Information about Level-2 Biology courses

Biology
2017-2018
# Table of Contents

- Message from the Head of Learning and Teaching ................................................................. 2
- Important information for all students .......................................................................................... 3
  - Degrees (awards) and subjects ................................................................................................. 3
  - Glossary ...................................................................................................................................... 3
- Level-2 Biology .............................................................................................................................. 4
  - Enrolment requirements for entry to all Level-2 Biology courses .......................................... 4
  - Deciding which Level-2 courses to choose .............................................................................. 4
- Level-2 Biology courses in Semester-1: 30 credits each ............................................................ 7
  - Fundamental Topics in Biology 2 (Biology 2X) ...................................................................... 7
  - Key Skills in Biology 2 (Biology 2Y) ......................................................................................... 8
- Level-2 Biology courses in Semester-2: 30 credits each ............................................................ 9
  - Animal biology, Evolution and Ecology 2 (Biology 2A) .......................................................... 9
  - Genes, Molecules and Cells 2 (Biology 2B) .......................................................................... 10
  - Human Biological Sciences 2 (Biology 2C) ........................................................................... 11
  - Microbiology and Immunology 2 (Biology 2D) .................................................................... 12
  - To find out more about Level-2 Biology courses and choose your courses for session 2017-18 ...................................................................................................................... 13
  - Personalised Level-2 timetable ............................................................................................... 13
- After Year 2 .................................................................................................................................. 13
- Planning your Year 2 curriculum – PROVISIONAL TIMES OF LECTURES.......................... 14
  - Planning your courses on MyCampus: .................................................................................. 15
- Honours and Designated Biology programmes .......................................................................... 16
  - Admission requirements for entry to Year 3 in September 2017 ........................................... 16
  - Transfer from a Designated Degree programme to Year 4 of an Honours programme .......... 18
- Integrated MSci Biology Degrees (with work placement) .......................................................... 19
- International Exchanges and ERASMUS+ ............................................................................... 19
MESSAGE FROM THE HEAD OF LEARNING AND TEACHING

As you approach the end of your first year at the University of Glasgow (UofG), you should be thinking hard about the path you intend to take in the next few years. We hope that you have found our Level-1 Biology courses an interesting introduction to the science of life and that further study in the biological sciences will be included in your plans; but which courses to choose? The UofG system allows you some flexibility until the end of Year 2 when your choice of degree subject is made—but the Level-2 courses you choose will determine how wide that choice really is.

This booklet has been designed to help you choose the Level-2 courses that best suit your interests and which fit best with your likely degree subject. Although this booklet is mainly about courses in Biology, we are aware that many of you will wish to continue with non-biological sciences courses in Year 2 and may not have fully decided whether to complete a degree in biological sciences, or in another subject such as Geography, Psychology or Chemistry. In order to help you make this decision the booklet provides some advice on suitable combinations between Level-2 Biology courses and courses from other disciplines.

At school and in Year 1 at university, Biology is treated as a single subject, but in Year 2 and beyond, we offer separate courses in many of the specialist areas that underlie this broad subject title. The UofG offers an unrivalled range of specialisations to suit all interests.

This booklet should guide you through the choices that lie ahead. Make sure you consult closely with your Adviser of Studies it can also be useful to talk to other students who have already been through the courses you intend to take.

Finally, we are always keen to improve the courses we offer and the information we provide. Many ideas for improvement come from our Staff-Student Liaison Committees, but if you have any suggestions, don’t hesitate to contact the School of Life Sciences.

Dr Iain Johnstone,
Head of Learning & Teaching
School of Life Sciences
Davidson Building
University Avenue
University of Glasgow
Glasgow
G12 8QQ
Tel: 0141 330 3994
Email: lifesci-enquiries@glasgow.ac.uk
IMPORTANT INFORMATION FOR ALL STUDENTS

 Degrees (awards) and subjects

The School of Life Sciences awards three undergraduate degrees: the BSc Honours degree, the BSc degree in a Designated Subject and the MSci degree.

- The BSc Honours degree normally takes four years of study and is taken by most students. You take Level-1 and Level-2 qualifying courses in Years 1 and 2 followed by Honours courses in Years 3 and 4.
- The BSc degree in a Designated Subject normally takes three years of study. You take Level-1 and Level-2 qualifying courses in Years 1 and 2 followed by Level-3 Designated courses in Year 3.
- The MSci degree normally takes five years of study. After Level-1 and Level-2 qualifying courses in Years 1 and 2, you take Honours courses in Year 3 followed by a one-year work placement before returning to finish your studies by taking Honours courses in your final year.

Full details of degree programmes, courses and admission requirements are contained in the University’s “Calendar” (http://www.gla.ac.uk/services/senateoffice/policies/calendar/) and in the “Course Catalog” in MyCampus.

