



Subject:	Biology
Subject Outline	<p>The Biology subject is designed to provide an understanding of natural systems and the living world. It introduces students to basic biological terminology, concepts and techniques and prepares them for further life science studies at the tertiary level.</p> <p>The Biology subject introduces students to the basic principles of the physical structure, chemical composition, function, development and evolution of living organisms. To be a good biologist you need curiosity, an open mind, and a willingness to think critically about the natural world. This course has been designed to help students understand how biological principles and concepts are developed and to assist with their entry into further studies in biology or other courses of study with a significant biology content.</p>
Online Subject Delivery	<p>Students studying Biology will complete blocks of learning, which consist of four interactive lessons and checkpoint tasks. These are completed on Moodle. Students will be supported in completing these blocks of learning by live classes and live question and answer sessions via Zoom web-conferencing. Teachers monitor student's progress and provide individualised feedback on checkpoint tasks. Students access the Biology forum regularly to post questions and review discussions.</p>
Face to Face Subject Delivery	<p>Biology students participate in a blended learning approach that includes class time supported by activities online via Moodle. Classes are student-focused and communicative with learners being expected to contribute to group discussion. Participation in online learning before class prepares students for in-class activities and maximises the value of face to face learning. Students can prepare for class, review content and skills learned as well as complete checkpoints online.</p>
Graduate Attributes (GA)	<p>On completion of the Foundation Program, students will be able to:</p> <ol style="list-style-type: none">1. Communicate effectively in English in a variety of contexts, circumstances and modes2. Demonstrate relevant, practical and theoretical knowledge in a subject area3. Apply relevant academic literacy skills in a subject area4. Apply relevant numeric literacy skills in a subject area5. Apply critical, analytical thinking, and problem solving skills for academic contexts6. Work independently and collaboratively in a cross-cultural context7. Demonstrate academic integrity
Objectives	<p>On successful completion of this subject, students will be able to:</p> <ol style="list-style-type: none">1. Apply knowledge of biological facts and principles to solve problems (GA 2, 5);2. Analyse, evaluate and present information on biological science topics (GA 1, 2, 7);3. Solve problems in biological science using complex reasoning (GA 2, 5);



	<ol style="list-style-type: none">4. Deliver a presentation on a biology topic and contribute to group discussion (GA 1, 2, 6);5. Evaluate the strengths and limitations of scientific work in relation to biological science (GA 2, 5, 7);6. Operate safely and proficiently while conducting biological science activities (GA 2, 6).
Content	<p>Term One</p> <ul style="list-style-type: none">• Overview of Biology• Biochemistry• Cells and Membranes (Introduction to Cells, Cell Structure and Function, Cell Membranes, Cell Division and Cell Respiration)• Animal Biology (Tissues, Circulatory & Lymphatic, Respiratory System) <p>Term Two</p> <ul style="list-style-type: none">• Animal Biology (Digestive System, Renal System, Nervous & Endocrine System, Reproductive System) <p>Term Three</p> <ul style="list-style-type: none">• Plant Biology• Taxonomy & Ecology• Gene Expression <p>Term Four</p> <ul style="list-style-type: none">• Inheritance• Evolution
Attendance	<p>Attendance is a visa requirement. Attendance contributes directly to the academic success of the student. Attendance is monitored as described in the Attendance Policy.</p> <ul style="list-style-type: none">• Face to face: Students are expected to attend all classes and complete all Moodle checkpoints.• Online: Students are expected to attend all live online classes and complete all Moodle checkpoints. Engagement with question and answer sessions and Moodle lessons is highly recommended.
Learning Resources	<ul style="list-style-type: none">• IES Subject Moodle site• Online Research Databases: Informit• Biology Online Manual• OpenStax Biology



Students are assessed through the following assessment activities:

