School of Biology

Important Degree Information:

B.Sc./M.A. Honours
The general requirements are 480 credits over a period of normally 4 years (and not more than 5 years) or part-time equivalent; the final two years being an approved honours programme of 240 credits, of which 90 credits are at 4000-level and at least a further 120 credits at 3000- and/or 4000-levels. Refer to the appropriate Faculty regulations for lists of subjects recognised as qualifying towards either a B.Sc. or a M.A. degree.

B.Sc./M.A. Honours with Integrated Year Abroad
The general requirements are 540 credits over a period of normally 5 years (and not more than 6 years) or part-time equivalent; the final three years being an approved honours programme of 300 credits, of which 60 credits are gained during the integrated year abroad, 90 credits are at 4000 level and at least a further 120 credits at 3000 and/or 4000 levels. Refer to the appropriate Faculty regulations for lists of subjects recognised as qualifying towards either a B.Sc. or M.A. degree.

Other Information: In the case of students who spend part of the Honours Programme abroad on a recognised Exchange Scheme, the Programme Requirements will be amended to take into account courses taken while abroad. With the permission of the Director of Teaching up to 20 credits per programme may be taken in a module outwith the specified modules in the above Programmes. Entry to the Honours programme is at the discretion of the Director of Teaching, but is automatically granted for students gaining at least grade 11 in two of the prerequisite second year modules. Those who, at their first attempt, earn a minimum aggregate of 35 grade points from 2000-level Biology modules will also be considered for entry. Where there are choices between modules in the programmes that follow, some options may have pre-requisites so that choices may be limited by the Pre-Honours modules taken.

Degree Programmes	Programme Requirements at:
(B.Sc. Honours): **Animal Biology** **(Not available to entrants after 2005/6)**	**Single Honours Animal Biology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1201 and BL1002. **Level 2:**. At least 60 credits including BL2102 and BL2106. **Level 3:** 120 - 125 credits comprising BL3307; BL4127; BL3306 or BL3309; BL3313 or BL3316; BL3317; BL3315 or BL3318. BL3000 is also required if BL3308 or BL3309 is taken. *Prior to 2006/7: 120 - 125 credits comprising BL3001 or BL3021; BL3002 or BL3022; BL3003 or BL3023; BL3004; BL3025; BL3008 or BL3027.* *BL3000 is also required if BL3021 is taken, and both of these are required if BL3022 is taken.* **Level 4:** 120 credits comprising BL4112 or BL4107 or BL4122; BL4108 or BL4121or BL4127; BL4109 or BL4125; BL4200 and BL4300.
(B.Sc. Honours): **Behavioural Biology** **(Only available to students who began their programme in 2004/5 or later)**	**Single Honours Behavioural Biology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201. **Level 2:** at least 60 credits including BL2102 and BL2105. **Level 3:** 120-125 credits comprising BL3307; BL4127; BL3303 or BL3306 or BL3309; BL3313 or BL3316; BL3317; BL3315 or BL3318. BL3000 is also required if BL3308 is taken. *Prior to 2006/7: 125 credits comprising BL3000; BL3021; BL3022; BL3023; BL3004 or BL3024; BL3025 and BL3027.* **Level 4:** 120 credits comprising BL4122 or BL4124; BL4127; BL4123 or BL4125; BL4200 and BL4300. Students may take no more than 2 modules from BL4121; BL4122 and BL4123.