You will not be asked to make a final decision about your preferred degree and subject until the end of your second year. However, entry to Year 3 (in particular Year 3 Honours) is not guaranteed and depends on whether the overall standard of your work in the first two years is good enough; some Honours programmes are very popular and require a high standard of results to gain entry. All your results in Years 1 and 2 will impact on your eligibility for entry to Year 3 of Designated and Honours programmes. Therefore, if you achieve less than a Grade D in ANY of your Year 1 courses, it is strongly recommended that you resit the examination in August to improve your overall grade point average.

Glossary

Course: a self-contained unit of study on a particular topic, with defined level, credit value, aims, intended learning outcomes, mode(s) of delivery, scheme of assessment and possibly prerequisites (other courses that must be taken first) and co-requisites (other courses that must be taken at the same time).

Level: an indication of the standard at which a particular course is taught and assessed. The available levels are 1, 2, 3, H (Honours) and M (Masters).

Credit: a measure of the amount of work in the course (the workload), where 1 credit equates to 10 notional learning hours. The normal full-time workload in a year is 120 credits, although it is possible to take fewer or more credits. To gain the credits from a course, you must complete the course by fulfilling the minimum requirements for the award of credit specified for that course. Each course you take will indicate the minimum requirements for completion. In addition, for every course, you must complete 75% of the assessment for the course in order to be awarded the credits, regardless of your circumstances.

Grade: if you fulfil the minimum requirements for the award of credit for a course you will be given a grade (A – H) determined by your attainment of the intended learning outcomes of that course, as measured by your performance in the assessment. The grade is thus the measure of your performance in that course.

Grade point average (gpa): this is a measure of your overall performance across more than one course. It is calculated from the total grade points for all your courses divided by the total number of credits for all your courses.
There are six Level-2 Biology courses to choose from: two are offered in Semester-1 and four in Semester-2. A brief description of each course is given in the following pages.

The Level-2 Year Coordinator is Dr Maureen Griffiths (School of Life Sciences Office, Bower Building; telephone 0141 330 3994; email Maureen.Griffiths@glasgow.ac.uk).

Enrolment requirements for entry to all Level-2 Biology courses

In order to be qualified for admission to Level-2 Biology courses, you must (a) fulfil the general requirements to progress from Year 1 to Year 2 and (b) have the specific prerequisite courses at specified grades.

(a) Progress requirements

You must normally have completed courses totalling at least 120 credits, with at least D grades in all courses (see MyCampus).

(b) Specific prerequisite courses

You must normally have at least Grade D3 in BOTH Biology-1A and Biology-1B and in EITHER Chemistry-1 OR Science Fundamentals-1X and 1Y to be admitted to any Level-2 Biology courses.

Although you will be admitted to Level-2 Biology courses if you achieve the minimum requirements specified in (a) and (b) above, poor results in your other Level-1 courses can impact on your eligibility for entry to Year 3; as your grade point average is calculated over all the courses you take. Therefore, if you achieve less than a Grade D in ANY of your Level-1 courses, it is strongly recommended that you resit the examination in August to improve your overall grade point average.

Deciding which Level-2 courses to choose

You normally take courses making up 120 credits in total and most students take 120 credits of Level-2 courses. Note that for entry to Year 3 of any Biology programme, you must have at least 60 credits in Level-2 Biology courses, but there is no requirement to take Level-2 courses in other subjects, e.g. Chemistry courses.

Level-2 Biology courses are also available individually for students who do not intend to study Biology in Year 3 and for part-time students.

There are several things to think about when you are deciding which Level-2 courses to study. Firstly, you should consider which Honours or Designated Degree programmes interest you and then find out which Level-2 courses are required for entry to those programmes in Year 3. The prerequisite courses for each Biology programme are listed on page 16 of this booklet.
It is important to choose a sensible combination of courses at Level-2. Although you are currently registered for a specific degree plan, entry to Year 3 of a particular Honours or Designated programme is dependent on your grades and the number of places available. Therefore, you must choose a combination of Level-2 courses that will qualify you for entry to programmes in at least two degree groups in Life Sciences or to one degree group in the School of Life Sciences and to a programme offered by another college.

For all programmes in Life Sciences the Semester-1 course “Fundamentals of Biology 2” is compulsory and each degree group also has one compulsory course in Semester-2.

If you did not choose the compulsory course or you have performed poorly in the compulsory course, you may not be accepted by any of the programmes within that degree group. That is why it is important to be able to apply to programmes within more than one degree group. Once you have chosen the compulsory courses for two degree groups, you should ensure that you are enrolled on 120 credits.

Note: if you have concerns about the use of animal material, you may not wish to apply for entry to programmes in the Animal Biology or Human Life Sciences Groups.

**Degree groups**

Biology programmes are organised into four degree groups.

