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Introduction to this Study Guide and Related Sources of Information

This study guide is intended to summarise, in a helpful way, important essential information, guidance and advice on issues of teaching, learning and student support to help you achieve your maximum potential taking modules and/or degrees offered by the College of Life Sciences.

Section 1 - general guidelines and information on the structure of the School of Life Sciences Learning & Teaching as well as summarising sources of support at both college and university level.

Section 2 - specifies what is expected of you with regard to attendance and participation and how to notify absences as well as outlining the assessment scheme.

Section 3 – describes the Degree structures as well as the modular components and teaching resources in Life Sciences.

Section 4 - short descriptions of the individual modules at levels 1-4 offered by the College of Life Sciences.

Section 5 - summarises important regulatory information relating to Life Science degree programmes. However, for detailed information on the regulations concerning Certificate, Diploma and Degrees courses in Life Sciences, you should refer to the following College web site http://www.dundee.ac.uk/lifesci/regs.htm

For the Attention of Non-Life Science students:
If you are taking a degree awarded by another college at the University of Dundee, it is important to note that your studies are governed by the Degree Regulations of the College with which you are matriculated and you should always refer to your own college web site for detailed information on the regulations concerning your degree in view.
SECTION 1: SCHOOL INFORMATION & GENERAL GUIDANCE

1.1. The School Of Life Sciences Learning & Teaching (SLSL&T) in the College of Life Sciences

The College of Life Sciences is Headed by Professor Mike Ferguson CBE, FRS, FRSE, FMedSci and consists of 2 Schools, the School of Life Sciences Research and the School of Life Sciences Learning & Teaching. Staff from both of these Schools contribute to undergraduate teaching at all levels but it is largely staff from the SLSL&T who are responsible for the day to day management of all taught programmes both at undergraduate and post graduate level.

1.2. Management of Undergraduate Teaching

Some key members of staff in the SLSL&T are listed below. In addition, each modular component of our Degree programme has academic staff responsible for its academic content (the Module Convenor) and for running the module (the Module Leader) who have teams of academic and other technical staff responsible to them for the various component parts of their module. The names and contact numbers of the module leaders and conveners are given in Section 4 which provides short descriptions of individual modules run by the College of Life Sciences.

Dean
Professor Roger Soames, r.w.soames@dundee.ac.uk
School Secretary
Mrs Linda O'Neill, l.oneill@dundee.ac.uk
Head of Levels 1 & 2
Dr Maureen Benwell, m.e.m.benwell@dundee.ac.uk
Head of Levels 3 & 4
Dr Will Whitfield, w.g.f.whitfield@dundee.ac.uk
Deputy Heads of Level 1 & 2
Dr Nicholas Brewer, n.j.brewer@dundee.ac.uk
Dr Hilary Young, h.k.young@dundee.ac.uk
Deputy Heads of Level 3 & 4
Dr Graham Christie, g.r.christie@dundee.ac.uk
Dr Gerhard May, g.h.w.may@dundee.ac.uk
Senior Demonstrator
Mrs Cathy Caudwell, c.m.caudwell@dundee.ac.uk
Technical Services Manager
Mrs Monica Lacey, m.lacey@dundee.ac.uk

1.3. Teaching Aims of the College of Life Sciences

The College aims to provide Degree Programmes which will enable you:-

● to acquire a broad and deep understanding of the subject of your degree discipline, its relationship to cognate disciplines and its wider importance
● to acquire an understanding in depth of selected developing areas of your degree discipline
● within the context of your discipline to develop the general skills of :-
  ➢ independent learning
  ➢ the critical appraisal of information
  ➢ communication, in writing and orally, of information and ideas
  ➢ problem solving including the ability to establish working relationships with colleagues and work effectively as part of a team
  ➢ self-management, including the ability to manage your own time and set priorities
  ➢ using modern computer methods of information handling, storage, retrieval and communication
● to develop confidence in your academic abilities
to assess whether or not you have the aptitude and desire to undertake postgraduate training
- to acquire sufficient knowledge and understanding of career opportunities to make an informed choice of your first postgraduate job or training course
- through the achievement of the learning objectives of your courses, to be successful in the graduate job or training course ‘market’

1.4. Our Responsibilities in the Provision of Teaching

Every Module has a Module Leader whose responsibility is to:-
- explain the teaching aims and learning objectives of the Module, usually in writing in a Module Handbook
- explain the procedures by which you will be taught and examined
- provide opportunities for you to judge your progress in the Module e.g. in the form of diagnostic or formative assessments
- monitor your attendance in classes, ask you to explain any unauthorised absence or other failure to participate in the work of the Module, and report you to the relevant Head or Year failure to attend and/or participate, or for poor academic performance
- provide opportunities for you to contribute towards developing the Module by giving feedback and taking part in Staff/Student Liaison activities

1.5. Seeking Help, Advice and Information from SLSL&T

1.5.1. SLSL&T office contact numbers

The SLSL&T Office reception is in Room C.G.14 of the Carnelley Building and is a “one-stop-shop”, manned from 9 – 4.30pm, Monday to Friday if you wish to drop by in person.

- To make an appointment to see the School Secretary or the Dean, Tel 01382 384182 or email SchoolOffice-LS@dundee.ac.uk or
- If you have queries relating to SLSL&T module teaching:
  - Level 1 modules – lsuglevel1@dundee.ac.uk, Tel 01382 388950
  - Level 2 modules – lsuglevel2@dundee.ac.uk, Tel 01382 388360
  - Level 3 modules – lsuglevel3@dundee.ac.uk, Tel 01382 384793
  - Level 4 modules – lsuglevel4@dundee.ac.uk, Tel 01382 388178

1.5.2. Help with University Regulations, Teaching & Learning

SLSL&T office staff can help with
- Absence forms & Medical certificates
- Applications for a discounted year, temporary withdrawal from studies or deferred year of study
- Applying to graduate with Cert HE, Dip HE, Ordinary & Honours degrees
- Permanent withdrawal from study &/or transfers to other Colleges & institutions

Teaching administration dealt with by SLSL&T office staff includes
- Processing submitted coursework & the return of marked paper-based coursework.
- Assignment to practical groups
- Recording your attendance & academic grades for module assessments
PLEASE NOTE THE FOLLOWING

A minimum of 48 HOURS notice is required in order to produce or authorise official documents so, please allow for this delay when you request such services.

1.5.3. Help from the School Secretary:

Occasionally health or personal problems have such a debilitating effect that you may have to consider withdrawing temporarily from your studies if you are absent for 3 weeks or more. In this event you should discuss the matter with the School Secretary, who can advise on issues relating to Regulations and funding. You can contact the School Secretary via the School Office (SchoolOffice-LS@dundee.ac.uk) Tel 01382 384182. Such discussions will be kept confidential, unless there are circumstances in which your interest would be best served by divulging the confidential information to other staff. Your permission would be sought in this event. Remember, the “golden rule” is to seek help if you run into trouble. Any member of staff, not just your Adviser of studies, will willingly listen to you themselves or put you in touch with the best source of specialist help or advice.