Degree Programmes	Programme Requirements at:
(B.Sc. Honours): **Behavioural & Environmental Biology** **(Not available to entrants after 2005/6)**	**Single Honours Behavioural & Environmental Biology B.Sc. Degree:** **Level 1:** 60 credits including passes in BL1001; BL1002 and BL1201. **Level 2:** At least 60 credits including BL2102 and BL2105 **Level 3:** 120-125 credits comprising BL3307; BL4127; BL3303 or BL3306 or BL3309; BL3313 or BL3316; BL3317; BL3315 or BL3318. BL3000 is also required if BL3308 is taken. *Prior to 2006/7: 125 credits comprising BL3000; BL3021; BL3022; BL3023; BL3004 or BL3024; BL3025 and BL3027.* **Level 4:** 120 credits comprising BL4122 or BL4124; BL4127; BL4123 or BL4125; BL4200 and BL4300. Students may take no more than 2 modules from BL4121; BL4122 and BL4123.
(B.Sc. Honours): **Biochemistry**	**Single Honours Biochemistry Degree:** **Level 1:** 40 credits comprising passes in BL1001 and BL1201. BL1002 is also recommended for all students considering Honours Programmes in the School of Biology. **Level 2:** At least 60 credits including BL2101 and BL2104. **Level 3:** 120 credits comprising BL3301; BL3302; BL3303; BL3310 or BL3313; BL3311 and BL3312. *Prior to 2006/7: 120 credits comprising BL3001; BL3002; BL3003; BL3004 or BL3102; BL3005 or BL3007; BL3006.* **Level 4:** 120 credits comprising BL4101; BL4102; BL4103; BL4200 and BL4300.
(B.Sc. Honours): **Biology**	**Single Honours Biology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201. **Level 2:** At least 60 credits from 2000-level modules available in the School of Biology **Level 3:** 120-125 credits comprising a free choice of modules as approved by the Degree Controller & Director of Teaching. Students on this programme are expected to study across a wide range of sub-disciplines within Biology. BL3000 is required if BL3308 or BL3309 is taken. *Prior to 2006/7: 120-125 credits comprising a free choice of modules as approved by the Degree Controller & Director of Teaching. BL3000 is required if BL3021 is taken, and both are required if BL3022 is taken.* **Level 4:** 120 credits comprising a free choice of modules as approved by the Degree Controller & Director of Teaching, but including BL4200 and BL4300. No more than 2 modules from BL4121; BL4122 and BL4123.
(B.Sc. Honours): **Biology and Economics**	**Biology element Joint Honours Biology and Economics Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201 **Level 2:** 60 credits including any two 2000-level Biology modules with a grade 11 pass in each. **Level 3:** 60 credits from modules BL3301-BL3318, 20 credits will normally be taken in Semester 1 and 40 credits in Semester 2. BL3000 is required if BL3308 or BL3309 is taken. *Prior to 2006/7: 60 credits from modules BL3000-BL3102, 20 credits will normally be taken in Semester 1 and 40 credits in Semester 2.* **Level 4:** 60 credits from any Semester 1 4000-level Biology modules.

Degree Programmes	Programme Requirements at:
(B.Sc. Honours): **Biology and Psychology**	**Joint Honours Biology and Psychology Degree:** **Level 1:** 80 credits comprising passes in BL1001, BL1002, BL1004 and BL1201, AND 40 credits comprising passes in PS1001 and PS1002 **Level 2:** 60 credits comprising passes in BL2102 and BL2105, AND 60 credits comprising passes in PS2001 and PS2002 **Level 3:** 120 credits chosen from: BL3309, BL3313, BL3317, BL4127, PS3008, PS3010, PS3011, (PS3006 or PS3012), PS3021, PS3022 **Level 4:** 120 credits chosen from: Appropriate SH modules in Biology, still under review. PS4064, PS4065, PS4066, PS4071, PS4075 AND to include Research Project in either School, by agreement with Directors of Teaching.
(B.Sc. Honours): **Biology with French^ or German^ or Spanish^** ^also available as 'with Integrated Year Abroad Degrees'	**Biology element of Major Degree with French or German:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201. **Level 2:** .60 credits from the 2000-level modules available in the School of Biology. **Levels 3 & 4:** 180 credits. Typically 80 credits at 3000-level and 100 credits at 4000-level. BL3000 is required if BL3308 or BL3309 is taken. BL4200 and a further 135 credits taken from the groups defined for a Single Honours Degree subject to the permission of the Director of Teaching. *Prior to 2006/7: 180 credits. Typically 80 credits at 3000-level and 100 credits at 4000-level. If BL3021 or any modules in the range BL4121 to B4129 are chosen, then BL3000 is normally also required.*
(B.Sc. Honours): **Biomolecular Science** **(note admission to this degree is via the School of Chemistry)**	**Biomolecular Science (B.Sc. Honours):** **Level 1:** Biology Element: 40 credits including passes in BL1001 and BL1201. Chemistry Element: 20 – 40 credits comprising pass or bypass for CH1001, pass in CH1004 **Level 2:** (120 credits including BL2101, BL2104 and CH2101 and CH2103) or (125 credits comprising BL2007 and passes at 11 or better in BI2201, BI2202, CH2101 and CH2103) **Level 3:** 120 credits comprising Biology Element: BL3301 or BL3302; BL3310 and BL3312, and further modules as specified by the School of Chemistry. *Prior to 2006/7: 120 credits comprising Biology Element: BL3001; BL3002; BL3009; BL3010 and* *Chemistry Element: CH3611, CH3612, CH3613, CH3621, CH3432, CH4613* **Level 4:** 120 credits comprising two of (BL4101, BL4102, BL4103), two of (CH4511, CH4611, CH4612) and either (BL4200 and BL4300) or [BL4200, CH5614 and one of (CH5411, CH5511, CH5612)] or [CH4442, CH5614 and one of (CH5411, CH5513, CH5612)] Chemistry: Direct entry into Level 2000 is possible, in which case 120 advanced standing credits at level 1000 are given. In the case of students who spend part of the Honours Programme abroad on a recognised Exchange Scheme, the Programme Requirements will be amended to take into account courses taken while abroad.

