Course Code: BIO001A
Course Name: Biology
Semester: Semester 1, 2015
Program: Certificate IV Tertiary Preparation Program
Credit Points: 10
Course Coordinator: Dr Dayana Matthews

Teaching Team
Your lecturer/tutor can be contacted via the email system on the portal.

<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alastair McWhir</td>
<td><a href="mailto:alastair.mcwhir@staff.qibt.qld.edu.au">alastair.mcwhir@staff.qibt.qld.edu.au</a></td>
</tr>
<tr>
<td>Dr Dayana Matthews</td>
<td><a href="mailto:dayana.matthews@staff.qibt.qld.edu.au">dayana.matthews@staff.qibt.qld.edu.au</a></td>
</tr>
</tbody>
</table>

Staff Consultation
Your lecturer/tutor is available each week for consultation outside of normal class times. Times that your lecturer/tutor will be available for consultation will be given in the first week of lectures. A list of times and rooms will be published on the QIBT Portal under the “myTimetable” link.

Prerequisites
There are no prerequisites for this course

Brief Course Description
This module is designed to develop a broad scientific knowledge of the living world. It will focus on concepts relating to biological structure, function, diversity, distribution, genetics, and interactions of living organisms.

Rationale
The purpose of this course is to introduce students to the study of living organisms as a foundation course essential to further studies in the natural and allied sciences. The course will also enhance general biological understanding, and will be relevant to many tertiary disciplines as well as provide knowledge essential to everyday living as an informed citizen.

Aims
The aim of this course is to provide students with an understanding and basic knowledge of concepts and processes associated with the study of living organisms. The course will also provide opportunities to develop observational, analytical, problem solving, technical and report writing skills.

Learning Outcomes
Upon successful completion of this course you will be able to:

1. Recognize the basic biological concepts relating to environmental organisms and the relationships between these organisms
2. List the components and describe the organism relationships within an ecosystem
3. Define biological diversity, list classifications of speciation, explain Darwin’s Theory of Evolution
4. List the components of plant and animal cells and explain how cells obtain energy. Annotate cell division diagrams
5. List components of plant tissues and describe the process of photosynthesis and tropism
6. Annotate diagrams of chromosome structure and mutations and complete a Punnet Square demonstrating Mendelian inheritance
7. Annotate diagrams of the structure and function of DNA and RNA and describe the process of protein synthesis.

8. List the biological classes of microorganisms and explain how these can be harnessed for use in industrial applications.

9. Demonstrate skills in data analysis, problem solving, and report writing.

10. Demonstrate safe and effective manipulative skills in the laboratory.

Texts and Supporting Materials

There is no set text for this course.

Organisation and Teaching Strategies

The teaching and assessment portion of the semester is 14 weeks duration - inclusive. Lessons are usually provided in four (4) hour blocks during each of the first thirteen (13) weeks of semester. However, if classes are small, the sessions will be of three (3) hours duration.

For each of Weeks 1-13 you are expected to attend the entire teaching session. Each session will involve:

- Approximately two [2] hours will be spent each week in lectures. During this time concepts and techniques that need to be known to pass this course are presented and discussed.
- Approximately two [2] hours will be spent each week to support the class lectures. These may include tutorials involving problem solving, video analysis, set exercises, computer based research, laboratory classes.

Where class times conflict with Public Holidays, ‘makeup’ classes may be organised on a different day. Further time is made available for student consultation with the Lecturer each week [see Staff Consultation].

Class Contact Summary

Attendance:
Your attendance in class will be marked twice during a four hour class. To receive full attendance, you must be present in the classroom on both occasions.

Participation in Class:
During classes each week you are expected to actively participate in exercises covering the current topic, and complete a worksheet at the end of each module for assessment.

Consultation Times:
Attendance during consultation times is optional but you are encouraged to use this extra help to improve your learning outcomes.

Lecture Notes & Course Materials:
You are required to bring a copy of the lecture notes printed from the QIBT website to classes each week. Before attending classes each week you are also expected to prepare by pre-reading the lecture notes and attempting any given exercises.