1.5.4. Help with academic matters

- **Help from staff or module leaders**: If you have queries regarding module content or you wish one of the teaching staff or module leaders to provide a reference or special letter, email the staff member specifying your query or requesting an appointment.

- **Help from your adviser of studies**: It is imperative that you speak to your Adviser of Studies if you are intending to make changes to your programme of study whether it is changing modules or changing degree programme. Advisers of study can also provide references for you. In addition, if you are having problems that are affecting your ability to study, it is advisable to report these to your adviser of studies or the heads of year.

- **Help from Heads of Years**: You can also seek help from your relevant Head of Year who are Dr Maureen Benwell, m.e.m.benwell@dundee.ac.uk for levels 1 and 2 & Dr Will Whitfield, w.g.f.whitfield@dundee.ac.uk, for levels 3 & 4. If you are in your Honours year, you should also contact your Degree Convener. This will allow us to do what we can to help solve your problems or make allowances and provide advice.

1.6. Other Sources of Support & Advice

The University Web Site [http://www.dundee.ac.uk/main/currstud.htm](http://www.dundee.ac.uk/main/currstud.htm)

The university web site has many sources of information and advice for students including how to use the services and facilities on offer as well as providing self-help and/or information leaflets. Some of the most useful web links are listed below.
1.6.1. Student Services: [http://www.dundee.ac.uk/studentservices/](http://www.dundee.ac.uk/studentservices/)

There are a wide variety of issues that students face for which specialist support is provided by Student Services. The following outlines what help you can receive and which service to contact.

1.6.1.1. Student Advisory Service: The dedicated team will provide advice on private accommodation, equal opportunities, harassment and bullying issues, as well as academic appeals, and complaints procedures and their web site is [http://www.dundee.ac.uk/adviceguidance/ourservice.html](http://www.dundee.ac.uk/adviceguidance/ourservice.html).

1.6.1.2. Counselling Service: [http://www.dundee.ac.uk/counselling/students.htm](http://www.dundee.ac.uk/counselling/students.htm): They provide help when you are feeling overwhelmed & stressed.

1.6.1.3. Health Service: [http://www.dundee.ac.uk/healthservice/](http://www.dundee.ac.uk/healthservice/): For advice & guidance on health issues.

1.6.1.4. University Chaplaincy: [http://www.dundee.ac.uk/chaplaincy/about.htm](http://www.dundee.ac.uk/chaplaincy/about.htm). Fiona Douglas (University Chaplain) has appointed David Robertson (Honorary Chaplain to the University and to Dundee FC) to work alongside her within the College of Life Sciences. Fiona and David have indicated that they wish to be considered as an additional resource for the College. They will not be coming around knocking on doors, but they will be available for any student or member of staff (of any faith or none) who wishes to discuss any ethical or moral dilemmas, the relationship between science and religion or indeed any issue that you may wish to raise with them. Please feel free to contact Fiona f.c.douglas@dundee.ac.uk or David darobertson@blueyonder.co.uk.

There are also specific liaison staff within life sciences for the careers and disability services as outlined below.

1.6.1.5. Life Science Disability Officers: [http://www.dundee.ac.uk/disabilityservices](http://www.dundee.ac.uk/disabilityservices)

Disability Services is based in the Ewing Annexe on the main University campus and offers a range of confidential services dedicated to the support and empowerment of disabled students. All disabled students are advised to register with Disability Services as soon as possible in order for recommendations to be made for day to day teaching and examination support. The team of Disability Officers for Life Sciences is headed by Dr Maureen Benwell m.e.m.benwell@dundee.ac.uk with support from Mrs Monica Lacey m.lacey@dundee.ac.uk and Dr Keith Skene k.r.skene@dundee.ac.uk.

1.6.1.6. Life Science Careers Officer Information [http://www.dundee.ac.uk/careers](http://www.dundee.ac.uk/careers)

The Careers Officer for Life Sciences is Stephanie MacLean s.z.maclean@dundee.ac.uk and the Life Science liaison is Dr Maureen Benwell m.e.m.benwell@dundee.ac.uk. The Careers Service is located at 166 Nethergate.

- **Open Times?** Monday – Wednesday & Friday: 0900-1700 & Thursday: 1000-1700
- **What Is Offered?** Help includes:
  - Work Experience; Vacation/Semester Employment; Career Choice; Finding a Job; Application Forms; CVs; Graduate Selection Tests; Further Study; Changing Course; Funding; Interview Preparation; Mock Interviews;
  - Information: The Information room contains a wealth of literature regarding employment, further study, gap year, volunteering, funding and much more. No appointment necessary; Weekly vacancy bulletins give you easy access to a wide range of current and future job opportunities – see [www.dundee.ac.uk/careers/jobvacancies.html](http://www.dundee.ac.uk/careers/jobvacancies.html);
  - The University JobShop is located within the Careers Service and is here to help you find part-time paid employment while you study. Open Tuesday, Wednesday and Thursday 1pm – 4.30pm. Visit: [www.dundee.ac.uk/careers/JobShop](http://www.dundee.ac.uk/careers/JobShop).
1.6.2. Library Services – [http://www.dundee.ac.uk/library/about/](http://www.dundee.ac.uk/library/about/)

Provides a wide variety of services including how to find books, journals and electronic resources. In addition, life sciences students have specialised help at [http://www.dundee.ac.uk/library/subjects/lifesciences.htm](http://www.dundee.ac.uk/library/subjects/lifesciences.htm) and can request help from the specific Librarians for Life Sciences who are Kirsty Beveridge Tel: 01382 385552 k.beveridge@dundee.ac.uk & David Hart Tel: 01382 384089: d.r.hart@dundee.ac.uk

1.6.3. The Registry [http://www.somis.dundee.ac.uk/registry/](http://www.somis.dundee.ac.uk/registry/)

The registry is responsible for matriculation, examinations and graduation and maintains the Student Record. In addition, the Registry produces student ID cards and provides certification of student status for Council Tax purposes, funding bodies, etc.

- **Degree examination timetables** – Please note that Degree exam timetables are published on the University web site during semester 1 (usually in November) and semester 2 (usually in March) and in July for the resit diet. Please note that the examinations only take place on Campus and only at the particular times published in the exam timetables. There are no exceptions so beware when booking holidays or flights home within the semester dates given on the inside front cover of this booklet.

- **Degree examination results** - Provisional semester 1 degree examination results will be available *via* evision from the second week in January. The official results for both semester 1 and 2 will be available *via* evision and also sent by post in June following the examination board meetings. The resit results will be available *via* evision & by post in late August. Please note that examination results will NOT be conveyed *via* the telephone. Therefore, please refrain from telephoning the SLSL&T office secretaries requesting this information.
SECTION 2: YOUR RESPONSIBILITIES FOR LEARNING, ATTENDANCE & COMMUNICATION

2.1 Communication

It is your responsibility to keep yourself informed about the modules you are taking by reading and referring to the individual module handbooks and checking the following at least once per day for any urgent updates or rescheduling notices: In addition to the following, Honours students have individual pigeon holes in Carnelley room C.G.25.