<table>
<thead>
<tr>
<th>Degree groups</th>
<th>Animal Biology Group</th>
<th>Biomolecular Sciences Group</th>
<th>Human Life Sciences Group</th>
<th>Infection &amp; Immunology Group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BSc Designated subjects</strong> (three-year degree)</td>
<td>Animal Biology</td>
<td>Biomolecular Sciences</td>
<td>Human Life Sciences Sports Sciences</td>
<td>Infection Biology</td>
</tr>
</tbody>
</table>

*Please note the School intends to withdraw these courses*
Examples of sensible Level-2 course combination choices:

example 1  120 credits in Level-2 Biology courses including the compulsory Semester-1 course and the compulsory Semester-2 course for two different degree groups (for example, the Animal Biology and Biomolecular Sciences degree groups) for students who intend to graduate in a Biology programme.

example 2  90 credits in Level-2 Biology courses consisting of the compulsory Semester-1 course and the compulsory Semester-2 course for two different degree groups (for example, the Animal Biology and Biomolecular Sciences degree groups) plus 30 credits of Chemistry 2Y for students who intend to graduate in a Biology programme but have an interest in Chemistry. Please note that Chemistry 2X and 2Y courses run over 2 semesters. If you take Chemistry 2Y only, this will mean that you have an unbalanced teaching load across the 2 semesters.

example 3  60 credits in Level-2 Biology consisting of the compulsory Semester-1 course and the compulsory Semester-2 course for ONE Biology degree group plus 60 credits of Chemistry-2X and Chemistry-2Y for students who wish to keep open the possibility of a Biology degree programme and a Chemistry degree programme.

example 4  60 credits in Level-2 Biology consisting of the compulsory Semester-1 course and the compulsory Semester-2 course for ONE Biology degree group courses plus 60 credits of Psychology-2A and Psychology-2B for students considering Psychology or Psychology & Neuroscience Combined.

In order to enter any Level-3 course, you require the following:

- 240 credits and at least 200 of these must be at a grade D3 or above;
- A grade point average of at least 9 over 240 credits;
- The grades required in the Level-2 prerequisite courses as specified in MyCampus, in Plan by My Requirements.
LEVEL-2 BIOLOGY COURSES IN SEMESTER-1 : 30 CREDITS EACH

Fundamental Topics in Biology 2 (Biology 2X)

Course description
‘Fundamental Topics in Biology 2’ will cover a number of areas within biological sciences by relating key concepts to specific contexts with an emphasis on the relationships between molecules, cells and complex systems. The molecular and cellular processes that underpin larger biological systems will provide you with a comprehensive overview of the subject. This will allow you to develop the skills required to apply biological concepts to practical problems relevant to all aspects of biology today. Irrespective of your chosen degree, intending biologists in all Life Sciences disciplines require fundamental core knowledge before developing specialist understanding of your chosen degree. The course consists of five main themes: (1) Fundamental Molecular Biology; (2) Genomes to Ecosystems; (3) Systems to Cells; (4) Microbes and the Immune System and (5) Ageing and Disease. You will also learn about modern techniques applicable in all areas of science. In addition, integrated laboratory classes will help consolidate and develop skills including molecular techniques, results analysis, presentation, statistics and interpretation of data. The course is compulsory for all Life Science students and provides key knowledge that supports the Level 2 degree-specific courses that are taught in Semester-2.

Assessment
Summative assessment by:
• coursework including an essay, a lab report and class tests
• written examination at the end of the course

There are also various opportunities for formative assessment which will provide you with feedback and feedforward to help you improve your performance in future assignments.

This course cultivates literature research skills, builds confidence in team-work and communication through scientific writing. It encourages student-led learning and organisation in researching a topical science article, using online and library resources to search for information from primary research articles and communicating understanding of that information in the form of a written essay. Through the practical work you will develop lifelong skills, including the ability to solve problems, evaluate evidence and analyse data. These are all fundamental skills for scientific researchers but are also transferrable talents for many other career pathways.

Compulsory course for ALL Life Sciences degrees
**Key Skills in Biology 2 (Biology 2Y)**

**Course Description**

‘Key Skills in Biology 2’ will look at a range of skills that will prepare you for future study in any area of biological sciences. The term “skills” does not only refer to practical skills required for benchwork, it also covers experimental design and investigation, data collection, data analysis and interpretation and ethical consideration. As a scientist you will be expected to create and test hypotheses, solve problems and communicate your findings - this course will support your development.

As none of these skills can be developed in isolation, students will explore six areas of Biology that can be related to all of our degrees.

*Me, myself, I.* You will investigate methods for acquiring data relating to individuals and how these can be used to predict behaviour and health within a larger population. In this block we will explore the range of human variation and the relative contribution of nature and nurture to specific phenotypes. We will discuss the technological and ethical issues regarding gathering data and explore the different ways to present and analyse the data to test specific hypotheses regarding the sources of variation.

*Extreme Biology.* There are many different environments on this planet and beyond. Why can some microbes survive in extremely high temperatures? Why can some plants tolerate high salt levels? What happens to humans at extremes of altitude or depth? And what could survive in space?

