laboratory work.					

Chemistry Level 2 (12 CHE A)				Teacher to see: Ms Regan	
This course is for students who will need some chemistry to support their tertiary learning or apprenticeship. Topics include investigations, oxidation-reduction and bonding.					
Prerequisites: Science Level 1					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	Yes
10	5	15		UE approved	Not applicable
Future possibilities: Many of the practical skills learnt in this course will be helpful in jobs out in the real world such as titrating and the identification of ions.					

Chemistry Level 3 (13 CHE AX)			Teacher to see: Ms Regan		
This course leads directly into first year Chemistry at University. The topics covered are the same as in Level 2 Chemistry but with greater depth of knowledge.					
Prerequisites: Chemistry 201 with two externals passed. Must have attempted the Level 2 organics and thermochemical principles exam papers.					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	Yes
9	15	24		UE approved	Yes
Future possibilities: This leads into future studies at University for Science, Health Sciences and Engineering.					

Chemistry Level 3 (13 CHE A)			Teacher to see: Ms Regan		
This course is University approved but is more internal based with just one external. Topics include chemical processes around the world and oxidation/reduction.					
Prerequisites: CHE201/202. Must have attempted one external, preferably thermochemical principles.					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	Yes
9	5	14		UE approved	Yes
Future possibilities: This course will enable students to take Chemistry at a tertiary level.					

Physics Level 2 (12 PHY AX)			Teacher to see: Mrs Holloway		
In this course students study mechanics, electricity and magnetism and nuclear physics. Students also carry out a practical investigation, demonstrating their understanding of variables, data manipulation and graphing.					
Prerequisites: Entry is done on a case-by-case basis and consultation with your science teacher.					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	Yes
7	12	19		UE approved	Not applicable
Future possibilities: Possible careers: Engineering, Medicine, Dentistry, Veterinary Science, Research, Teaching. Transferable skills: Ability to collect and assess data, critical thinking, calculations.					

Physics Level 2 (12 PHY A)			Teacher to see: Mrs Holloway		
This level 2 physics course includes only one external assessment on electricity and magnetism. The rest of the course is made up of internally assessed standards in which students will study atomic and nuclear physics, carry out a physics investigation, and research a real world application of physics concepts. There is a time-dependent Level 3 Earth and Space Science standard available as part of this course. This course is appropriate for students who are part of vocational academies.					
Prerequisites: Entry is done on a case-by-case basis and consultation with your science teacher.					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	Yes
14	6	20		UE approved	Not applicable
Future possibilities: Possible careers: Engineering, building, electrician, plumber and most other trades. Transferable skills: Ability to collect and assess data, critical thinking, calculations.					

Physics Level 3 (13 PHY AX)			Teacher to see: Mrs Holloway		
A study of Mechanics (translational, rotational and simple harmonic motion), Waves, Modern physics and Electrical systems (DC and AC circuits).					
Prerequisites: Entry is done on a case-by-case basis and consultation with your physics teacher. This will include success in the external exams for Level 2 Physics.					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	Yes
7	16	23		UE approved	Yes
Future possibilities: Possible careers: Engineering, auto mechanic, building, electrician, plumber and most other trades. Transferable skills: Ability to collect and assess data, critical thinking, calculations.					

Physics Level 3 (13 PHY A)			Teacher to see: Mrs Holloway		
This course is designed for those students who are not intending to take Physics or Engineering at University. Students study content on waves and modern physics. This course is suitable for students who are part of vocational academies and gives the opportunity to earn 14+ credits including an external assessment.					
Prerequisites: Entry on a case by case basis. This can follow on from Physics 201 or Physics 202. This course could also be suitable for students who are strong in maths, have good literacy skills, and are interested in Physics.					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	Yes
13	4	17		UE approved	Yes
Future possibilities: Possible career: Engineering, auto mechanic, building, electrician, plumber and most other trades. Transferable skills: Ability to collect and assess data, critical thinking, calculations.					

Vocational Science Level 2 (12 SCV A)			Teacher to see: Mr Snitch		
This is a science course for students for whom science is a requirement for future training. Students will cover topics such as learning how to use a microscope, investigating plant growth and investigating an Earth and space issue. This course is assessed entirely internally.					
Prerequisites: Most students in the Service Academy take this course. Please discuss with Mr Snitch whether this course is right for you.					
Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	No
14	0	14		UE approved	Not applicable
Future possibilities: A number of careers in the trades require science to be taken at school.					