- Your Dundee university E-MAILS
- My Dundee BLACKBOARD VLE ‘Announcements’ for each module that you are taking
- EVISION - from week 4 of the modules, it is your responsibility to check your e-vision grades regularly and report any discrepancies, by email, to the relevant lsuglevel@dundee.ac.uk email address as soon as possible.

2.2. Student attendance and participation

2.2.1. Scheduled classes:

You are encouraged to attend all lectures and scheduled classes in the timetables for all School of Life Science modules. However, for each module, attendance at certain classes is COMPULSORY and attendance registers taken. The compulsory classes are listed in Part 3 of module handbooks. More than 2 unexplained or uncertified absences for any individual module, may result in your duly performed (DP) certificate being withdrawn for that module such that you would be debarred from taking the Degree Exam. This would stop you obtaining any credit for the module as outlined in the School regulations 3(iii) Eligibility to take Degree Examinations in http://www.dundee.ac.uk/lifesci/regs.htm

2.2.2. Submitted course work:

Submission of all course work assignments (paper-based or electronic) are COMPULSORY and should be submitted according to the instructions given in the Assessment & Submission Deadline sections in individual module handbooks. Unless otherwise informed, all submissions and collection of marked paper-based assessments will be through the School office reception in Carnelley C.G.14. It is important to note that if you fail to submit at least a minimum of 40% of coursework for a module, with no explanation, your performance may be deemed unsatisfactory such that your duly performed (DP) certificate may be withdrawn for that module. This would debar you from taking the Degree Exams (both first and second diets) which would stop you obtaining any credit for the module as outlined in the School regulations 3(iii) Eligibility to take Degree Examinations in http://www.dundee.ac.uk/lifesci/regs.htm

2.2.3. Penalties for non-attendance

If you have an unexplained or uncertified absence from a compulsory scheduled class for which there is an associated piece of coursework e.g. practical report, practical worksheet or tutorial worksheet etc, then the assessment will be marked for feedback purposes but you will be awarded a BF (bad fail) grade towards the overall module mark for the associated coursework.
2.2.4. Penalties for late submission of course work:

Late submission, for no good reason, may incur penalties of one grade point per day for up to a maximum of 5 working days (i.e. 1 working week) following the published deadline. For example, if your assignment was submitted 5 days late and was rated as an A2 grade, then this would be downgraded to C1 for late submission. All submissions which are more than a working week late will be marked for feedback purposes but you will be awarded a BF grade towards the overall module mark for the associated coursework. Non-submission will be graded as AB.

2.2.5. Extensions to a submission deadline:

It may be possible to grant an extension to a deadline for certain assessments. To apply for this, you should email the relevant level secretary at the email address on the front of the module handbook(s), specifying clearly which module, which assessment giving brief details as to why you will be unable to submit by the deadline. Please note that an extension may be granted but a penalty be imposed if it is deemed that failure to submit on time is due to poor time management on the part of the student. Where there is 3 weeks or more between notification of a paper-based task and the deadline or for all electronic assignments, extensions will only be granted in very exceptional circumstances. Any student deemed to have had a legitimate reason for not completing an electronic assignment in time may be given a certified non-submission (CA grade) for the assessment or granted an extension.

2.3. Absences - What to do when absent from Classes or Exams:

If you are absent from classes, it is important that you complete an Absence form available from the Life Sciences School Office reception in Carnelley Room C.G.14 either before or within SEVEN DAYS following the class and/or assessment. Depending upon the circumstances, as outlined below, you may also be required to provide a medical certificate or letter explaining your absence.

2.3.1. Absence from scheduled compulsory classes

- **Absences of 5 days or less:** You can self-certify absences for up to 5 days by completing an Absence form. For minor illnesses, an MC grade will be entered into your assessment record. If your absence is due to a cause other than illness and the reason given on the Absence form is considered legitimate, then a certified absence (CA grade) will be granted.
- **Absences of more than 5 days:** If an illness results in an absence of more than 5 days, then, in addition to the Absence form, a medical certificate signed by a GP will also be required. If the absence is for reasons other than illness, then you must submit a letter explaining the prolonged absence. In the latter case, you will be informed if your reason for absence is deemed to be certified.

2.3.2. Absence from exams (in-course tests as well as degree exams):

You must contact the Life Sciences School Office (email SchoolOffice-LS@dundee.ac.uk or telephone 01382 384182) as soon as possible. In addition, you must send in a medical certificate within SEVEN DAYS following the examination if you miss the examination due to illness. Self-certification is not allowed for absence from examinations. If you miss an examination, through no fault of your own, for
reasons other than illness, then you must submit corroborative documentation within **SEVEN DAYS** following the examination.

### 2.4. Life Science Scrutiny Committee

In addition to absence, there can be other unforeseen and unavoidable circumstances that have had a **SIGNIFICANT** impact on your performance in examinations. Therefore, a Scrutiny Committee for Life Sciences reviews information provided by students claiming mitigating circumstances that may have affected their ability to perform during the module and in examinations. The Scrutiny Committee meets to consider the information provided to the committee and to make recommendations on the level of support that should be given by the Board of Examiners. In accordance with the Data Protection Act, no significant details of the mitigating circumstances will be revealed to the Board of Examiners.

#### 2.4.1. How to report mitigating circumstances to the scrutiny committee:

- Fill in a **SCRUTINY COMMITTEE FORM**, which you can download from my Dundee module sites or obtain from the Life Sciences School Office reception in Carnelley C.G.14, giving brief details of how your work was affected - e.g. unable to concentrate for revision etc
- If possible, provide documentary evidence of the problems giving some indication of the period of time involved if possible – e.g. doctor’s note, a statement of support from a third party (e.g. Adviser of Studies, parents) to strengthen your case.

The committee will meet following the semester 1, semester 2 and resit diet of examinations. Therefore, it is the responsibility of a student who wishes to report mitigating circumstances, to ensure that the **SCRUTINY COMMITTEE FORM** is submitted to the Life Sciences Undergraduate office before the committee meets. Deadlines for submission of these forms will be published during the session and disseminated to all students via My Dundee Blackboard modules.

*Please note that you will not receive feedback on your submission from the Scrutiny Committee*

### 2.5. Prolonged Absences, Discounted Year & Withdrawal of DP

Continuous absence from all classes for a period of more than 3 weeks, for any cause including legitimate reasons, may require the consent of the Academic Senate for you to be allowed to enter the Degree examinations.