Assessment Activity	Description	Weighting
TERM 1		
Project 1: Seminar (Vlogs) (Part 1)	<p>Students will have a unique opportunity to develop core research skills relevant to a wide spectrum of biological research, including written and oral communication, by participating in an individual research project associated with a discipline of interest to them. The project is divided into two parts; Part 1 (Seminar (Vlog) to be completed in Term 1) and Part 2 (Essay to be completed in Term 3). Students may select the same topic for Parts 1 and 2.</p> <p>In Part 1, students will need to conduct research and record a 3-minute video blog (Vlog) of their presentation and upload it on Moodle as outlined in the submission method section of this task sheet. In summary, students will be required to deliver a presentation on a biological science topic and contribute to group discussion.</p>	10%
Workshops and Online quizzes	<p>This assessment activity is worth 10% and is divided into two parts; (1) workshops and (2) online quizzes and runs over four Terms (each term is worth 2.5%).</p> <p>(1) Workshops The workshop activities will be used as the weekly checkpoints to equip students with the tools and strategies they require to revise and reinforce a range of study skills, assisting students to study more effectively and to consolidate their understanding in preparation for exams. The workshops will also assist students to improve their critical thinking skills and to increase students' confidence in their ability to do well. Students have unlimited attempts and must achieve a satisfactory grade in Weeks 2 and 5 of each term to be able to proceed to the next lesson.</p> <p>(2) Online Quizzes Students must read the relevant pages in their Biology Online manual and complete a set of online quizzes. The "Pre-class Quiz" is designed to prepare students for their upcoming lessons. The "Check your understanding" quiz is designed to review what has been covered in the lessons and help students to test their knowledge and understanding of a topic. Students have unlimited attempts to complete the quizzes.</p>	10%
TERM 2		
Mid-Course Exam	<p>The mid-course exam is based on the following topics: Overview of Biology (Chapter 1), Biochemistry (Chapter 2), Cells and Membranes (Chapter 3), Cell Division and Respiration (Chapter 4) and Animal Biology (Chapter 5)</p> <p>The examination will consist of 2 sections:</p> <ul style="list-style-type: none">• Section A assesses students' recall of information and has multiple choice questions only.	20%



	<ul style="list-style-type: none">Section B assesses students' abilities to apply their knowledge to solve routine problems, to draw, label and interpret various tables and diagrams and to apply their knowledge to solve more complex problems. This section has both short answer questions and those that require more extended responses.	
TERM 3		
Project 1: Essay (Part 2)	<p>In Part 2, students will need to conduct research and write an essay of approximately 1000 words, using a variety of primary and secondary sources to identify a contemporary issue in biological sciences relating to a topic of interest (similar to Part 1 or may select a new topic). Students will be required to:</p> <ul style="list-style-type: none">Analyse, evaluate and present information on biological science topics; andEvaluate the strengths and limitations of scientific work in relation to biological science.	15%
TERM 4		
UQMBS	<p><u>Face to Face Subject delivery</u> Students will attend a one-day field trip to University of Queensland (UQ) Moreton Bay Research Station. Students work in groups to complete the activities in the UQ booklet as instructed by the UQ tutors but each student needs to individually record, interpret and analyse the results. UQ tutors and IES teachers keep records of students' abilities to work together and their individual compliance with safe and correct procedures during the conducting of the experiments. Students must follow a written procedure, collect data, draw graphs from the data collected, and then interpret the information to address the aims of the experiments.</p> <p><u>Online Subject delivery</u> Online students will be completing the Online Science Camp assessment designed by the University of Queensland (UQ) Moreton Bay Research Station. The assessment will contain the same information and practicals as those delivered face to face.</p>	15%
Final Exam	<p>The final exam is based on the following topics: Plant Biology (Chapter 6), Taxonomy & Ecology (Chapter 7), Gene Expression (Chapter 8), Inheritance (Chapter 9) and Evolution (Chapter 10).</p> <p>The examination will consist of 2 sections:</p> <ul style="list-style-type: none">Section A assesses students' recall of information and has multiple choice questions only.Section B assesses students' abilities to apply their knowledge to solve routine problems, to draw, label and interpret various tables and diagrams and to apply their knowledge to solve more complex problems. This section has both short answer questions and those that require more extended responses.	30%