NCEA Level 1 Science, Chemistry & Biology, and Physics and Earth & Space Science Achievement Standards

Compiled from information available as at 2 August 2021

Science	**Science 1.1** AS 91920 Internal 5 credits Demonstrate understanding of the application of scientific approaches **Notes** Three different approaches from: ● pattern seeking ● exploring and observing ● modelling ● classifying and identifying ● fair testing. https://ncea.education.govt.nz/science/science/1/1?view=standard	**Science 1.2** AS 91921 Internal 5 credits Use science reasoning and methods to engage with a local socio-scientific issue **Notes** The local issue can be in community, or a global issue with local implications. Local indicates direct relevance to the student; it need not involve geographic proximity. A socio-scientific issue affects the lives of students and is something about which people hold varying opinions and perspectives. The issue is underpinned by science ideas. https://ncea.education.govt.nz/science/science/1/2?view=standard	**Science 1.3** AS 91922 External 5 credits Demonstrate understanding of how scientific ideas and processes develop and evolve **Notes** Involves analysing features of science that contribute to the development of scientific ideas and processes. In the 2021 pilot, this standard is assessed as an online, mid-year '90 to 120 minute' common assessment activity. https://ncea.education.govt.nz/science/science/1/3?view=standard	**Science 1.4** AS 91923 External 5 credits Apply science thinking to scientific claims and how they are communicated **Notes** Involves analysing scientific claims, critiquing the use of science language and conventions and discussing conclusion(s) about the claim, based on science and/or matāuranga pūtaiao ideas. In the 2021 pilot, this standard is assessed as an online, end of year, 120 minute examination. https://ncea.education.govt.nz/science/science/1/4?view=standard
Chemistry and Biology	**Chemistry and Biology 1.1** AS 90920 Internal 5 credits Explore a microorganism within the mauri of the taiao **Notes** Includes exploring how conditions in the taiao affect a life process in the microorganism, and how changes to the population of the microorganism affect the mauri of the taiao. https://ncea.education.govt.nz/science/chemistry-and-biology/1/1?view=standard	**Chemistry and Biology 1.2** AS 90921 Internal 6 credits Explore chemical reactions in the taiao **Notes** Types of chemical reactions will be limited to: ● neutralisation ● combustion ● precipitation. Need to link to explaining conservation of matter and the mauri of the taiao to support kaitiakitanga. https://ncea.education.govt.nz/science/chemistry-and-biology/1/2?view=standard	**Chemistry and Biology 1.3** AS 90922 External 5 credits Explore whakapapa using knowledge of genetic variation and inheritance **Notes** Includes DNA structure, genetic variation and inheritance, and need to link to the mauri of living things and explaining an aspect of the taiao. This standard will likely be assessed via a common assessment activity (CAA) delivered during the end of year assessment period. The CAA will require students to respond to a given stimulus. https://ncea.education.govt.nz/science/chemistry-and-biology/1/3?view=standard	**Chemistry and Biology 1.4** AS 90923 External 4 credits Explore physical properties of materials and their use in the taiao **Notes** Types of materials include: metallic, ionic, molecular**,** macromolecular. Involves relating physical properties of a material to submicroscopic interactions between particles and explaining how temperature or dissolution will impact the particles and properties of materials in the taiao. This standard will likely be assessed via an examination at the end of Term 4 and will require students to respond to a given stimulus provided two weeks prior to the assessment event. https://ncea.education.govt.nz/science/chemistry-and-biology/1/4?view=standard
Physics and Earth & Space Science	**Physics ESS 1.1** AS 92044 Internal 6 credits Demonstrate understanding of changes within the Earth System **Notes** Specific to human-induced changes. Human activities resulting in changes to the Earth system include burning fossil fuels, mining, agriculture, horticulture, intensification, deforestation, urbanisation. https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/1?view=standard	**Physics ESS 1.2** AS 92045 Internal 5 credits Use models to demonstrate understanding of a physics phenomenon **Notes** Candidates must use more than one model to show their understanding of a phenomenon. Analysing involves integrating underlying physics concepts and evaluating strengths or limitations of the models in explaining the phenomenon. https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/2?view=standard	**Physics ESS 1.3** AS 92046 External 4 credits Demonstrate understanding of the effects on planet Earth of relationships between the Sun and the Earth-Moon system **Notes** Analysing involves explaining why the effects of the relationships vary due to location, latitude or distance between bodies. This standard will likely be assessed via a common assessment activity (CAA) delivered around the end of Term 2. This will require students to respond to a stimulus, which they will have a designated period of time to unpack prior to completing the assessment activity. https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/3?view=standard	**Physics ESS 1.4** AS 92047 External 5 credits Demonstrate understanding of forces and motion **Notes** Physics concepts related to the ideas of forces and motion include: ● distance and time ● speed ● force ● mass and weight ● acceleration ● momentum ● kinetic energy and gravitational potential energy. This standard will likely be assessed via an examination, delivered during the end of year exam period. https://ncea.education.govt.nz/science/physics-earth-and-space-science/1/4?view=standard

Agricultural and Horticultural Science	**Ag-Hort 1.1** AS 91928 Internal 6 credits Explore life processes and how they are managed in a primary production system **Notes** https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/1?view=standard	**Ag-Hort 1.2** AS 91929 Internal 6 credits Explore management practices that modify the growing environment in a primary system **Notes** https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/2?view=standard	**Ag-Hort 1.3** AS 91930 External 4 credits Explore the pūtake and location of agricultural and horticultural production **Notes** https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/3?view=standard	**Ag-Hort 1.3** AS 91931 External 4 credits Explore sustainability considerations that influence agricultural and horticultural management practices **Notes** https://ncea.education.govt.nz/science/agricultural-and-horticultural-science/1/4?view=standard