- **Discounted year** - In the event that a student has had to temporarily withdraw for legitimate reasons, they may apply through the Life Sciences School Office to have the year discounted. An application for a year to be discounted has to be submitted to the Life Science School Office by the end of semester 2 (before the Easter break). Any credits already accrued from modules completed in the discounted year would be retained and only those missed would have to be repeated during the following session.
- **Withdrawal of DP** - In the event that you have unexplained absences from compulsory scheduled classes and failed to submit compulsory coursework for no good reason for a period of more than 3 weeks, for any individual module, you may have your Duly Performed (DP) certificate removed for the module.
SECTION 3: DEGREES AND MODULAR STRUCTURE IN LIFE SCIENCES

3.1. Degrees in Life Sciences

Figure 1: College of Life Sciences Degree Programme Outline

3.2. Level 1 Life Sciences Modules

Students are automatically enrolled on modules essential for their degree but you may wish to check which modules these are by checking the regulations web site. [http://www.dundee.ac.uk/lifesci/currentstudents.htm](http://www.dundee.ac.uk/lifesci/currentstudents.htm).

SPELS 1 (BI10001 Skills Professionalism & employability in Life sciences 1)

All students intending to proceed to one of the Degrees, listed in figure 1, are required to take the generic skills BI10001 SPELS 1 module which runs throughout semesters 1 and 2. In addition, they must take six 20 Scotcat credit modules of which at least 4 must come from the following level 1 modules, normally 2 in each semester.

Table 1: Life Science modules at Level 1:

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<tbody>
<tr>
<td>BI11001 – Biomolecular Mechanisms</td>
<td>BI12004 – Environmental Biology</td>
</tr>
<tr>
<td>BI11002 – Evolution &amp; Biodiversity</td>
<td>BI12005 – Genes, Heredity &amp; Development</td>
</tr>
<tr>
<td>CH11003 – Molecular Science 1A</td>
<td>CH12006 – Molecular Science 1B</td>
</tr>
</tbody>
</table>
3.3. Level 2 Life Sciences Modules

SPELS 2 (BI20001 Skills Professionalism & employability in Life sciences 2)

All students intending to proceed to one of the Degrees, listed in figure 1, are required to take the generic skills SPELS 2 module which runs through semesters 1 and 2. They must also take six 20 Scotcat credit modules.

Table 2: Level 2 Life Science Modules: In addition to the SPELS 2 module, all life students are required to take 6 twenty SCOTCAT modules, 3 in semester 1 and 3 in semester 2. For some degree programmes such as Sports biomedicine, students they are required to take 6 fully prescribed modules from the Life Science list. However, other degree programmes specify less than 6 essential pre-requisite modules at level 2 such that students may take up to one twenty SCOTCAT module per semester from another college if timetables are compatible.

<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI21007 – Comparative Physiology</td>
<td>BI22012 – Microbiology &amp; Immunology</td>
</tr>
<tr>
<td>BI21008 – Diversity Of Life</td>
<td>BI22014 – Cellular And Molecular Biology</td>
</tr>
<tr>
<td>BI21009 – Genetics</td>
<td>BI22015 – Drugs And Drug Targets</td>
</tr>
<tr>
<td>BI21010 – Society &amp; the Life Sciences</td>
<td>BI22016 – Human Form And Function</td>
</tr>
<tr>
<td>CH21010 – Biomolecular Chemistry: Shape &amp; Function</td>
<td>BI22055 – Animal Function</td>
</tr>
<tr>
<td>SB21036 – Introduction to Sport &amp; Exercise Science 1**</td>
<td>CH22013 – Biomolecular Chemistry: Theory &amp; Application</td>
</tr>
<tr>
<td>SB21057 - Human Physiology &amp; Metabolism 1***</td>
<td>FO22046 – Introduction to Human Anatomy*</td>
</tr>
<tr>
<td></td>
<td>SB22039 – Introduction to Sport &amp; Exercise Science 2**</td>
</tr>
<tr>
<td></td>
<td>SB21058 - Human Physiology &amp; Metabolism 2***</td>
</tr>
</tbody>
</table>

*FO22046 Introduction to Human Anatomy – Essential module for Forensic Anthropology and Sports Biomedicine students and is only available as an option to Anatomy students.

** SB21036 & SB22039 - Essential modules for Sport Biomedicine students and normally optional only to students intending to proceed to an Honours degree in Physiology with sports biomedicine.

*** SB21057 and SB22058 are only available to students who are enrolled on Sports Biomedicine.

3.3.1. Module clashes in Semester 2 of Level 2

Due to timetabling constraints, the following module combinations are NOT possible:

- ☢ BI22055 Animal Function + ☢ CH22013 Biomolecular chemistry: theory & application
- ☢ BI22016 Human Form & Function + ☢ BI22055 Animal Function + ☢ FO 22046 Introduction to Human Anatomy
- ☢ BI22014 Cellular & Molecular Biology + ☢ CH22013 Biomolecular chemistry: theory & application + ☢ FO22046 Introduction to Human Anatomy
3.5. Level 3 Life Sciences Modules

**SPELS 3 (BI30001 Skills Professionalism & employability in Life sciences 3)**

All students intending to proceed to one of the Degrees, listed in figure 1, are required to take the generic skills **SPELS 3** module which runs through semesters 1 and 2. They must also take four 30 Scotcat credit Life Science modules, two in semester 1 and two in semester 2. Tables 3 & 4 show the pairs of options. Some module combinations cannot be taken together because of timetable constraints or because the modules are specific to a degree programme.

**TABLE 3: LEVEL 3 SEMESTER 1 MODULE COMBINATION OPTIONS**

<table>
<thead>
<tr>
<th>Level 3 Semester 1 Modules</th>
<th>BI31017 Animal Behaviour &amp; Ecophys</th>
<th>BI31018 Cellular &amp; Molecular Physiol</th>
<th>BI31020 Developmental Biology</th>
<th>BI31022 Genome Science</th>
<th>BI31024 Neuropharmacology</th>
<th>BI31053 Microbial Growth &amp; Biotech</th>
<th>*BI31056 Gross Anatomy 1</th>
<th>CH32043 Analytical &amp; Prognostic Chem</th>
<th>**FO31000 Comparative Osteology</th>
<th>***SB31040 Clinical Exercise Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI31017 Animal Behaviour &amp; Ecophys</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>BI31018 Cellular &amp; Molecular Physiol</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>BI31020 Developmental Biology</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>x</td>
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<tr>
<td>BI31022 Genome Science</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>BI31024 Neuropharmacology</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>BI31053 Microbial Growth &amp; Biotech</td>
<td>✓</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>*BI31056 Gross Anatomy 1</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>CH32043 Analytical &amp; Prognostic Chem</td>
<td>x</td>
<td>x</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>**FO31000 Comparative Osteology</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>***SB31040 Clinical Exercise Physiology</td>
<td>x</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

✓—module combination available
x - module combination NOT available

*BI31056 Gross Anatomy 1 – This module is only available to Forensic Anthropology, Single Honours Anatomical Sciences and Joint Anatomical & Physiological Sciences students

