

## SCIENCE

<b>Biology 201 (BIO201)</b>			<b>Teacher to see:</b> Ms Monk		
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.					
<b>Prerequisites:</b> Pass in Science 101 or success in the biology standards in Science 102.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>10</b>	<b>8</b>	<b>18</b>		<b>UE approved</b>	Not applicable
<b>Future possibilities:</b> Related careers include conservation, health sciences, molecular science. Transferable skills include essay writing, data collection and interpretation, analyzing, investigating and collecting information.					

<b>Biology 202 (BIO 202)</b>			<b>Teacher to see:</b> Ms Monk		
This course is designed as an introduction to different aspects of biology and leads onto the 302 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.					
<b>Prerequisites:</b> Consultation with your Science teacher from 2022					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>14</b>	<b>4</b>	<b>18</b>		<b>UE approved</b>	Not applicable
<b>Future possibilities:</b> Related careers include laboratory technician, health sciences, animal health, conservation. Transferable skills include essay writing, data collection, investigation and collecting information.					

<b>Biology 301 (BIO 301)</b>			<b>Teacher to see:</b> Ms Monk		
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).					
<b>Prerequisites:</b> Pass in Level 2 Biology.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>10</b>	<b>8</b>	<b>18</b>		<b>UE approved</b>	Yes
<b>Future possibilities:</b> Transferable skills include essay writing, researching, data collection and interpretation, collecting information and analyzing. Related careers include: conservation, medical sciences, molecular biology, genetics, veterinarian.					

<b>Biology 302 (BIO 302)</b>			<b>Teacher to see:</b> Ms Monk		
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.					
<b>Prerequisites:</b> Entry is done on a case by case basis in consultation with your 2022 science teacher.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards, Unit Standards	<b>Course endorsement</b>	Yes
<b>16</b>	<b>4</b>	<b>20</b>		<b>UE approved</b>	Yes
<b>Future possibilities:</b> Transferable skills include essay writing, researching, investigating, collecting and analysing data. Related careers include health, science professions and trades.					

<b>Chemistry 201 (CHE201)</b>			<b>Teacher to see: Mrs Wade</b>		
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.					
<b>Prerequisites:</b> SCI101 with an achieved or higher in Acids and Bases.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>7</b>	<b>13</b>	<b>20</b>		<b>UE approved</b>	Not applicable
<b>Future possibilities:</b> This course leads on to Level 3 chemistry and the practical skill of titrating is useful in laboratory work.					

<b>Chemistry 202 (CHE202)</b>			<b>Teacher to see: Mrs Wade</b>		
This course is for students who will need some chemistry to support their tertiary learning or apprenticeship. Topics include investigations, oxidation-reduction and bonding.					
<b>Prerequisites:</b> SCI101/102					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>10</b>	<b>5</b>	<b>15</b>		<b>UE approved</b>	Not applicable
<b>Future possibilities:</b> 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.					

<b>Chemistry 301 (CHE301)</b>			<b>Teacher to see: Mrs Wade</b>		
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.					
<b>Prerequisites:</b> Chemistry 201 with two externals passed.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>9</b>	<b>15</b>	<b>24</b>		<b>UE approved</b>	Yes
<b>Future possibilities:</b> This leads into future studies at University for Science, Health Sciences and Engineering.					

<b>Chemistry 302 (CHE302)</b>			<b>Teacher to see: Mrs Wade</b>		
This course is University approved but is more internal based with just one external. Topics include chemical processes around the world and oxidation/reduction.					
<b>Prerequisites:</b> CHE201/202					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>9</b>	<b>5</b>	<b>14</b>		<b>UE approved</b>	Yes
<b>Future possibilities:</b> This course will enable students to take Chemistry at a tertiary level.					

<b>Medical Science 101 (MSA101 and MSB101)</b>			<b>Teacher to see: Ms Henry</b>		
This Medical Science course is taken by students in the Medical Science Academy. The Medical Science Academy is for Māori/Pasifika students. Taking two classes of science gives students a broader and more in-depth exposure to science topics needed to pursue a profession in the medical industry. Topics include: genetics, electricity & magnetism, microbes and more. The course also focuses on building the students' Pacific and Māori cultural capabilities.					
<b>Prerequisites:</b> This course is funded by an outside agency to support Pasifika and Māori students into health professions. It is by application only to Miss Henry.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>23</b>	<b>20</b>	<b>43</b>		<b>UE approved</b>	Not applicable
<b>Future possibilities:</b> Health careers such as doctor, nurse, physiotherapy, occupational therapist, dentist and many more.					