Degree Programmes	Programme Requirements at:
(B.Sc. Honours): **Cell Biology** **(Only available to students who began their programme in 2004/5 or later)**	**Single Honours Cell Biology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201 **Level 2:** at least 60 credits including BL2101 and BL2104. **Level 3:** 120 credits comprising BL3301; BL3302; BL3303; BL3310 or BL3313; BL3311; BL3312 or BL3315. *Prior to 2006/7: 120 credits comprising BL3001; BL3002; BL3003; BL3004 or BL3102; BL3005 or BL3007; BL3006 or BL3008.* **Level 4:** 120 credits comprising BL4112; BL4108; BL4103 or BL4109; BL4200; BL4300.
(B.Sc. Honours): **Cell Biology & Pathology** **(Not available to entrants after 2005/6)**	**Single Honours Cell Biology & Pathology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201 **Level 2:** At least 60 credits including BL2101 and BL2104 **Level 3:** 120 credits comprising BL3301; BL3302; BL3303; BL3310 or BL3313; BL3311; BL3312 or BL3315. *Prior to 2006/7: 120 credits comprising BL3001; BL3002; BL3003; BL3004 or BL3102; BL3005 or BL3007; BL3006 or BL3008.* **Level 4:** 120 credits comprising BL4112; BL4108; BL4103 or BL4109; BL4200 and BL4300.
(B.Sc. Honours): **Ecology & Conservation** **(Only available to students who began their programme in 2004/5 or later)**	**Single Honours Ecology & Conservation Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201. **Level 2:** at least 60 credits including BL2103 and BL2105. **Level 3:** 120 credits including BL3000; BL3307; BL3308; BL3309; BL3316; BL3317 and BL3318. *Prior to 2006/7: 120 credits including BL3021; BL3022; BL3023; BL3024; BL3025 and BL3027.* **Level 4:** 120 credits including BL4124; BL4121 or BL4129; BL4123 or BL4125; BL4200 and BL4300.
(B.Sc. Honours): **Environmental Biology** **(Not available to entrants after 2005/6)**	**Single Honours Environmental Biology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1201 and BL1002. **Level 2:** At least 60 credits including BL2103 and BL2105. **Level 3:** 125 credits comprising BL3000; BL3307; BL3308; BL3306 or BL3309 ; BL3316; BL3317 and BL3318. *Prior to 2006/7: 125 credits comprising BL3000; BL3021; BL3022; BL3023; BL3024; BL3025 and BL3027.* **Level 4:** 120 credits comprising BL4124; BL4121 or BL4129; BL4123 or BL4125; BL4200 and BL4300.
(B.Sc. Honours): **Environmental Biology & Geography**	**Environmental Biology element of Geography Joint Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201. **Level 2:** 60 credits including BL2102 or BL2103; and BL2105. **Level 3:** 65 credits comprising BL3000; and any three of BL3307, BL3308, BL3306, BL3309, BL3316, BL3317 or BL3318. *Prior to 2006/7: 65 credits comprising BL3000; and any three of BL3021 to BL3027* **Level 4:** 55 - 60 credits comprising i) any two of BL4121 to BL4129; and BL4300 OR ii) three from BL4121 to BL4129

