



Sample Scope and Sequence

Biology, BIO215123

Scope and sequence

Below is a possible sequence of content for Biology, BIO215123. This example supports teachers to develop their own scope and sequence documents to meet the needs of learners.

Work requirements have been identified within this possible sequence of content. Providers must ensure there are sufficient opportunities for learners to demonstrate improvement over time and/or consistency of achievement against each criterion.

This sample scope and sequence must be adapted by schools in order to meet the Office of TASC's [Standards for Providers](#)¹ including ensuring that internal assessments are fair, equitable and comparable.

Providers can use the [Assessment Documentation: Self-Evaluation Toolkit for Teachers](#)² to check their plans for assessment, assessment tools and assessment records.

The Office of TASC have specific advice and requirements for the development of school-based scope and sequence documents. Please visit the [TASC website](#)³ for more information.

Context statement

This scope and sequence was developed for a class of 20-25 learners in a 7-12 secondary college environment. Learners participate in 3 x 90-minute lessons per week. Learners have access to a device at school.

Course specific advice

As required by the [Course Document](#)⁴ Module 1 is delivered concurrently with Modules 2 and 3. There is no further order of delivery required. This document is part of a set of baseline resources to support teachers to implement Biology, BIO215123. When developing their own scope and sequence, teachers should view the accredited Course Document and [Course Implementation Guide](#)⁵. A Community of Practice exists for this course, please visit our [website](#)⁶ for more information.

¹ <https://www.tasc.tas.gov.au/providers/quality-assurance/standards-for-providers/>

² https://www.tasc.tas.gov.au/wp-content/uploads/2022/06/SelfEvaluation_AssessmentDocumentation.pdf

³ <https://www.tasc.tas.gov.au/>

⁴ <https://www.tasc.tas.gov.au/students/courses/science/>

⁵ <https://1and12.education.tas.gov.au/learning-areas/science/>

⁶ <https://1and12.education.tas.gov.au/communities-of-practice/>

Time / Module	Mapping to course content	Example learning activities	Assessment Task	Relative Weighting	Work Requirement	Criterion	Criterion Elements
Term 1 - Week 1 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Cell Biology - Structure: Health and safety and practical techniques.	Explore the basic structures in Cells: <ul style="list-style-type: none"> Biomacromolecules. Cell Theory. Prokaryotic and eukaryotic cells. Cells and their organelles. Practical: <ul style="list-style-type: none"> Microscopy techniques – use of light microscopes. Cheek and onion cells. 					
Term 1 - Week 2 Module 1 - Science as a human endeavour and science inquiry. Module 2 - Cell biology.	Cell Biology – structure: Practical <ul style="list-style-type: none"> making an animal cell from agar and Playdoh. Science as a human endeavour. <ul style="list-style-type: none"> Begin Module 1 - Work requirement 3 of 3. 	Explore the detailed structures in cells: <ul style="list-style-type: none"> Cells and their organelles. Science as a human endeavour – begin investigation. <ul style="list-style-type: none"> Stem cells: the use of scientific knowledge may have beneficial or harmful or unintended consequences. 	Practical techniques: <ul style="list-style-type: none"> Making an animal cell from agar and Playdoh. 	Minor	No	C1 C2 C5	All All All
Term 1 - Week 3 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Cell Biology – structure.	Explore the detailed structures in cells and some processes: <ul style="list-style-type: none"> Cell membrane structure. Cell input/output. Diffusion. Practical: <ul style="list-style-type: none"> Surface area to volume ratio. 					
Term 1 - Week 4 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Science as a human endeavour: <ul style="list-style-type: none"> Complete Module 1 - Work requirement 3 of 3. 	Complete science as a human endeavour investigation.	Module 1 - Work Requirement 3 of 3 Title of work requirement: Science as a human endeavour investigation Mode or format: investigation See the course document for more information.	Major	Yes	C1 C2 C4	All All All
Term 1 - Week 5 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Cell Biology.	Cell biology – structure test. Cell biology – further processes: <ul style="list-style-type: none"> Osmosis Hypotonic, hypertonic and isotonic solutions Practical: <ul style="list-style-type: none"> Osmosis in potato cells. 	Module 2 - Work Requirement 2 of 2 Title of work requirement: Cell biology: ideas and problem solving Mode or format: short response See the course document for more information.	Major	Yes	C1 C2 C5	All All All