**FO31000 Comparative Osteology – is only available to forensic anthropology students for whom it is a compulsory module

***SB31040 Clinical Exercise Science is only available as an option for students taking the degree in Physiology with Sports Biomedicine. It is a compulsory module for Sport Biomedicine students.
### TABLE 4: LEVEL 3 SEMESTER 2 MODULE COMBINATION OPTIONS

#### Level 3 Semester 2 Modules

<table>
<thead>
<tr>
<th>Modules</th>
<th>BI32026 Biochemical Pharmacology</th>
<th>BI32028 Ecology &amp; Conservation Biology</th>
<th>BI32030 Human System Physiology</th>
<th>BI32032 Molecular &amp; Cell Biology</th>
<th>BI32052 Immunology &amp; Molecular Microbiology</th>
<th>BI32054 Comparative Zoology</th>
<th>BI32065 Gross Anatomy 2</th>
<th>CH31042 Organic Chemistry</th>
<th>CH32051 Pre-Clinical Drug Discovery</th>
<th>CH32057 Human Osteology</th>
<th>FO32047 Human Osteology</th>
<th>SB32041 Molecular Exercise Physiology**</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI32026 Biochemical Pharmacology</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
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<td>×</td>
<td>×</td>
<td>×</td>
<td></td>
</tr>
<tr>
<td>BI32028 Ecology &amp; Conservation Biology</td>
<td>×</td>
<td>×</td>
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<td>×</td>
<td>×</td>
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<tr>
<td>BI32030 Human Systems Physiology</td>
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<tr>
<td>BI32032 Molecular &amp; Cell Biology</td>
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</tr>
<tr>
<td>BI32052 Immunology &amp; Molecular Microbiology</td>
<td>×</td>
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<tr>
<td>BI32054 Comparative Zoology</td>
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<td></td>
</tr>
<tr>
<td>*BI32065 Gross Anatomy 2</td>
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<tr>
<td>CH31042 Organic Chemistry</td>
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<tr>
<td>CH32051 Pre-Clinical Drug Discovery</td>
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<tr>
<td>FO32047 Human Osteology</td>
<td>×</td>
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<td>×</td>
<td></td>
</tr>
<tr>
<td>SB32041 Molecular Exercise Physiology**</td>
<td>×</td>
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<td>×</td>
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<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td></td>
</tr>
</tbody>
</table>

✓ - module combination available  
× - module combination NOT available

*BI32065 Gross anatomy 2 – This module is only available to Forensic Anthropology, Single Honours Anatomical Sciences and Joint Anatomical & Physiological Sciences students

**SB32041 Molecular Exercise Physiology** is compulsory for Sport Biomedicine students and is only available as an option for students taking the degree in Physiology with Sports Biomedicine

#### 3.6. Honours Level Structure

For all Life Sciences degrees, level 4 is subdivided into 6 modules that collectively account for 120 credits, corresponding to a total student effort of 1200 hours. Information on Honours is detailed in Section 4
3.7. Module Components, myPDP & myDundee

3.7.1. Lectures: At all levels 1-4, you are provided with handbooks on-line on the My Dundee modules which contain learning objectives for individual lectures. You may also be provided with a hard copy of the handbooks for the semester 1 modules. You should refer to these when studying as they give an indication of the information you are expected to know and understand following the lectures and any other teacher-directed further reading e.g. any other relevant sections in textbooks and/or journal papers etc which you have been asked to read.

3.7.2. Laboratory Practicals/Field Excursions: At levels 1-3, laboratory practicals are designed to provide some experience of experimental techniques. Field excursions are designed to illustrate biodiversity in a variety of habitats and appear as part of various modules and Degree programmes from levels 1-4. To a large extent, the practicals and field excursions are designed to support the material given in lectures. Detailed information on where practicals take place and alternative sessions are given in the individual module handbooks and/or My Dundee modules. Assessment of the laboratory practicals and field trips will contribute towards the overall module grade.

3.7.3. Teacher-Directed Study Exercises: In addition to the lectures, laboratory practicals and field excursions, the teaching in all Life Sciences modules will also involve other teacher-directed study exercises. These may take the form of on-line assignments, literature searches, preparation for tutorials, writing essays, laboratory reports or projects. These may also be based around a small group tutorial, working as part of a team or carried out in your own time. These study exercises are assessed and contribute towards the overall module grade.

3.7.4. Personal Development Planning & Your E-Portfolio: All Dundee University students are automatically enrolled on My PDP, an online resource designed to guide you through Personal Development Planning (PDP). This is a process to help you reflect upon your learning, performance and achievements which you can access via My Dundee & the My groups & Communities area. During your time on the Life Sciences Degree programme and as an essential part of your programme, you will be required to use the My PDP templates to build your own e-portfolio using the PDP resources. This will involve various workshops at each level of study supported with online help and documentation. This process involves:

- learning how to construct an ePortfolio
- conducting self-audits of your career, academic and personal goals
- logging the transferable skills you have gained along with a record of your achievements and updating this section regularly as you proceed through your degree
- searching for opportunities to enhance your profile
- creating an action plan to focus your thoughts
- Building & refining your curriculum vitae (CV)

3.7.5. My Dundee BLACKBOARD VLE

My Dundee is the University of Dundee’s web-based student portal, giving you access to your learning materials, your student clubs and societies and many other College and discipline specific resources.
Logging into my Dundee https://my.dundee.ac.uk/webapps/portal/frameset.jsp

The URL above takes you to the login page for my Dundee and requires the same username and password as your login to the University computer system. Alternatively, follow links to it from the University of Dundee Homepage, via Current Students > my Dundee. Your use of my Dundee is subject to University Regulations for the Use of Computer Facilities.

The My Dundee screen: The initial screen that appears once you log on is the My Dundee screen provides access to your modules, announcements, calendar, tasks and additional areas. What you see when you first log in will vary according to your College or department. You can customise your my dundee page by adding extra features, and changing the colours and layout.

My Modules: All modules you are enrolled in are available from the Course List under My Modules tab, or from My Modules on the right hand side of the my dundee screen.

My Files: This tab gives access to a personal file store on my dundee which you will need if your course or module is making use of electronic portfolios.

My Web mail: This tab gives access to your University GroupWise e-mail account.