Degree Programmes	Programme Requirements at:
(B.Sc. Honours): **Environmental Biology & Environmental Geoscience or Geoscience**	**Environmental Biology of Geoscience Joint Degrees:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201. **Level 2:** 60 credits including BL2102 or BL2103; and BL2105 **Level 3:** 65 credits comprising BL3000; BL3307; BL3308; BL3306 or BL3309. *Prior to 2006/7: 65 credits comprising BL3000; BL3021; BL3022 and BL3023* **Level 4:** 55 - 60 credits comprising i) any two of BL4121 to BL4129; and BL4300 OR ii) three from BL4121 to BL4129
(B.Sc. Honours): **Evolutionary Biology** **(Only available to students who began their programme in 2004/5 or later)**	**Single Honours Evolutionary Biology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201. **Level 2:** At least 60 credits including BL2103 and BL2105. **Level 3:** 125 credits comprising BL3000; BL3307; BL4127 or BL3308; BL3006 or BL3309; BL3316; BL3317; BL3315 or BL3318. *Prior to 2006/7: 125 credits comprising BL3000; BL3021; BL3002 or BL3022; BL3023; BL3024; BL3025; BL3027 or BL3008.* **Level 4:** 120 credits comprising BL4124; BL4121 or BL4129; BL4103 (if BL3002 was taken) or BL4109 or BL4125; BL4200 and BL4300.
(B.Sc. Honours): **Evolutionary & Environmental Biology** **(Not available to entrants after 2005/6)**	**Single Honours Evolutionary & Environmental Biology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201. **Level 2:** At least 60 credits including BL2103 and BL2105. **Level 3:** 125 credits comprising BL3000; BL3307; BL4127 or BL3308; BL3309; BL3316; BL3317; BL3315 or BL3318. *Prior to 2006/7: 125 credits comprising BL3000; BL3021; BL3002 or BL3022; BL3023; BL3024; BL3025; BL3027 or BL3008.* **Level 4:** 120 credits comprising BL4124; BL4121 or BL4129; BL4103 (if BL3002 was taken) or BL4109 or BL4125; BL4200 and BL4300.
(B.Sc. Honours): **Human Biology**	**Single Honours Human Biology Degree:** **Level 1:** 60 credits including passes in BL1001; BL1201, and BL1002. Students without Higher or A-level Biology should also take BL1004. **Level 2:** At least 60 credits including BL2101 and BL2106. **Level 3:** 120-125 credits comprising BL3301 or BL3307; BL3302 or BL4127; BL3303 or BL3306 or BL3309; BL3310 or BL3313; BL3311 or BL3314; BL3312 or BL3315. BL3000 is also required if BL3309 is taken. *Prior to 2006/7: 120-125 credits comprising BL3001 or BL3021; BL3002; BL3003 or BL3023; BL3004 or BL3102 or BL3024; BL3005 or BL3007 or BL3025; and BL3008. BL3000 is also required if BL3021 is taken.* **Level 4:** 120 credits comprising BL4112 or BL4107; BL4108 or BL4129; BL4109 or BL4110; BL4200 and BL4300.

Degree Programmes	Programme Requirements at:
(B.Sc. Honours): **Marine Biology**	**Single Honours Marine Biology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201. **Level 2:** 120 credits from 2000-level Biology modules which must include BL2102. **Level 3:** 125 credits comprising BL3000; BL3307; BL3308; BL3306 or BL3309; BL3316; BL3317 and BL3318. *Prior to 2006/7: 125 credits comprising BL3000; BL3021; BL3022; BL3023; BL3024; BL3025 and BL3027.* **Level 4:** 120 credits comprising BL4121; BL4122; BL4123; BL4200 and BL4300.
(B.Sc. Honours): **Marine & Environmental Biology** **(Not available to entrants after 2005/6)**	**Single Honours Marine & Environmental Biology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201. **Level 2:** 120 credits from 2000-level Biology modules which must include BL2102. **Level 3:** 125 credits comprising BL3000; BL3307; BL3308; BL3306 or BL3309; BL3316; BL3317 and BL3318. *Prior to 2006/7: 125 credits comprising BL3000; BL3021; BL3022; BL3023; BL3024; BL3025 and BL3027* **Level 4:** 120 credits comprising BL4121; BL4122; BL4123; BL4200 and BL4300
(B.Sc. Honours): **Molecular Biology**	**Single Honours Molecular Biology Degree:** **Level 1:** 40 credits including passes in BL1001 and BL1201. BL1002 is also recommended for all students considering Honours Programmes in the School of Biology. **Level 2:** At least 60 credits including BL2101 and BL2104. **Level 3:** 120 credits comprising BL3301; BL3302; BL3303; BL3310; BL3311 and BL3312. *Prior to 2006/7: 120 credits comprising BL3001; BL3002; BL3003; BL3004;BL3005 and BL3008.* **Level 4:** 120 credits comprising BL4101 or BL4112; BL4102; BL4103; BL4200 and BL4300.
(B.Sc. Honours): **Neuroscience**	**Biology element of Single Honours Neuroscience Degree (Psychology requirements listed under School of Psychology entry):** **Level 1:** 60 credits comprising passes in BL1001; BL1201 and BL1002. **Level 2:** 60 credits including BL2104 or BL2106; and BL2101. **Level 3:** 120 credits comprising BL3301; BL4127; BL3303; BL3313; BL3317; BL3312 or BL3315. *Prior to 2006/7: 120 credits comprising BL3001; BL3002; BL3003; BL3004; BL3007 and BL3008* **Level 4:** 120 credits comprising BL4107 or BL4127; and either BL4200 OR (PS4050 plus PS4005). Also modules as listed under the School of Psychology entry for this degree