<b>Physics 201 (PHY201)</b>			<b>Teacher to see: Mrs Holloway</b>		
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.					
<b>Prerequisites:</b> Entry is done on a case-by-case basis and consultation with your science teacher.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>7</b>	<b>16</b>	<b>23</b>		<b>UE approved</b>	Not applicable
<b>Future possibilities:</b> Possible careers: Engineering, Medicine, Dentistry, Veterinary Science, Research, Teaching. Transferable skills: Ability to collect and assess data, critical thinking, calculations.					

<b>Physics 202 (PHY202)</b>			<b>Teacher to see: Mrs Holloway</b>		
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. This course is appropriate for students who are part of vocational academies.					
<b>Prerequisites:</b> Entry is done on a case-by-case basis and consultation with your 2021 science teacher.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>10</b>	<b>6</b>	<b>16</b>		<b>UE approved</b>	Not applicable
<b>Future possibilities:</b> Possible careers: Engineering, building, electrician, plumber and most other trades. Transferable skills: Ability to collect and assess data, critical thinking, calculations.					

<b>Physics 301 (PHY301)</b>			<b>Teacher to see: Mrs Holloway</b>		
A study of Mechanics (translational, rotational and simple harmonic motion), Waves, Modern physics and Electrical systems (DC and AC circuits).					
<b>Prerequisites:</b> Entry is done on a case-by-case basis and consultation with your 2021 science teacher.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>7</b>	<b>16</b>	<b>23</b>		<b>UE approved</b>	Yes
<b>Future possibilities:</b> Possible careers: Engineering, auto mechanic, building, electrician, plumber and most other trades. Transferable skills: Ability to collect and assess data, critical thinking, calculations.					

<b>Physics 302 (PHY302)</b>			<b>Teacher to see:</b> 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.					
<b>Prerequisites:</b> Have done either Physics 201 or 202.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>13</b>	<b>4</b>	<b>17</b>		<b>UE approved</b>	Yes
<b>Future possibilities:</b> Possible career: Engineering, auto mechanic, building, electrician, plumber and most other trades. Transferable skills: Ability to collect and assess data, critical thinking, calculations.					

<b>Science 101 (SCI101)</b>			<b>Teacher to see:</b> Mr Snitch		
A Level 1 Science course that is designed to give students a broad understanding of scientific concepts needed for Level 2 Biology, Chemistry and Physics. Students will study genetics, mechanics, electricity, chemical reactions and acids and bases.					
<b>Prerequisites:</b> Students will select their Level 1 Science course in consultation with their Year 10 Science teacher.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>8</b>	<b>12</b>	<b>20</b>		<b>UE approved</b>	Not applicable
<b>Future possibilities:</b> Scientist, medicine, engineer, nutrition, scientific investigations.					

<b>Science 102 (SCI102)</b>			<b>Teacher to see:</b> Mr Snitch		
A Level 1 Science course that teaches students to understand concepts of science in their everyday lives. The course involves topics such as why we use different metals for different uses, what happens in polluted streams and how microbes affect humans.					
<b>Prerequisites:</b> Students will select their Level 1 Science course in consultation with their Year 10 Science teacher.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	Yes
<b>20</b>	<b>4</b>	<b>24</b>		<b>UE approved</b>	Not applicable
<b>Future possibilities:</b> Future possibilities include nursing, building, scientific research, environmentalist.					

<b>Science 103 (SCI103)</b>			<b>Teacher to see:</b> Mr Snitch		
A Level 1 Science course that teaches scientific concepts we see everyday. All assessments are internally assessed. Topics that are taught include astronomical cycles, micro-organisms and why we use different metals for different situations. The course provides more time for these standards to also support ESOL students.					
<b>Prerequisites:</b> Students will select their Level 1 Science course in consultation with their Year 10 Science teacher.					
<b>Credits</b>			<b>Standards</b>	<b>Cost</b>	None
<b>Internal</b>	<b>External</b>	<b>Total</b>	Achievement Standards	<b>Course endorsement</b>	No
<b>19</b>	<b>0</b>	<b>19</b>		<b>UE approved</b>	Not applicable
<b>Future possibilities:</b> Most careers in trade require a scientific background.					

**Vocational Science 203 (SCV203)****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.

**Prerequisites:** Students need approval from Mrs Coup to enter this course.

Credits			Standards	Cost	None
Internal	External	Total	Achievement Standards	Course endorsement	No
15	0	15		UE approved	Not applicable

**Future possibilities:** A number of careers in the trades require science to be taken at school.