PC Requirements
You can access my dundee using PCs in the University’s IT suites. However, if you wish to logon from outside the University, the following is a conservative list of recommendations for access:
Platform: Windows 2000, XP or Vista; MacOS X
Hardware: 512 MB of RAM, 2G of free disk space
Software: Microsoft Word, Adobe Acrobat Reader, Microsoft PowerPoint
Browser: Internet Explorer 7 or Firefox for Windows, and Safari, Firefox or Camino for the Mac. The Client Browser Configuration Guide can be found at: http://my.dundee.ac.uk/bbcswebdav/institution/My%20Dundee/bb_browsers_0608.pdf
Check your browser compatibility at: http://www.dundee.ac.uk/elearning/browserchecker/
JavaScript & Cookies: Essential and the Java Virtual Machine must be downloaded – this can be obtained from http://www.java.com/en/download/manual.jsp
Network: 56 K (OK), Broadband (better) or Local Area Network (best)

Further Help
If you have any problems using facilities, try contacting the IT Helpdesk by:
• visiting it in the Tower Basement IT Suite
• e-mailing a description of your problem to vle@dundee.ac.uk
• phoning – use the ‘Helpdesk’ button on a phone in an IT Suite or on other phones dial extension 88000 (or 01382 388000 externally).
SECTION 4: LIFE SCIENCES MODULE DESCRIPTORS

Assessment of SPELS modules & Level 1 Semester 1: For all Skills professionalism and Employability in Life Science (SPELS) modules and the Level 1 semester 1 modules, assessment is from coursework assignments only. In the case of the Level 1 semester 1 modules, some of the in-course assessment is carried out under examination conditions in a computer suite. Detailed information on the assessment for the modules is given in the module handbooks.

Assessment for all other modules at levels 1, 2 and 3: Level 1 Semester 2 modules are assessed by a combination of computer-based degree examination(s) and coursework assignments. The assessment for all other modules at Levels 2 and 3 involves a combination of written degree examinations and coursework assignments. For some modules, there is also a practical examination. Information of the relative contribution of in-course and degree exam varies between modules and is detailed in the handbooks.

4.1. Skills, Professionalism and Employability in Life Sciences (SPELS) programme

The SPELS programme consists of SPELS 1, SPELS 2 and SPELS 3 which are 3 ten SCOTCAT credit core, stand-alone modules intended to enhance professional development and employability of life science students while supporting generic skills acquisition at levels 1, 2 and 3 respectively. These modules run through semesters 1 and 2 at each level and are compulsory for all Life Sciences degree programmes. SPELS 1, 2 and 3 are not available to students taking degrees out with the college of Life Sciences.

BI10001 SPELS 1 (Skills, Professionalism & Employability in Life Sciences 1) [10 SCOTCAT Credits]

Module Leaders/Conveners: Dr Maureen Benwell, m.e.m.benwell@dundee.ac.uk & Dr Linda Morris, l.a.z.morris@dundee.ac.uk

Brief description of module: The SPELS 1 module is compulsory for all level 1 life science students and runs during semesters 1 and 2. It equips students with the necessary basic generic skills required for successful study in life science degree courses. This includes developing independent learning skills and increasing recognition and self-awareness of skills acquisition. The skills covered are basic numeracy/statistics, scientific writing & referencing as well as teamwork & presentation skills.

Teaching: 14 hours of lectures, workshops, tutorials & presentation with a variety of teacher-directed study exercises including on-line assessments, self-study preparation and literature research.

BI20001 SPELS 2 (Skills, Professionalism & Employability in Life Sciences 2) [10 SCOTCAT Credits]

Module Leaders/Conveners: Dr Maureen Benwell, m.e.m.benwell@dundee.ac.uk & Dr Linda Morris, l.a.z.morris@dundee.ac.uk

Brief description of module: The SPELS 2 module is compulsory for all level 2 life science students and runs during semesters 1 and 2. This module enhances numericacy/statistics, literacy, IT, teamwork & research skills. In addition, students are introduced to basic experimental design skills and are expected to foster self-reflection of achievements and begin to identify career goals and aspirations.
Teaching: 14 hours of lectures, workshops, tutorials & presentation with a variety of teacher-directed study exercises including on-line assessments, self-study preparation and literature research.

**BI30001 SPELS 3 (Skills, Professionalism & Employability in Life Sciences 3) [10 SCOTCAT Credits]**

*Module Leaders/Conveners: Dr Graham Christie, g.r.chrsitie@dundee.ac.uk & DR Will Whitfield, w.g.f.whitfield@dundee.ac.uk*

- Brief description of module: The SPELS 3 module is compulsory for all level 3 life science students and runs during semesters 1 and 2. To build and consolidate as well as further enhance numerical, problem solving, literacy, paper evaluation, ICT and independent learning skills as well as helping students to develop their own career management strategy in preparation for their Honours year and/or the workplace.
- Teaching: 14 hours of lectures, workshops, tutorials & presentation with a variety of teacher-directed study exercises including on-line assessments, self-study preparation and literature research.

**4.2. Level 1 Semester 1 LS Module Descriptors**

**BI11001 BIOMOLECULAR MECHANISMS [20 SCOTCAT Credits]**

*Module Leader: Dr Nicholas Brewer, n.j.brewer@dundee.ac.uk  
Module Convener: Dr Maureen Benwell, m.e.m.benwell@dundee.ac.uk*

- Brief description of module: Biomolecular Mechanisms serves two main functions. First, to introduce a range of core concepts in cell biology and biochemistry. Second, to provide a foundation of knowledge and understanding of basic physical processes that will support further learning in a range of Life Science subjects, including biology, physiology and biomechanics. Major topics covered include: the cell and cell structure; biological membranes and associated phenomena; proteins and enzymes and, finally, energy production, utilization and transformation in plants and animals. The physics component complements these topics and also provides an introduction to biomechanics.
- Teaching: 3 lectures/week (33 in total) with 18 hours of practicals and 20 hours of teacher-directed study exercises.

**BI11002 EVOLUTION & BIODIVERSITY [20 SCOTCAT Credits]**

*Module Leader/Convener: Dr Allan Jones, a.m.jones@dundee.ac.uk*

- Brief description of module: Evolution & Biodiversity is a multidisciplinary module that presents an introductory overview of modern biology from a whole organism perspective. The major topics covered include the origins and history of life and an understanding of evolution and speciation, biodiversity and classification. This module is suitable for students with little previous knowledge of biology.
- Teaching: 3 lectures/week (33 in total) with 18 hours of practicals/field excursions and 20 hours of teacher-directed study exercises.
CH11003 MOLECULAR SCIENCE 1A [20 SCOTCAT Credits]

Module Leader: Dr Linda Morris, l.a.z.morris@dundee.ac.uk
Module Convener: Dr David Norman, d.g.norman@dundee.ac.uk

Brief description of module: Molecular Sciences 1A covers the fundamentals of chemistry that are essential for understanding the chemical processes in living cells and the structure of molecules and materials. The purpose of the module is to encourage students to grasp the comprehensiveness of chemistry. This module is suitable for students with little previous knowledge of chemistry.

Teaching: 3 lectures/week (33 in total) with 18 hours of practicals and 15 hours of teacher-directed study exercises

4.3. Level 1 Semester 2 LS Module Descriptors

BI12004 ENVIRONMENTAL BIOLOGY [20 SCOTCAT Credits]

Module Leader/Convener: Dr Allan Jones, a.m.jones@dundee.ac.uk

Brief description of module: Environmental Biology 1B is a multidisciplinary module that presents an introductory overview of biology from an ecological perspective. The major topics covered include organismal interactions, ecological principles, the biophysical world, ecosystems and human environmental influences. This module is suitable for students with little previous knowledge of biology.