Degree Programmes	Programme Requirements at:
(B.Sc. Honours): **Physiology**	**Single Honours Physiology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201 **Level 2:** At least 60 credits including BL2101 and BL2106 **Level 3:** 120 credits comprising BL3301; BL3302 or BL4127; BL3303 or BL3306; BL3313; BL3311 or BL3314; BL3312 or BL3315. *Prior to 2006/7: 120 credits comprising BL3001; BL3002; BL3003; BL3004; BL3007 and BL3008* **Level 4:** 120 credits comprising BL4107 or BL4112; BL4108; BL4109 or BL4110; BL4200 and BL4300
(B.Sc. Honours): **Plant & Environmental Biology** **(Not available to entrants after 2005/6)**	**Single Honours Plant & Environmental Biology Degree:** **Level 1:** 60 credits comprising passes in BL1001; BL1002 and BL1201. **Level 2:** At least 60 credits including BL2103 and BL2105 **Level 3:** 125 credits comprising BL3301 or BL3307; BL3302 or BL3308; BL3306 or BL3309; BL3310 or BL3316; BL3317 and BL3318. BL3000 is also required if BL3308 or BL3309 is taken. *Prior to 2006/7: 125 credits comprising BL3000; BL3021; BL3022; BL3023; BL3024; BL3025 and BL3027.* **Level 4:** 120 credits comprising BL4124; BL4129; BL4125; BL4200 and BL4300.
(B.Sc. Honours): **Zoology**	**Single Honours Zoology Degree:** **Level 1:** 60 credits including passes in BL1001; BL1002 and BL1201. **Level 2:** At least 60 credits including BL2102 and BL2106. **Level 3:** 120 - 125 credits comprising BL3307; BL4127; BL3306 or BL3309; BL3313 or BL3316; BL3317; BL3315 or BL3318. BL3000 is also required if BL3308 or BL3309 is taken. *Prior to 2006/7: 120 - 125 credits comprising BL3001 or BL3021; BL3002 or BL3022; BL3003 or BL3023; BL3004; BL3025; BL3008 or BL3027.* *BL3000 is also required if BL3021 is taken, and both of these are required if BL3022 is taken.* **Level 4:** 120 credits comprising BL4107 or BL4122 or BL4124 (if BL3023 was taken); BL4121 or BL4127; BL4109 or BL4125; BL4200 and BL4300.

Modules
Interdisciplinary (ID) Modules

This School contributes to the following inter-disciplinary modules –**SD1002 Sustainability: Ensuring our Common Future and SD2001 Sustainable Development: Ecological and Environmental Aspects (Section 22), ID2003 Science Methods and ID2004 Science Ethics (Section 23)**

PLEASE NOTE; TIMETABLING OF 1000-LEVEL BIOLOGY MODULES IS BEING REVIEWED. PLEASE CHECK IN PRE-SESSIONAL WEEK FOR ANY LATE CHANGES TO SEMESTER AVAILABILITY AND TIMING.

Biology (BL) Modules

BL1001 Cell Biology and Genetics

Credits: 20.0 Semester: 1

Description: This module provides an introduction to cell, molecular and developmental biology as well as genetics. The course starts by examining the components of a cell and how they are studied. After an introduction to molecular genetics, we continue with Mendelian, chromosomal and linkage genetics before considering how an organism develops from a single cell. An overview of molecular biology is followed by a discussion of energy generation in cells. Practicals centre on the use of microscopy in cell biology and development.