*The Glasgow Effect.* What is the Glasgow Effect and why is it so widely referred to in newspapers and on television? Is it because of lifestyle, genetics, environmental factors or nutrition? We will examine some of the many hypotheses to explain this effect and learn how to evaluate them critically. This block will then look at the development of large scale interventions and evaluate their success.

*Forensics.* Everyone has seen the TV programmes, but how realistic are they? We will discover the science behind them by looking at entymology, DNA technology, anatomy and anthropology. This block will also look at animal forensic science.

*Doping.* Always in the headlines, but why is it a problem? We will look at the ways in which the short term and long term physiology & performance of a human or an animal can be manipulated. Science is crucial when detecting doping; we will also look at the long-term consequences for the individual concerned. As well as the biological aspects of doping, we will ask you to assess the ethical issues and where you think the boundaries should be drawn.

*One Health.* In this block we will examine the relationships between humans and animals within a specific environment and the importance of animal vectors in human disease. This will allow us to identify a range of influences on society and understand the epidemiology of many diseases.

**Assessment**

Summative assessment by:

- coursework including an online interactive poster, a lab report and class tests
- written examination at the end of the course

As well as lectures and structured online support, you will have a series of labs where you will work individually and with other students to answer many of these issues. At the end of the course you will have built up skills and techniques that can be used to critically analyse a range of scientific questions and ethical decisions that affect human and animal populations, from a local to a global scale. We will encourage you to reflect on these skills and how you can use them in the next few years of your degree and how they can be applied to a wide range of potential careers.

Optional course for ALL Life Sciences degrees
Level-2 Biology courses in Semester-2: 30 credits each

Animal biology, Evolution and Ecology 2 (Biology 2A)

Course description
Animal Biology, Evolution and Ecology will cover multiple themes across zoology, encompassing terrestrial, freshwater and marine environments. The course is arranged across four blocks, the first exploring the origins and adaptive radiation of life as well as ecological forces that purge complex communities, such as mass extinction events (Block 1 – Radiations and Extinctions). Next we’ll discuss natural selection, evolution and diversity and their interface with taxonomy, classification and our understanding of biodiversity (Block 2 – Evolution and Diversity). After this we’ll looks at species interactions, competition and migration (Block 3 – Living Together). Finally, we’ll put all this information together in context with man’s influence on the global ecosystem, charting our origins and evolution, our plunder of the world’s forests and oceans and our efforts to achieve equilibrium with the natural world, including conservation and wildlife management (Block 4 – Life in the Holocene). At the end of each block, students will receive guest lectures from Glasgow researcher staff who’ll share some of their cutting-edge research in relevant fields from vampire bats and deadly viruses to deep sea fishing. Students will have the chance to develop their skills as biologists outside of lectures in numerous practicals, seminars and workshops.

Assessment
Summative assessment by:
- coursework including an essay, a lab report and class tests;
- written examination at the end of the course.

There are also various opportunities for formative assessment which will provide you with feedback and feedforward to help you improve your performance in future assignments.

This course cultivates literature research skills, building confidence in team-working and communication through scientific writing. It encourages student-led learning and organisation in researching a topical science article, using online and library resources to search for information from primary research articles and communicating understanding of that information in the form of a written essay. Through the practical work you will develop lifelong skills, including the ability to solve problems, evaluate evidence and analyse data. These are all fundamental skills for scientific researchers, but are also transferrable talents for many other career pathways.

Compulsory course for the following degrees
Marine & Freshwater Biology (BSc Honours subjects)
Zoology (BSc Honours subjects)
Animal Biology (BSc Designated subjects)
**Genes, Molecules and Cells 2 (Biology 2B)**

**Course description**
This course is the prerequisite for students wishing to study for a degree in Biochemistry, Genetics or Molecular Cell Biology (including MCB with Biotechnology or MCB with Plant Science). The overarching theme of the course is to equip students with a broad general knowledge and understanding of the fundamental concepts that underpin these subject areas and to open your mind to the complexity of biological systems, to the molecular basis of life and how these mechanisms are regulated in healthy organisms but may fail in disease.

The course comprises a series of lectures delivered in four thematic areas (described further below). The themes are supported by research-focused lectures from world-leading experts in their field and a series of carefully designed laboratory classes to give you an introduction to modern molecular approaches.

The thematic areas of the course are: Genetics, Environmental Perception, Developmental Biology and Enzymes and Energy. They cover topics as diverse as the control of genetic information, the use of model organisms, the control of cell division and cell shape, organogenesis, the development of drugs that target cell surface receptors and the biochemistry underlying the potential use of photosynthesis in artificial energy machines. In all cases, the focus will be at a molecular level, emphasising the need to understand the interplay of genes/genetics, protein structure and function, energetics, cells/cell systems and biological control mechanisms. You will also take part in a ‘designer organism’ group event and be given support in your development of study skills.