Independent Learning:
Throughout this course you will be encouraged to take personal responsibility for managing your own learning and your own time. In addition to the 4 hours of contact time, another 6-7 hours minimum per week is required in undertaking learning and project activities related to this course.

Program Progression:
You are reminded that satisfactory Program Progression requires that attendance in classes is maintained at equal to or greater than 80%, and that GPA is maintained at equal to or greater than 3.5 [please see QIBT Policy Library- Program Progression Policy- for more information].

Content Schedule

Mount Gravatt students - BIO001A Labs at Nathan campus

Students cannot enter labs unless on-line safety tests have been completed.

Dates:
- Monday 30th March (Week 5)
- Friday 24th April (Week 7)
- Friday 8th May (Week 9)

Time: 10:30am - 12:30pm
Location: Microbiology Laboratory (-1.08A), Building N55, Nathan Campus.

Gold Coast students - BIO001A Labs at GC campus

Lab safety lecture in Week 1 and on-line safety tests in Week 1.

Students cannot enter labs unless on-line safety tests have been completed.

Dates:
- Thursday 12th March (Week 2)
- Thursday 26th March (Week 4)
- Thursday 16th April (Week 6)

Time: 10:00am - 12:00pm
Location: G16_4.24, GC campus

Weekly Teaching Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Activity</th>
<th>Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BIO001A Biology Introduction</td>
<td>Lecture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ecology and Microbes</td>
<td>Lecture</td>
<td></td>
</tr>
</tbody>
</table>
### Summary of Assessment

<table>
<thead>
<tr>
<th>Item</th>
<th>Assessment Task</th>
<th>Weighting</th>
<th>Relevant Learning Outcomes</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Individual Research Assignment</td>
<td>10%</td>
<td>1,8,9</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Take Home laboratory report</td>
<td>10%</td>
<td>1,4,5,9,10</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>Mid-Semester Exam</td>
<td>30%</td>
<td>1,2,3,4,9</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>Classwork Participation</td>
<td>10%</td>
<td>1,8,9</td>
<td>2,4,6,7,9,10 &amp; 12</td>
</tr>
<tr>
<td>5</td>
<td>Final Exam</td>
<td>40%</td>
<td>5,6,7,8,9</td>
<td>14</td>
</tr>
</tbody>
</table>

### Assessment Details

You will be required to complete the following assessment throughout the semester.

**Note:** All assessment undertaken within this course is to be completed individually.

**Mid-Semester Exam (30%)**

This test is conducted in week 8 of semester and will assess your understanding of various biological terms, concepts and processes up to and including week 6 of semester (Cell Biology & Cellular Processes). Contents include week 1 to 6 materials.

**Individual Research Assignment (10%)**

This assignment must be submitted in week 10 of semester and involves accessing and comparing scientific research on the topics you have chosen to do research on. This helps you to understand and practice the process of scientific journal/report writing.

**Classwork and Participation (10%)**

You will be required to complete a worksheet the topics covered in each module during class time in weeks 2, 4, 6, 7, 9, 10 & 12.
Laboratory Report (10%)
The laboratory report is to be given out in a laboratory session and you will have a week to finalise your laboratory results and findings and complete your lab report and submit it in week 12.

Final Exam (40%)
The final exam for this course in week 14 will assess your understanding of topics covered from week 7 (Plant Physiology) to week 12 of semester.

Submission and Return of Assessment Items

Normally you will be able to access your results within fourteen [14] days of the due date for submission of the assignment. ALL assessment submitted in this course must be retained by QIBT as directed by the Australian Skills Quality Authority (ASQA) made under section 28 (1) of the National Vocational Education and Training Regulator Act 2011.

Retention of Originals

You must be able to produce a copy of all work submitted if so requested. Copies should be retained until after the release of final results for the course.

Extensions

To apply for an extension of time for an assessment item you must submit a written request to your lecturer via the Student Website at least 48 hours before the date the assessment item is due. Grounds for extensions are usually: serious illness, accident, disability, bereavement or other compassionate circumstances and must be able to be substantiated with relevant documentation [e.g. medical certificate]. Please refer to the QIBT website - Policy Library - for guidelines regarding extensions and deferred assessment.