Class Hour: 10.00 am

Teaching: Four lectures, one seminar or tutorial and one 3 hour laboratory.

Assessment: Continuous Assessment = 50%, 2 Hour Examination = 50%

Re-Assessment: 2 Hour Examination and Oral if deemed necessary = 100%

BL1002 Biology of Organisms

Credits: 20.0 Semester: 2

Prerequisite: BL1001Description: This module provides an introduction to the basic systems that underlie the enormous diversity of living organisms as well as reviewing some of that diversity. The original home of all life was in the sea, but some of the most interesting and dramatic changes to organisms have occurred in those groups that have adapted to a terrestrial life. Starting with the origin of life, we will consider how it evolved in the sea, and then how plants and animals made the move to land and the adaptations that have enabled them to survive and reproduce in various habitats. The subject of animal behaviour will be introduced, as it has a crucial role in the interactions between animals and their environment. The interaction between the environment, hormones and behaviour in the reproduction of animals will also be discussed. The course finishes with lectures on the principles of ecology that underlie the diversity and the pattern of adaptations of organisms. Practical work will be on both plant and animal material, and will introduce a variety of techniques.

Class Hour: 10.00 am

Teaching: Four lectures, one seminar or tutorial and one laboratory.

Assessment: Continuous Assessment = 50%, 2 Hour Examination = 50%

Re-Assessment: 2 Hour Examination and Oral if deemed necessary = 100%

BL1004 Human Biology

Credits: 20.0 Semester: 1

Description: This module gives a broad-based introduction to the varied fields of study which relate to Human Biology. It covers our evolution as a species, the basic structure and functions of our bodies, the ways in which we survive on this planet, the organisms which use us for their own survival, and the ways in which we think, communicate, reproduce and eventually die. This module is designed to be accessible to students with or without a background in biology.

Class Hour: 9.00 am

Teaching: Four lectures and one seminar/tutorial.

Assessment: Continuous Assessment = 50%, 2 Hour Written Examination = 50%

Re-Assessment: 2 Hour Examination and Oral Examination if deemed necessary = 100%

BL1201 Molecular Biology

Credits: 20.0 Semester: 2

Prerequisites: CH1001 or BL1001

Description: This module will introduce students to the molecular concepts and techniques that have revolutionised biology in the last few decades. It forms a valuable basis for all branches of modern biology, and for biological chemistry. It includes an introduction to the structure and function of proteins and enzymes, the molecular basis of genetics, DNA cloning and its application to biotechnology and human genetics, a brief introduction to molecular immunology and microbiology, and the molecular basis of cancer.

Class Hour: 9.00 am

Teaching: Four lectures and one 3 hour laboratory and fortnightly seminars or tutorials.

Assessment: Continuous Assessment = 50%, 2 Hour Examination = 50%

Re-Assessment: 2 Hour Examination and Oral if deemed necessary = 100%

BL2101 Cell Structure and Function

Credits: 30.0 Semester: 1

Prerequisites: Students should normally have passed or been granted exemption from BL1001 and BL1201.

Anti-requisite: BL2002

Description: This is an introductory module covering general aspects of animal cell structure and associated physiology. The module stars with a general overview of the regulation of the cell cycle, the roles of protein complexes essential to cell shape and adhesion and the homeostatic role of ion pumps, transporters and channels in the maintenance of solute compositions in both the intra- and extra-cellular fluid compartments. The module continues with detailed structure-function relationships within cells from three major tissues – i) nerve cells and the mechanisms of generation and propagation of the action potential, ii) skeletal, cardiac and smooth muscle cells and mechanisms controlling contraction and finally iii) blood cells and O2 transport, immune response, coagulation and cell signaling pathways.

Class Hour: 9.00 am

Teaching: Five lectures and one practical

PLUS one lecture per week and fortnightly tutorial in Skills for Biologists required for any student taking 2000-level Biology (optional times for these Skills classes will be available).

Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

Re-Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

BL2102 Zoology

Credits: 30.0 Semester: 1

Prerequisites: Students should normally have passed or been granted exemption from BL1001, BL1002 and BL1201.

Anti-requisite: BL2001

Description: Zoology is the study of animals, ranging from the simplest types of multicellular organisms such as sponges and jellyfish, through to humankind itself. The module surveys the animal kingdom, describing the key groups and the defining characteristics of their body plans and lifestyles, while putting this in an evolutionary context to reveal the patterns and trends in the kingdom as a whole. Special topics that are of fundamental importance to animals, such as the form and function of the nervous system, and the mechanisms of locomotion on land and in the sea and air, are considered in detail. An extensive series of practical exercises reinforces and complements the lecture component of this module.