Time / Module	Mapping to course content	Example learning activities	Assessment Task	Relative Weighting	Work Requirement	Criterion	Criterion Elements
Term 1 - Week 6 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Cell function – Enzymes.	Cell function – introduction: <ul style="list-style-type: none"> Enzymes as biological catalysts. Factors affecting enzyme function. Practical: <ul style="list-style-type: none"> Enzyme action using stop motion video. 					
Term 1 - Week 7 Module 1 - Science as a human endeavour and science inquiry	Science inquiry.	<ul style="list-style-type: none"> Writing a hypothesis and predicting outcomes. Independent and dependent variables. Designing investigations. Presenting and analysing data. 					
Term 1 - Week 8 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Practical inquiry.	Design and begin inquiry: <ul style="list-style-type: none"> The effect of pH and temperature on catalase. 					
Term 1 - Week 9 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Practical: The effect of pH or temperature on enzyme activity.	Complete and document inquiry: <ul style="list-style-type: none"> The effect of pH and temperature on catalase 	Module 1 - Work Requirement 1 of 3 Title of work requirement: Science inquiry skills Mode or format: folio See the course document for more information.	Minor	Yes	C1 C2 C3	All All All
Term 1 - Week 10 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Cell Function – Photosynthesis: <ul style="list-style-type: none"> Begin Module 2 - Work requirement 1 of 2. 	Cell Function – Photosynthesis: <ul style="list-style-type: none"> Begin Module 2 - Work requirement 1 of 2: <ul style="list-style-type: none"> Investigating photosynthesis practically. 					
Term 2 - Week 1 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Practical: <ul style="list-style-type: none"> Investigating photosynthesis. Complete Module 2 - Work requirement 1 of 2.	Cell Function – Photosynthesis: <ul style="list-style-type: none"> Complete Module 2 - Work requirement 1 of 2: <ul style="list-style-type: none"> Investigating photosynthesis practically. 	Module 2 - Work Requirement 1 of 2 Title of work requirement: Cell biology: theories and models Mode or format: extended response See the course document for more information.	Major	Yes	C1 C2 C5 C6	All All All All
Term 2 - Week 2 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Cell Function – Respiration.	Cell Function – Respiration: <ul style="list-style-type: none"> Structure and function of adenosine triphosphate (ATP) as the cell's energy currency. 					

Time / Module	Mapping to course content	Example learning activities	Assessment Task	Relative Weighting	Work Requirement	Criterion	Criterion Elements
Term 2 - Week 3 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Cellular respiration – Practical.	Cellular respiration – Practical inquiry: <ul style="list-style-type: none"> Begin investigation into anaerobic respiration in yeast or humans. 					
Term 2 - Week 4 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology	Cellular respiration – Practical.	Cell function test. Cellular respiration – Practical inquiry: <ul style="list-style-type: none"> Begin investigation into anaerobic respiration in yeast or humans. 	Module 2 - Work Requirement 2 of 2 Title of work requirement: Cell biology: ideas and problem solving Mode or format: short response See the course document for more information.	Major	Yes	C1 C2 C6	All All All
Term 2 - Week 5 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Multicellular organisms – Digestion.	Introduction to the digestive system: <ul style="list-style-type: none"> Mechanical digestion. Chemical digestion. 					
Term 2 - Week 6 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Enzyme action.	Enzymes and digestion practical investigation: <ul style="list-style-type: none"> The effect of pH on pepsin enzyme. 					
Term 2 - Week 7 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Relationships between systems.	Relationships between digestive and immune systems: <ul style="list-style-type: none"> Research investigation into gut health, microbiome, link to immune system. 	Module 3 - Work Requirement 1 of 2 Title of work requirement: Multicellular organisms and environmental interactions: theories and models Mode or format: extended response See the course document for more information.	Major	Yes	C1 C2 C7 C8	All All All All
Term 2 - Week 8 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Gas exchange in animals and plants.	Explore gas exchange in animals and plants: <ul style="list-style-type: none"> Factors required for efficient gas exchange. Structure and function of human lungs. Inspiration and expiration. 					

Time / Module	Mapping to course content	Example learning activities	Assessment Task	Relative Weighting	Work Requirement	Criterion	Criterion Elements
Term 2 - Week 9 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Gas exchange in plants inquiry.	Plant anatomy for gas exchange practical inquiry: <ul style="list-style-type: none"> Cross section of leaves and stomata under microscope. 					
Term 2 - Week 10 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Transport in animals and plants.	Transport in animals and plants: <ul style="list-style-type: none"> Function of the circulatory system. Structure of the heart. Practical investigation: <ul style="list-style-type: none"> Pluck or heart dissection. 					
Term 3 - Week 1 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Transport in plants with an inquiry.	Transport in plants inquiry: <ul style="list-style-type: none"> Structure of xylem and phloem. Transpiration and translocation: <ul style="list-style-type: none"> » Active transport not required. Practical: <ul style="list-style-type: none"> Cross section of leaf. Transpiration using potometer. 	Module 1 - Work Requirement 1 of 3 Title of work requirement: Science inquiry skills Mode or format: folio See the course document for more information.	Minor	Yes	C1 C2 C3	All All All
Term 3 - Week 2 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Reproductive systems introduction.	Explore reproductive structures and functions: <ul style="list-style-type: none"> Reproductive systems. Asexual and sexual reproduction. Genetic variation through meiosis, gamete formation and fertilisation. 					
Term 3 - Week 3 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Human reproductive systems.	Research the benefits and drawbacks of human reproductive processes: <ul style="list-style-type: none"> Human reproductive systems. Male and female systems and internal fertilisation. Multicellular systems test.	Module 3 - Work Requirement 2 of 2 (Task 1) Title of work requirement: Multicellular organisms and environmental interactions: ideas and problem solving Mode or format: short response See the course document for more information.	Major	Yes	C1 C2 C7	All All All
Term 3 - Week 4 Module 1 - Science as a human endeavour and science inquiry	Characteristics of ecosystems.	Identify and observe environmental interactions: <ul style="list-style-type: none"> Characteristics of ecosystems. 					

