

Year 12 Biology

NCEA Level 2

Course Outline 2020



Ecology

- Taxonomy/Classification (overview).
- Habitat, Adaptations and Ecological Niche.
- Population Structure and Dynamics.
- Community Links and Patterns.
- Field Study and report (internal assessment)**

Cells

- Preparing biological material for viewing under a light microscope
- Viewing biological material using a light microscope to enable detail of cell structures and components to be determined
- Recording observations of biological material in biological drawings
- Cell Structure and Function – Cell components and organelles
- Reasons for variation in cell size and shape.
- Types of cells and differences between cells.
- Cell Processes – transport across cell membranes
- Practical investigation and report (internal assessment)**
- Diffusion and Osmosis
- Cell division (DNA replication and mitosis)

Surviving in Extreme Environments

- Adaptations of Organisms living in an Extreme Environment eg Deep ocean Environment or Antarctica.

Genetic Variation and Change

- Crossing over, independent assortment and segregation during meiosis.
- Dihybrid inheritance.
- The effect of crossing over and linkage on dihybrid inheritance.
- Deviations from 'complete dominance', i.e. co-dominance and incomplete dominance.
- Lethal alleles and multiple alleles. Mutation as the ultimate source of variation.
- Natural selection.
- Migration.
- Genetic Drift.

The Course offered is NCEA Level 2 Biology.
Christchurch Rudolf Steiner School is offering 22 credits this year

Unit	Achievement Standard	Description	Internal /External Examination	Credits
2.1	AS91153	Carry out a biological investigation with supervision	Internal	4
ESS 2	AS 91191	Investigate how organisms survive in an extreme environment.	Internal	4
2.5	AS91157	Demonstrate understanding of genetic variation and change	External	4
2.6	AS91158	Investigate a pattern in an ecological community, with supervision	Internal	4
2.2	AS 91154	Analysis the biological validity of information presented to the public OPTIONAL	Internal	3
2.8	AS91160	Investigate biological material at the microscopic level	Internal	3

BIO 2.2 AS91154

Analysis the biological validity of information presented to the public is optional and involves an independent study and personal response to a biological issue of your choice.



Week	Month	Date	Topic	Assessment
1	January/Feb			
2	February			
3	February			
4	February			
5	Feb/Mar			
6	March			
7	March			
8	March			
9	March			
10	March/April			
11	April			
	April			
	April			
1	May			
2	May			
3	May			
4	May			
5	May			
6	June			
7	June			
8	June			
9	June			
10	July			
	July			
	July			
1	July			
2	July/August			
3	August			
4	August			
5	August			
6	August			
7	September			
8	September			
9	September			
10	September		MOCK EXAMS	
	September/Oct October			
1	October		Revision	
2	October		Revision	
3	Oct/November		Revision	
4	November			
5	November	NCEA STUDY LEAVE AND EXAMS		

COURSE REQUIREMENTS

Welcome to the NCEA Biology Level 2 Course.

This course will be great for students with an interest in biology. Students who are successful in this subject could go on to study a wide number of courses including Medicine, Zoology, Marine Biology, Veterinary Science at university. Students will develop practical skills in the Lab and research / report writing will be covered in detail. This course is Literacy based so will require and further develop good reading and writing skills.

Attendance to all classes is required unless students are sick, in which case, a note from a parent or guardian is required. Absences for longer than 3 days require a doctors certificate. In the past, students who have missed a significant number of lessons have performed poorly in the subject. Homework and report writing may be required during study periods or out of class time.

NZQA rules will be strictly enforced and include:

- Authenticity of work - Authenticity is the assurance that evidence of achievement produced by a learner is their own.
- Late or Missed work – a form is required to be completed by students and parents for any late or missed assessments. Please read the handbook carefully around these requirements.

Class Culture:

- A culture of excellence results in students' growth as learners and as people
- An innovative learning environment best develops each student's strengths and passions
- All students can be critical and creative thinkers and schools must help them reach their potential
- High expectations and best practice are necessary for student achievement
- Parents and caring adults are the most important people in students' lives

Student Values:

- Excellence and Accountability: Strive to be the best in all that you do; accept responsibility for your results
- Caring and Trust: Act with sincerity, integrity, respect and understanding
- Commitment and Collaboration: Stay focused and cooperate with others to pursue common goal
- Global Perspective: Appreciate unique cultures, varied values, and new ways of understanding

Biology L3 is an interesting course with a variety of fascinating topics. I hope you enjoy the course and I look forward to our discussions and time together.

Student Signature _____ Parent Signature _____