Teaching: 3 lectures/week (33 in total) with 15 hours of practicals/field excursions and 30 hours of teacher-directed study exercises including a tutor and group based level 1 Life Sciences project.

BI12005 GENES, HEREDITY & DEVELOPMENT 1B [20 SCOTCAT Credits]

Module Leader: Dr Maureen Benwell, m.e.m.benwell@dundee.ac.uk
Module Convener: Dr Will Whitfield, w.g.f.whitfield@dundee.ac.uk

Brief description of module: Genes, heredity & development 1B is a multidisciplinary module that presents an introduction to how genetic information is encoded in genes, expressed and passed from one generation to another. This module covers genetics at the molecular, cellular, viral and whole organismal level with major topics including DNA replication, mitosis and meiosis, the complexities of Mendelian genetics, formation of proteins, the general processes of genetic manipulation & mutation, interaction of cells and formation of tissues and organs, reproduction & development.

Teaching: 3 lectures/week (33 in total) with 15 hours of practicals and 30 hours of teacher-directed study exercises including a tutor and group based level 1 Life Sciences project.

CH12006 MOLECULAR SCIENCE 1B [20 SCOTCAT Credits]

Module Leader: Dr Linda Morris, l.a.z.morris@dundee.ac.uk
Module Convener: Dr David Norman, d.g.norman@dundee.ac.uk

Brief description of module: Molecular Sciences 1B covers the fundamentals of organic, physical and general chemistry that are essential for understanding the chemical processes in both the physical and biological sciences.
Life Sciences Study Guide 2009/10

- **Teaching:** 3 lectures/week (33 in total) with 18 hours of practicals and 15 hours of teacher-directed study exercises.

### 4.4. Level 2 Semester 1 LS Module Descriptors

**BI21007 COMPARATIVE PHYSIOLOGY [20 SCOTCAT Credits]**

*Module Leader/Convener: Dr Jim Elliott, j.r.elliott@dundee.ac.uk*

- **Brief description of module:** Comparative Physiology is a multidisciplinary module that considers the range of structural and functional mechanisms by which multicellular organisms, such as invertebrates, fish, mammals and plants, perform the basic tasks needed to support their own life and perpetuate the species. This module emphasises the importance of control, integration and communication at the whole organism level. The aim of the module is to provide a sound basis of intermediate level physiology that will equip students to proceed to later level 2 Life Sciences modules.

- **Teaching:** 3 lectures/week (33 in total) with 15 hours of practicals and 20 hours of teacher-directed study exercises including an essay and a group based project presentation.

**BI21008 DIVERSITY OF LIFE [20 SCOTCAT Credits]**

*Module Leader: Dr Keith Skene, k.r.skene@dundee.ac.uk*

*Module Convener: Dr Steve Hubbard, s.f.hubbard@dundee.ac.uk*

- **Brief description of module:** Diversity of Life is a multidisciplinary module that will give all Life Sciences students a broad appreciation of the structural diversity of the living world and the way in which it has arisen through evolutionary time. The major topics dealt with in this module include the physical background and methods of describing diversity, the simplest forms of life, early ecosystems, the transition of life from sea to land, mammals, grasses and shifting continents finishing with human evolution and ecology. The aim of the module is to provide a sound foundation of intermediate level biology that will equip students to proceed to later level 2 Life Sciences modules.

- **Teaching:** 3 lectures/week (33 in total) with 15 hours of practicals and 20 hours of teacher-directed study exercises including an essay and compilation of a glossary of terms.

**BI21009 GENETICS [20 SCOTCAT Credits]**

*Module Leader/Convener: Dr Will Whitfield, w.g.f.whitfield@dundee.ac.uk*

- **Brief description of module:** Genetics explains the mechanism by which living organisms pass on their characteristics to the next generation. This module provides a basic understanding of the way in which hereditary information is expressed and illustrates how this expression can be regulated. The application of genetic techniques to the study of Life Sciences is also demonstrated.

- **Teaching:** 3 lectures/week (33 in total) with 15 hours of practicals and 20 hours of teacher-directed study exercises including laboratory preparation and follow-up exercises and computer based tutorials.
**BI21010 SOCIETY & THE LIFE SCIENCES [20 SCOTCAT Credits]**

*Module Leader: Dr Linda Morris, l.a.z.morris@dundee.ac.uk*

*Module Conveners: Dr Jane Illes j.illes@dundee.ac.uk & Dr Keith Skene k.r.skene@dundee.ac.uk*

- **Brief description of module:** Science and society have had an impact on each other since earliest times and today, when the pace of research is so fast, it is essential for all scientists to have an understanding of this interaction. The overall aim of this module is to provide you with this necessary background knowledge and to illustrate how public understanding of science can influence the direction and funding of research. The module will be presented in five 2 week blocks covering history, ethics, media, art and philosophy.

- **Teaching:** One 3 hr lecture every second week (15 in total) with 50 hours of teacher-directed study. Each two week block has an online assessment, supplemented with additional assessments such as oral or poster presentations, essay or debate.

**CH21010 BIOMOLECULAR CHEMISTRY : SHAPE & FUNCTION [20 SCOTCAT Credits]**

*Module Leader: Dr Nick Brewer, n.j.brewer@dundee.ac.uk*

*Module Convener: Prof. Bill Hunter, w.n.hunter@dundee.ac.uk*

- **Brief description of module:** Building on the first year module, Molecular Science 1B, Biomolecular Chemistry: Shape and Function provides intermediate level knowledge of chemical principles applicable to the life sciences. This module covers aspects of bonding, role of metal ions in biological systems, the chemistry of “molecules of life” (amino acids, proteins, nucleic acids), and thermodynamics essential for understanding chemical processes in living cells. Includes an understanding of analytical instrumentation.

- **Teaching:** 3 lectures/week (33 in total) with 15 hours of practicals and 20 hours of teacher-directed study exercises including a group based project report.

**SB21036 INTRODUCTION TO SPORTS & EXERCISE SCIENCE 1 [20 SCOTCAT Credits]** *(only available to sports biomedicine and Physiology with sports biomedicine students)*

*Module Leaders: Dr Audrey Duncan, a.t.duncan@dundee.ac.uk; & Miss Helen Weavers h.m.weavers@dundee.ac.uk*

- **Brief description of module:** This module runs through semester 1 and considers systems physiology; skeletal muscle composition, activation and recruitment during exercise; bioenergetics; exercise metabolism; cardiovascular responses to exercise; thermoregulatory responses to exercise; exercise in extreme environments; drugs in sport; rest, recovery & regeneration. Components of fitness: body composition, flexibility, strength, aerobic capacity as well as field assessment of fitness: flexibility, strength & power, aerobic fitness, speed, agility.