Time / Module	Mapping to course content	Example learning activities	Assessment Task	Relative Weighting	Work Requirement	Criterion	Criterion Elements
Module 3 - Multicellular organisms and environmental interactions		Field trip: <ul style="list-style-type: none"> Local ecosystem. 					
Term 3 - Week 5 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Characteristics of ecosystems.	Identify and observe environmental interactions: <ul style="list-style-type: none"> Habitats, biotic and abiotic factors. Field trip: <ul style="list-style-type: none"> Local ecosystem. 					
Term 3 - Week 6 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Organisms within ecosystems.	Apply understanding of organisms within ecosystems: <ul style="list-style-type: none"> Heterotrophs, autotrophs and decomposers. 					
Term 3 - Week 7 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Matter and energy flow within ecosystems.	Analyse matter and energy flow within ecosystems: <ul style="list-style-type: none"> Relationships between organisms – food chains and webs, pyramids of biomass, energy and number. 					
Term 3 - Week 8 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Matter cycles. Science as a Human Endeavour.	Map the cycling of matter on Earth: <ul style="list-style-type: none"> Carbon and water cycles. Science as a Human Endeavour investigation on ecosystem change.		Minor	No	C1 C2 C4 C8	All All All All
Term 3 - Week 9 Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions	Inquiry skills.	Complete Science as a Human Endeavour investigation on ecosystem change. Ecosystem dynamics test. Practise practical scientific inquiry skills: <ul style="list-style-type: none"> Writing a hypothesis and predicting outcomes. 	Module 3 - Work Requirement 2 of 2 (Task 2) Title of work requirement: Multicellular organisms and environmental interactions: ideas and problem solving Mode or format: short response See the course document for more information.	Major	Yes	C1 C2 C8	All All All
Term 3 - Week 10	Inquiry skills.	Practise practical scientific inquiry skills - Independent and dependent variables:					

Time / Module	Mapping to course content	Example learning activities	Assessment Task	Relative Weighting	Work Requirement	Criterion	Criterion Elements
Module 1 - Science as a human endeavour and science inquiry Module 3 - Multicellular organisms and environmental interactions		<ul style="list-style-type: none"> Designing investigations. Presenting and analysing data. Learner choice of focus for inquiry. 					
Term 4 - Week 1 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology Module 3 - Multicellular organisms and environmental interactions	Science Inquiry: <ul style="list-style-type: none"> Begin Module 1 - Work requirement 2 of 3. 	Write and submit practical scientific inquiry plan. Begin practical scientific inquiry.	Module 1 - Work Requirement 2 of 3 Title of work requirement: Extended inquiry Mode or format: inquiry See the course document for more information.	Minor	Yes	C1 C2 C3	All All All
Term 4 - Week 2 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology Module 3 - Multicellular organisms and environmental interactions	<ul style="list-style-type: none"> Continue Module 1 - Work requirement 2 of 3. 	Continue practical scientific inquiry.					
Term 4 - Week 3 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology Module 3 - Multicellular organisms and environmental interactions	Science Inquiry <ul style="list-style-type: none"> Complete and present module 1 - work requirement 2 of 3. 	Continue practical scientific inquiry.					
Term 4 - Week 4 Module 1 - Science as a human endeavour and science inquiry Module 2 - Cell biology Module 3 - Multicellular organisms and environmental interactions	Science Inquiry: <ul style="list-style-type: none"> Finalise work requirement. 	Complete practical scientific inquiry.	Module 1 - Work Requirement 1 of 3 Title of work requirement: Science inquiry skills Mode or format: folio See the course document for more information.	Minor	Yes	C1 C2 C3 One of C5, C6, C7 or C8	All All All Elements appropriate to focus of study

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