Class Hour: 11.00 am

Teaching: Five lectures and one practical

PLUS one lecture per week and fortnightly tutorial in Skills for Biologists required for any student taking 2000-level Biology (optional times for these Skills classes will be available).

Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

Re-Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

BL2103 Evolutionary Biology

Credits: 30.0 Semester: 1

Prerequisites: Students should normally have passed or been granted exemption from BL1001, BL1002, and BL1201.

Anti-requisite: BL2005

Description: This module will introduce students to the process of Evolution, theory and history, mechanisms of heredity and basic population and evolutionary genetics. There will be sections on phyloenetics, Natural Selection, the evolution of sex, speciation, evolutionary ecology, behavioural evolution and applied evolutionary biology.

Class Hour: 12.00 noon

Teaching: Five lectures, and one practical or problem-solving class

PLUS one lecture per week and fortnightly tutorial in Skills for Biologists required for any student taking 2000-level Biology (optional times for these Skills classes will be available).

Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

Re-Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

BL2104 Biochemistry & Molecular Biology

Credits: 30.0 Semester: 2

Prerequisites: Students should normally have passed or been granted exemption from BL1001 and BL1201.

Anti-requisites: BL2201, BL2203

Description: This module builds on BL1201 Molecular Biology. The module will further develop the understanding and application of techniques, skills and concepts which are integral to the revolution which has occurred in the biological sciences in recent years. The module is essential underpinning for all branches of modern biology and biochemistry. The lectures include coursework on biological molecular architecture, cellular architecture, enzymes & metabolism, genomics and conclude with an introduction to the molecular basis of infection and immunity. The laboratory element will develop practical skills and the use of bioinformatics resources.

Class Hour: 9.00 am

Teaching: Five lectures and one practical

PLUS one lecture per week and fortnightly tutorial in Skills for Biologists required for any student taking 2000-level Biology (optional times for these Skills classes will be available).

Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

Re-Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

BL2105 Ecology

Credits: 30.0 Semester: 2

Prerequisites: Students should normally have passed or been granted exemption from BL1001, BL1002 and BL1201.

Description: The discipline of ecology entails understanding the interactions of organisms with all aspects of their biotic and abiotic environment. Ecology also embraces a wide diversity of scales, from the individual, through populations, to community- and ecosystem-level processes. During this module you will be exposed to this full scale of problems and will gain understanding of issues ranging from the global (for example, patterns of energy flow through ecosystems) to the individual (for example, speciation and the biogeography of organisms on islands). Plant, animal and microbial examples will be used to illustrate specific problems.

Class Hour: 11.00 am

Teaching: Four lectures and one practical weekly and a fortnightly seminar.

PLUS one lecture per week and fortnightly tutorial in Skills for Biologists required for any student taking 2000-level Biology (optional times for these Skills classes will be available). Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

Re-Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

BL2106 Comparative Physiology

Credits: 30.0 Semester: 2

Prerequisites: Students should normally have passed or been granted exemption from BL1001, BL1002 and BL1201.

Anti-requisites: BL2004 and BL2006

Description: This module covers the principles of physiological adaptation in a range of animals, including examples from all major taxa and from all habitats. Initial comparisons relating to scaling and design of animals will be followed by more specific units on: (A) Comparative principles of ionic and osmotic exchanges; water balance in aquatic and land animals, adaptations at skin, kidney, and respiratory surfaces. (B) Respiratory systems in water and on land, and associated circulatory mechanisms. (C) Principles of temperature balance; ectotherms and endotherms. (D) Feeding and digestive systems; food collection, ingestion, and absorption at different trophic levels; and waste disposal. (E) Sensory systems in different environments (especially visual, olfactory, auditory, and special senses). (F) Control systems using hormones and pheromones.

Class Hour: 12.00 noon

Teaching: Four lectures and one practical weekly and a fortnightly seminar.

PLUS one lecture per week and fortnightly tutorial in Skills for Biologists required for any student taking 2000-level Biology (optional times for these Skills classes will be available).

Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

Re-Assessment: Continuous Assessment = 50%, 3 Hour Examination = 50%

The details of the Honours modules – that is 3000 and 4000 level modules – which relate to the programmes listed in this section, are available in the Honours Course Catalogue.