



Science 101/3 2015

Overview

Course Title and Level of Study

Science Level 1

Course Description

This course focuses on students investigating, and developing their understanding of the living, material, and physical world. Students will investigate elements of chemistry, physics and biology, including atomic structure and chemical reactions, electricity and magnetism, and micro-organisms. The course leads into further specialist Science disciplines at level 2.

Assessment Guidelines

Students will complete 5-6 achievement standards, each worth 4 credits. There are up to 24 credits available to students. These range from long term projects to formal examinations. Students can choose to sit all credits internally or a mixture of both internals and externals. The external standards will have practice examinations during school assessment week.

Authenticity

All work submitted must be your own and follow procedures laid out in the Student NCEA Handbook. You must sign an authenticity declaration for your work to be accredited.

Pre-requisites for this course and for your next level of study

No prerequisites are required for this course. Students should be attaining 14 credits in Level 1 Science to ensure entry to Level 2 Science courses.

Course Materials

- Ring Binder,
- Subject dividers
- A4 Refill
- Student workbook

Tracking Progress:

Standard Number: 90950

Standard Title: Micro-organisms
Grade:
Credits Achieved: 4

Standard Number: 90941

Standard Title: Electricity and magnetism
Grade:
Credits Achieved:4

Standard Number: 90940(EXT)

Standard Title: Mechanics
Grade:
Credits Achieved: 4

Standard Number: 90955

Standard Title: Earth Science Event
Grade:
Credits Achieved:4

Standard Number: 90943

Standard Title: Implications of Heat
Grade:
Credits Achieved: 4

Standard Number: 90944(EXT)

Standard Title: Acids and Bases
Grade:
Credits Achieved: 4

Standard Number: 90930

Standard Title: Rates of reaction practical
Grade:
Credits Achieved: 4

Standard Number: 90925

Standard Title: Microbes practical
Grade:
Credits Achieved: 4

Achievement Objectives

In a range of meaningful contexts, students will be engaged in thinking, communicating, and participating in a wide variety of scientific disciplines. They will investigate and report to show they can:

Nature of Science

Understanding about science

- Understand that scientists' investigations are informed by current scientific theories and aim to collect evidence that will be interpreted through processes of Logical argument.

Investigating in science

- Develop and carry out more complex investigations, including using models.
- Show an increasing awareness of the complexity of working scientifically, including recognition of multiple variables.
- Begin to evaluate the suitability of the investigative methods chosen.

Communicating in science

- Use a wider range of science vocabulary, symbols, and conventions.
- Apply their understandings of science to evaluate both popular and scientific texts (including visual and numerical literacy).

Participating and contributing

- Develop an understanding of socio-scientific issues by gathering relevant scientific information in order to draw evidence-based conclusions and to take action where appropriate.

Biology (Living World)

- Relate key structural features and functions to the life processes of plants, animals, and micro-organisms and investigate environmental factors that affect these processes.

Chemistry (Material World)

- Identify patterns and trends in the properties of a range of groups of substances, for example, acids and bases, metals, metal compounds, and Hydrocarbons.
- Use particle theory to explain factors that affect chemical processes.

Physics (Physical World)

- Investigate trends and relationships in physical phenomena (in the areas of mechanics, electricity, electromagnetism, heat, light and waves, and atomic and nuclear physics).

Standard Course Outline:

NQF Number	Version	Internal / External	Full Title	Credits	Estimated Study Dates	Estimated Assessment Date or Project Deadline	Lit/Num
90950	3	Int	Investigate biological ideas relating to interactions between humans and micro-organisms	4	T1 Wk 1-7	T1 wk 7	Lit
90941	3	Int	Investigate implications of electricity and magnetism for everyday life	4	T1-2 Wk 1-5	T2 wk 5	Num
90940	3	Ext	Demonstrate understanding of aspects of mechanics	4	T1-2 Wk 1-5	T4	Num
90955	3	Int	Investigate an astronomical or earth Science event	4	T2 wk5-10	T2 wk 10	Lit
90943	3	Int	Investigate implications of heat for everyday life	4	T2-3 Wk 11-4	T3 Wk 5	Num
90944	4	Ext	Demonstrate understanding of aspects of acids and bases	4	T3-4 Wk 5-1	T4 Wk1	
90930	3	Int	Carry out a practical chemistry investigation, with direction	4	T3-4 Wk 5-10	T3 Wk 10	Num
90925	3	Int	Carry out a practical investigation in a biological context, with direction.	4	T1 Wk 1-7	T1 Wk 10	Num

Revision Programme:

Students will be expected to complete regular homework and revision, all teachers in the department can provide further assistance if required. Regular study times and revision is available and timetabled in the lead up to external examinations.