**Assessment**
Summative assessment by:
- coursework including a group project, an individual lab report and in-class and on-line tests
- written examination at the end of the course

Here, we will build upon the skills developed in Fundamental Topics in Biology-2. You will be encouraged to further develop your learning skills using on-line resources and enhance your team-working and scientific communication skills by participation in a group project. There will be a strong emphasis on lab classes to support and extend your academic study, enhance your problem solving and communication skills and develop your ability to critically evaluate and analyse data. Other time-tabled activities include study-skills and career-focused sessions.

**Compulsory course for the following degrees**
- Biochemistry (BSc Honours subjects)
- Genetics (BSc Honours subjects)
- Molecular & Cellular Biology (BSc Honours subjects)
- Molecular & Cellular Biology with Biotechnology (BSc Honours subjects)
- Molecular & Cellular Biology with Plant Science (BSc Honours subjects)
- Biomolecular Sciences (BSc Designated subjects)
**Human Biological Sciences 2 (Biology 2C)**

**Course Description**

Human Biological Sciences 2 will cover a range of academic areas within human biological sciences. The molecular, cellular, organ and systems-based processes that link form and function will be studied to provide an integrated overview. The course will help the student consolidate and develop the skills required in human biology including *in vitro* and *in vivo* techniques, results analysis and presentation, interpretation of data and statistics. The students will explore how structure and function change within tissues and organs during development, in relation to disease or physical activity and how therapeutic strategies evolve to address disease processes.

In this course we introduce integrative biology using examples at cell, organ and system levels for the major organ systems (e.g. in the nervous system, cardio-respiratory system, musculo-skeletal system and gastro-intestinal system), to demonstrate how homeostatic processes function to control important biological processes (e.g. cellular metabolism, reproduction, sexual development, sugar and mineral homeostasis, heart rate and digestion). We will further develop the skills in data interpretation and analysis that were introduced in Fundamental Topics in Biology 2 by applying the concepts in new areas of human biology and introduce new laboratory skills in key research methods for human biological sciences.

**Assessment**

Summative assessment by:
- coursework including an online interactive poster, a lab report and class tests
- written examination at the end of the course

In addition to lectures and structured online support, you will have a series of labs where you will work individually and with other students to answer many of these issues and develop practical skills. At the end of the course you will have developed scientific skills and an appreciation of practical and analytical techniques so that you are better placed to analyse the scientific questions that affect us as humans.

We will encourage you to reflect on these skills and how you can use them during the next few years of your degree and how they can be applied to a wide range of potential careers.

**Compulsory course for the following degrees**

- Anatomy (BSc Honours subjects)
- Human Biology (BSc Honours subjects)
- Human Biology & Nutrition (BSc Honours subjects)
- Neuroscience (BSc Honours subjects)
- Pharmacology (BSc Honours subjects)
- Physiology (BSc Honours subjects)
- Physiology & Sports Science (BSc Honours subjects)
- Physiology, Sports Science & Nutrition (BSc Honours subjects)
- Human Life Sciences (BSc Designated subjects)
- Sports Sciences (BSc Designated subjects)
Microbiology and Immunology 2 (Biology 2D)

Course description
Microbiology and Immunology-2 will provide a comprehensive overview of the main principles in microbiology and immunology, from the unique aspects of microorganisms in diverse environments, to understanding the cells and molecules that make up the immune system and how these act in health and disease.

The course consists of five linked themes: 1) Global influence of microbes, 2) Fundamentals in Microbiology, 3) Fundamentals in Immunology, 4) Infection Biology and 5) Immunology in Action. The themes will provide you with an opportunity to explore the wider context in which microorganisms exist and how they influence all aspects of life on earth, followed by a focus on core molecular and cellular principles of both microbiology and immunology. You will learn how infectious agents combat host immune defences and how aberrations in the immune response can lead to disease.

The course will also have lab based practical sessions in order to develop fundamental practical skills in microbiology and immunology. This will help you to consolidate and develop practical skills required in any laboratory to effectively apply experimental techniques, analyse results, interpret and present data.

Assessment
Summative assessment by:
- coursework including a lab report, a group oral presentation and class tests
- written examination at the end of the course

Formative assessment opportunities will be provided throughout the course via in course revision sessions and online Moodle resource.

Compulsory course for the following degrees
- Immunology (BSc Honours subjects)
- Microbiology (BSc Honours subjects)
- Parasitology (BSc Honours subjects)*
- Virology (BSc Honours subjects)*
- Infection Biology (BSc Designated subjects)

*Please note the School intends to withdraw these courses
To find out more about Level-2 Biology courses and choose your courses for session 2017-18
1. More information on the content of the 6 Level-2 Biology courses can be found on the Life Sciences Moodle Hub.
2. You will be asked to complete an online form to indicate your choices – this will determine the space available in courses.

For students who are in the School of Life Sciences:
1. Contact your Adviser of Studies before Friday 20 May to finalise your course choices with their help. Keep a note of your choices.
2. Confirm your choice of degree plan (Genetics, Zoology etc.) for next academic session. You will be sent a link to a webpage to confirm or change your plan by the end of May 2017.