Penalties for late submission without an approved extension

Penalties apply to assignments that are submitted after the due date without an approved extension. Assessment submitted after the due date will be penalised 10% of the TOTAL marks available for assessment (not the mark awarded) for each day the assessment is late. Assessment submitted more than five days late will be awarded a mark of zero (0). For example:

- > 5 minutes and <= 24 hours 10%
- > 24 hours and <= 48 hours 20%
- > 48 hours and <= 72 hours 30%
- > 72 hours and <= 96 hours 40%
- > 96 hours and <= 120 hours 50%
- > 120 hours 100%

Note:

- Two day weekends will count as one day in the calculation of a penalty for late submission.
- When a public holiday falls immediately before or after a weekend, the three days will count as one day in the calculation of a penalty for late submission.
- When two public holidays (e.g. Easter), fall immediately before or after, or one day either side of a weekend, the four days will count as two days in calculating the penalty for late submission.
- When a single public holiday falls mid-week, the day will not be counted towards the calculation of a penalty.

Please refer to the QIBT website - Policy Library > Assessment Policy for guidelines and penalties for late submission.

Assessment Feedback

Marks awarded for assessment items will also be available on the on-line grades system on the Student Website within fourteen [14] days of the due date.

Generic Skills

QIBT aims to develop graduates who have an open and critical approach to learning and a capacity for lifelong learning. Through engagement in their studies, students are provided with opportunities to begin the development of these and other generic skills.

Studies in this course will give you opportunities to begin to develop the following skills:

<table>
<thead>
<tr>
<th>Generic Skills</th>
<th>Taught</th>
<th>Practised</th>
<th>Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written Communication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Oral Communication</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Information Literacy</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Secondary Research</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Critical and Innovative Thinking</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Academic Integrity</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Self Directed Learning</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Team Work</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
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<tr>
<td>Cultural Intelligence</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
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<tr>
<td>English Language Proficiency</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</table>
Academic Integrity

QIBT is committed to maintaining high academic standards to protect the value of its qualifications. Academic integrity means acting with the values of honesty, trust, fairness, respect and responsibility in learning, teaching and research. It is important for students, teachers, researchers and all staff to act in an honest way, be responsible for their actions, and show fairness in every part of their work. Academic integrity is important for an individual’s and the College’s reputation.

All staff and students of the College are responsible for academic integrity. As a student, you are expected to conduct your studies honestly, ethically and in accordance with accepted standards of academic conduct. Any form of academic conduct that is contrary to these standards is considered a breach of academic integrity and is unacceptable.

Some students deliberately breach academic integrity standards with intent to deceive. This conscious, pre-meditated form of cheating is considered to be one of the most serious forms of fraudulent academic behaviour, for which the College has zero tolerance and for which penalties, including exclusion from the College, will be applied.

However, QIBT also recognises many students breach academic integrity standards without intent to deceive. In these cases, students may be required to undertake additional educational activities to remediate their behaviour and may also be provided appropriate advice by academic staff.

As you undertake your studies at QIBT, your lecturers, tutors and academic advisors will provide you with guidance to understand and maintain academic integrity; however, it is also your responsibility to seek out guidance if and when you are unsure about appropriate academic conduct.

Please ensure that you are familiar with the QIBT Academic Integrity Policy, this policy provides an overview of some of the behaviours that are considered breaches of academic integrity, as well as the penalties and processes involved when a breach is identified.

For further information please refer to the Academic Integrity Policy on the QIBT website – Policy Library.

Risk Assessment Statement

This course follows QIBT and Griffith University Workplace Health and Safety Laboratory guidelines.

The aim of workplace health and safety is to make sure that people do not get sick or injured at the workplace. The legislation dealing with this in Queensland is called the Workplace Health and Safety Act, 1995. Anyone who can affect workplace health and safety has an obligation under this Act.

As a student, you have an obligation to yourself and others to undertake activities in a safe manner. You must follow instructions which are provided for safety. You must not put yourself or anyone else at risk. Care especially needs to be taken when you are performing activities which can affect others.

Note: For all Diploma level programs, QIBT acknowledges content derived from Griffith University.