If you have any questions, contact Dr Maureen Griffiths by email or telephone. She will respond to your enquiry and suggest a meeting if necessary.
Maureen.Griffiths@glasgow.ac.uk or 0141 330 3994

Personalised Level-2 timetable
Your timetable will be available on MyCampus, you must attend the lecture or laboratory group on your MyCampus timetable. Most laboratory classes run more than once, but are often within restricted time slots.

For Semester-1 courses: you can change your course choice or lab/lecture time until the end of the second week of Semester-1.
For Semester-2 courses: you can change your course choice or lab/lecture time until the end of the second week of Semester-2.

After Year 2
Admission to Year 3, whether Designated or Honours programmes, is not guaranteed and is dependent on your achievement in Level-1 and Level-2 courses, in terms of:
• your overall grade point average
• your total number of credits
• your performance (i.e. grade) in specified Level-2 courses

Therefore, if you achieve less than a Grade D in any of your Level-1 courses, it is strongly recommended that you undertake reassessment to improve your overall grade point average, even if that course is not a prerequisite for entry to your Level-2 courses. Remember that you may normally only resit an examination at the next available diet (i.e. if you achieve a Grade F in May/June, you may only resit the examination in August of the same year). See the School Handbook for information about reassessment.

If you achieve less than Grade D in any of your Level-2 courses, you should discuss with your Adviser of Studies whether it would be in your best interest to undertake reassessment.
**Planning your Year 2 curriculum – PROVISIONAL TIMES OF LECTURES.**

When planning your Year 2 curriculum for next session, please refer to the lecture timetables and other information below. Note that some (but not all) Level-2 Biology courses deliver lectures twice at different times (Groups 1 and 2 in the Lecture timetables below). You will choose either Group 1 or Group 2 for these courses. It is sensible to balance your workload with 60 credits in each semester.

**Lecture timetable for Level-2 Biology courses and other common choices in Semester-1**

<table>
<thead>
<tr>
<th></th>
<th>9.00</th>
<th>10.00</th>
<th>11.00</th>
<th>12.00</th>
<th>13.00</th>
<th>14.00</th>
<th>15.00</th>
<th>16.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Biology 2X Grp 1</td>
<td>Psychology 2A</td>
<td>Chemistry 2X/2Y</td>
<td>Biology 2Y Grp 1</td>
<td></td>
<td>Biology 2X Grp 2</td>
<td>Biology 2Y Grp 2</td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td>Biology 2X Grp 1</td>
<td>Psychology 2A</td>
<td>Chemistry 2X</td>
<td>Biology 2Y Grp 1</td>
<td></td>
<td>Biology 2X Grp 2</td>
<td>Biology 2Y Grp 2</td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td>Biology 2X Grp 1</td>
<td>Psychology 2A</td>
<td>Chemistry 2Y</td>
<td>Biology 2Y Grp 1</td>
<td></td>
<td>Biology 2X Grp 2</td>
<td>Biology 2Y Grp 2</td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td>Biology 2X Grp 1</td>
<td>Psychology 2A</td>
<td>Chemistry 2X</td>
<td>Biology 2Y Grp 1</td>
<td></td>
<td>Biology 2X Grp 2</td>
<td>Biology 2Y Grp 2</td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td>Biology 2X Grp 1</td>
<td>Psychology 2A</td>
<td>Chemistry 2Y</td>
<td>Biology 2Y Grp 1</td>
<td></td>
<td>Biology 2X Grp 2</td>
<td>Biology 2Y Grp 2</td>
<td></td>
</tr>
</tbody>
</table>

**Lecture timetable for Level-2 Biology courses and other common choices in Semester-2**

<table>
<thead>
<tr>
<th></th>
<th>9.00</th>
<th>10.00</th>
<th>11.00</th>
<th>12.00</th>
<th>13.00</th>
<th>14.00</th>
<th>15.00</th>
<th>16.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Biology 2A</td>
<td>Biology 2B Grp 1</td>
<td>Biology 2C Grp 1</td>
<td>Psychology 2B</td>
<td>Chemistry 2X/2Y</td>
<td>Biology 2C Grp 2</td>
<td></td>
<td>Biology 2D</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Biology 2A</td>
<td>Biology 2B Grp 1</td>
<td>Biology 2C Grp 1</td>
<td>Psychology 2B</td>
<td>Chemistry 2X</td>
<td>Biology 2C Grp 2</td>
<td></td>
<td>Biology 2D</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Biology 2A</td>
<td>Biology 2B Grp 1</td>
<td>Biology 2C Grp 1</td>
<td>Psychology 2B</td>
<td>Chemistry 2Y</td>
<td>Biology 2C Grp 2</td>
<td></td>
<td>Biology 2D</td>
</tr>
<tr>
<td>Thursday</td>
<td>Biology 2A</td>
<td>Biology 2B Grp 1</td>
<td>Biology 2C Grp 1</td>
<td>Psychology 2B</td>
<td>Chemistry 2X</td>
<td>Biology 2C Grp 2</td>
<td></td>
<td>Biology 2D</td>
</tr>
<tr>
<td>Friday</td>
<td>Biology 2A</td>
<td>Biology 2B Grp 1</td>
<td>Biology 2C Grp 1</td>
<td>Psychology 2B</td>
<td>Chemistry 2Y</td>
<td>Biology 2C Grp 2</td>
<td></td>
<td>Biology 2D</td>
</tr>
</tbody>
</table>
**Planning your courses on MyCampus:**

At the start of the year you need to add ALL of your courses for Semester-1 and Semester-2 to MyCampus (normally 120 credits for a full-time student). We recommend that you use the chart below to identify your chosen lecture times; you will then be able to see when you are free for your labs. If you are intending to take Chemistry, you need to leave one afternoon clear for 2X labs and one afternoon for 2Y labs (this must be the same afternoon for both semesters).

### Semester-1

<table>
<thead>
<tr>
<th>Time</th>
<th>9.00</th>
<th>10.00</th>
<th>11.00</th>
<th>12.00</th>
<th>13.00</th>
<th>14.00</th>
<th>15.00</th>
<th>16.00</th>
<th>17.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Semester-2

<table>
<thead>
<tr>
<th>Time</th>
<th>9.00</th>
<th>10.00</th>
<th>11.00</th>
<th>12.00</th>
<th>13.00</th>
<th>14.00</th>
<th>15.00</th>
<th>16.00</th>
<th>17.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wednesday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thursday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friday</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Honours and Designated Biology Programmes

The four-year BSc Honours programmes and the three-year BSc Designated programmes offered by the School of Life Sciences are listed below, organised by degree group; the prerequisite Level-2 courses for each degree group are given.

Admission requirements for entry to Year 3 in September 2017

Your GPA is calculated on the 22 point scale.

Programme-specific requirements: listed below are the prerequisite Level-2 courses required for entry to the programmes within each degree group. The grades required in the 40 credits of Level-2 prerequisite courses (shown above) are specified in MyCampus, in Plan by My Requirements. The grades that you see when you enrol in August 2016 are the grades that will apply to you.

Summary:
For AUTOMATIC entry to Year 3 of a Biology programme, the MINIMUM requirements are:

- at least 240 credits, of which at least 200 must be at Grade D or above
- at least 60 credits from Level-2 Biology courses
- a grade point average of at least 9 (equal to D3)
- the grades required in the 40 credits of Level-2 prerequisite courses as specified in MyCampus, in Plan by My Requirements.

You may be CONSIDERED if you have the MINIMUM requirements of:

- at least 240 credits, of which at least 200 must be at Grade D or above
- at least 60 credits from Level-2 Biology courses
- a grade point average of at least 9 (equal to D3)
- at least Grade D in the 40 credits of Level-2 prerequisite courses as specified in MyCampus, in Plan by My Requirements.

Remember, entry to Year 3 (particularly Honours) is NOT guaranteed. Some programmes are very popular and require a high standard of results, e.g. a higher grade point average or very good grades in the prerequisite courses. Therefore, you are strongly advised to choose a combination of Level-2 courses which will qualify you for two different degree groups to improve your chances of being offered a place in Year 3.
### Animal Biology Group

<table>
<thead>
<tr>
<th>Programme type:</th>
<th>Programmes:</th>
<th>Prerequisite Level-2 courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Honours</td>
<td>• Marine &amp; Freshwater Biology</td>
<td>Fundamental Topics in Biology 2</td>
</tr>
<tr>
<td></td>
<td>• Zoology</td>
<td>Animal biology, Evolution and Ecology 2</td>
</tr>
<tr>
<td>Designated</td>
<td>• Animal Biology</td>
<td></td>
</tr>
</tbody>
</table>

### Biomolecular Sciences Group

<table>
<thead>
<tr>
<th>Programme type:</th>
<th>Programmes:</th>
<th>Prerequisite Level-2 courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Honours</td>
<td>• Biochemistry</td>
<td>Fundamental Topics in Biology 2</td>
</tr>
<tr>
<td></td>
<td>• Genetics</td>
<td>Genes, Molecules and Cells 2</td>
</tr>
<tr>
<td></td>
<td>• Molecular &amp; Cellular Biology (with Biotechnology)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Molecular &amp; Cellular Biology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Molecular &amp; Cellular Biology (with Plant Science)</td>
<td></td>
</tr>
<tr>
<td>Designated</td>
<td>• Biomolecular Sciences</td>
<td></td>
</tr>
</tbody>
</table>

### Human Life Sciences Group

<table>
<thead>
<tr>
<th>Programme type:</th>
<th>Programmes:</th>
<th>Prerequisite Level-2 courses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Honours</td>
<td>• Anatomy</td>
<td>Fundamental Topics in Biology 2</td>
</tr>
<tr>
<td></td>
<td>• Human Biology</td>
<td>Human Biological Sciences 2</td>
</tr>
<tr>
<td></td>
<td>• Human Biology &amp; Nutrition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Neuroscience</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Pharmacology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Physiology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Physiology &amp; Sports Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Physiology, Sports Science &amp; Nutrition</td>
<td></td>
</tr>
<tr>
<td>Combined Honours</td>
<td>• Psychology &amp; Neuroscience</td>
<td></td>
</tr>
<tr>
<td>Designated</td>
<td>• Human Life Sciences</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sports Science</td>
<td></td>
</tr>
</tbody>
</table>

*Note: For students intending Combined Honours in Psychology & Neuroscience, you must also fulfil the requirements of entry for the other subject (Psychology).*
**Infection & Immunology Group**

<table>
<thead>
<tr>
<th>Programme type:</th>
<th>Programmes:</th>
<th>Prerequisite Level-2 courses:</th>
</tr>
</thead>
</table>
| Single Honours  | • Immunology
                  • Microbiology
                  • Parasitology
                  • Virology          | Fundamental Topics in Biology 2
                           Microbiology and Immunology 2 |
| Designated      | • Infection Biology | |

**Transfer from a Designated Degree programme to Year 4 of an Honours programme**

If you were admitted to Year 3 of a Designated programme, you will only be allowed to transfer to Year 4 of the associated Honours programme in exceptional cases. The requirements for transfer from a Designated Degree programme to final-year Honours are stringent: you must have attained **Grade B in both Year 3 courses at the first attempt**.

Each of the five Designated programmes is associated with an Honours programme; the Level-3 curriculum for each Designated programme is based upon that of the associated Level-3 Honours programme. You may only apply for transfer to the associated Honours programme, not to any other Honours programme.

<table>
<thead>
<tr>
<th>Designated Degree programme</th>
<th>Associated Honours Degree programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Biology</td>
<td>Zoology</td>
</tr>
<tr>
<td>Biomolecular Sciences</td>
<td>Molecular &amp; Cellular Biology</td>
</tr>
<tr>
<td>Human Life Sciences</td>
<td>Human Biology</td>
</tr>
<tr>
<td>Infection Biology</td>
<td>Microbiology</td>
</tr>
<tr>
<td>Sports Science</td>
<td>Physiology &amp; Sports Science</td>
</tr>
</tbody>
</table>
INTEGRATED MSCI BIOLOGY DEGREES (WITH WORK PLACEMENT)

Mrs Natalie Refault (Wolfson Link Building; email Natalie_Refault@glasgow.ac.uk)

If you achieve a cumulative grade point average of at least 15 at the end of Year 2, you may be eligible to apply for transfer to the MSci version of your programme, which includes an integrated one-year work placement. The placement year is normally spent doing research in industry, a research institute or another organisation in the UK or abroad.

The scheme is competitive as you have to compete externally for placements which are taken for the full year between Year 3 and Year 4. Internal selection is based on a written application form submitted early in September and an interview in September/October of Year 3. Internal selection cannot guarantee that a student will be successful in securing a placement but the majority do so. In addition to giving you great experience of research in your field, this opportunity also improves your employability.

Detailed information about the scheme is available on the Work Placement web pages:
www.gla.ac.uk/schools/lifesciences/informationforstudents/workplacementmsciprogrammes/

MSci programmes (with Work Placement) are available in most Biology Single Honours subjects (but not in Combined Honours).

INTERNATIONAL EXCHANGES AND ERASMUS+

Mrs Tracy Wilson (Bower Building; email: Tracy.Wilson@glasgow.ac.uk)

Would you like to spend some time studying overseas? As a school of Life Sciences student, you can take advantage of amazing opportunities to study abroad as part of your degree. We offer European exchanges through the ERASMUS+ Programme and for those wishing to travel further the International Exchange Programme.

ERASMUS+: We have agreements with many European universities, allowing students to spend up to one year somewhere else in Europe. Students who are accepted onto the Erasmus+ programme are eligible for an Erasmus grant which helps to cover the additional cost of living in Europe. In most cases, undergraduate classes are taught in the language of the home nation; however, some teaching may be in English. This will depend on which country you choose. Language tuition is often available in countries where knowledge of the home language is necessary.

International Exchange Programme: Students have the opportunity to broaden their horizons and experience a different academic environment by spending their second or third year at a university outside Europe.

With both types of exchange, the year counts as part of your UoF degree programme and must therefore be carefully planned to fit in with your programme of study. Please note if you spend Year 3 abroad you would not normally be allowed to graduate at the end of the year.

In recent years, students have studied at the following institutions: University of Toronto, University of Melbourne, University of Hong Kong, University of British Colombia, University of Barcelona, University of Tampere (Finland). Like work placement, overseas exchanges are viewed very favourably by potential employers.