- **Teaching:** This module includes 21.5hrs of lectures, 17.5 hrs of practical work and 15.5hrs of tutorials.
SB21057 HUMAN PHYSIOLOGY & METABOLISM 1 [20 SCOTCAT Credits] (only available to sports biomedicine students)

Module Leader/Convener: Dr Jane Illes, j.illes@dundee.ac.uk

● Brief description of module: The purpose of this module is to enable a Sports Biomedicine student to acquire a good understanding of appropriate elements of human physiology and metabolism. On completion of the module, students will be able to explain the role of selected body systems in supporting physical activity and will have knowledge of at least one disease state which compromises the working of the system. Topics will include
  o Cell membranes and their processes: transport, electrical signals
  o Nerve and muscle: the neuromuscular junction and muscle contraction
  o Glycolysis, the citric acid cycle and electron transport chain
  o The respiratory system
  o The cardiovascular system
  o The renal system and acid-base balance

● Teaching: 1 lecture/seminar per week (11 in total), 6 three hour practicals and 5 hours of teacher-directed study exercises

4.5. Level 2 Semester 2 LS Module Descriptors

BI22012 MICROBIOLOGY & IMMUNOLOGY [20 SCOTCAT Credits]

Module Leader/Convenor: Dr Hilary Young, h.k.young@dundee.ac.uk

● Brief description of module: This module will provide students with knowledge of the range of beneficial and detrimental interactions that exist between microorganisms and other organisms. The module will also give an introduction to human host-defence against infection including specific and non-specific defence mechanisms

● Teaching: 3 lectures/week (33 in total) with 17 hours of practicals and 20 hours of teacher-directed study exercises including a group based project report.

BI22014 CELLULAR & MOLECULAR BIOLOGY [20 SCOTCAT Credits]

Module Leader: Dr Maureen Benwell, m.e.m.benwell@dundee.ac.uk
Module Convener: Dr Gerhard May, g.h.w.may@dundee.ac.uk

● Brief description of module: Cellular & Molecular Biology is a multidisciplinary module that deals with the common features of all organisms, concentrating mainly on the scale from individual molecules up to single cells. The module contains a biochemical treatment of several topics including biomolecules and membranes, proteins and enzymes, metabolism, cell signalling and biogenesis of cell structure. It also considers some aspects of bioenergetics at the tissue and whole organism level. Finally, it introduces the core techniques required for studying proteins, enzymes and other cellular molecules.

● Teaching: 3 lectures/week (33 in total) with 15 hours of practicals and 20 hours of teacher-directed study exercises.

BI22015 DRUGS & DRUG TARGETS [20 SCOTCAT Credits]

Module Leader/Convener: Dr Geoff Lyles, g.a.lyles@dundee.ac.uk

● Brief description of module: Drugs & Drug Targets introduces you to the study of the action of drugs. This module covers the molecular mechanisms of action of
drugs, their effects and clinical uses in relation to major systems of the body such as
the brain and peripheral, cardiovascular and renal systems as well as how drugs are
handled by and cleared from the body.

**Teaching:** 3 lectures/week (33 in total) with 15 hours of practicals and 20 hours of
teacher-directed study exercises.

**BI22016 HUMAN FORM & FUNCTION [20 SCOTCAT Credits]**

*Module Leader/Convener: Dr Graham Christie, g.r.christie@dundee.ac.uk*

**Brief description of module:** Human Form and Function describes how function is
related to structure in the heart, lungs, kidneys, gastrointestinal tract and muscles. This
module examines the mechanisms that enable the human body to maintain a
stable internal environment at rest but which also allow the body to react to change.
This is done by considering (i) how the circulation is controlled (ii) how the
composition of extracellular fluid is regulated (iii) how breathing is controlled (iv) how
food is digested, absorbed and utilised (v) how muscles produce movement.

**Teaching:** 3 lectures/week (33 in total) with 15 hours of practicals and 20 hours of
teacher-directed study exercises.

**BI22055 ANIMAL FUNCTION [20 SCOTCAT Credits]**

*Module Leader/Convener: Dr Keith Skene, k.r.skene@dundee.ac.uk*

**Brief description of module:** Animals Function gives an appreciation of the
responses of the animal kingdom to the challenges offered by the biotic and abiotic
environments with which they interact. This is an optional module that is a pre-
requisite for those Life Science students intending to proceed to single or joint
Honours Degrees in zoology or ecology

**Teaching:** 3 lectures/week (33 in total) with 15 hours of practicals and 20 hours of
teacher-directed study exercises.

**CH22013 BIOMOLECULAR CHEMISTRY: THEORY & APPLICATION [20 SCOTCAT
Credits]**

*Module Leader: Dr Nick Brewer, n.j.brewer@dundee.ac.uk
Module Convener: Prof W N Hunter, w.n.hunter@dundee.ac.uk*

**Brief description of module:** Building on the level 1 modules “Molecular Mechanisms 1A
and 1B” Biomolecular Chemistry: Theory and Application, provides intermediate level
knowledge of aspects of molecular structure, kinetics, spectroscopy and organic chemistry
essential for understanding chemical processes in living cells.

**Teaching:** 3 lectures/week (33 in total) with 15 hours of practicals and 20 hours of
teacher-directed study exercise including small group tutorials.

**FO22046 INTRODUCTION TO HUMAN ANATOMY [20 SCOTCAT Credits]**

*Module Leader/Convener: Dr Paul Felts, p.felts@dundee.ac.uk*

**Brief description of module:** This module deals with the systems and general
topography of the human body. This module examines the tissues of the human body
histologically, Comparative Osteology & basic human osteology will also be
considered with an introduction to bone physiology, biochemistry and biomechanics.
SB21039 INTRODUCTION TO SPORTS & EXERCISE SCIENCE 2 [20 SCOTCAT Credits] (please note that this is only available to sports biomedicine and Physiology with sports biomedicine students)

Module Leaders: Dr Audrey Duncan, a.t.duncan@dundee.ac.uk; & Miss Helen Weavers h.m.weavers@dundee.ac.uk

Brief description of module: This module runs through semester 2. Topics include sport and exercise psychology including the role of psychology in sporting performance and exercise behaviour, physical activity participation, physical activity behaviour change. Individual personality traits, group cohesion, leadership, motivation, anxiety and performance, self-confidence and performance, the psychology of athletic injury as well as application of sports psychology to performance. Biomechanics including the role of sports biomechanics in sporting performance, forces and the movement of mass, Newton's Laws of Motion, projectile motion, impulse and momentum, mass centre and balance, segmental analysis and the principle of moments, axes of rotation, moment of inertia, angular momentum and torque, potential energy, linear and angular kinetic energy as well as applications to technique in sport. Pharmacology including a major focus on the effect of common prescription drugs such as β-blockers, sympathomimetics, bronchodilators, diuretics, hypoglycaemics, statins & antidepressants as well as over the counter and recreational drugs including iron, erythropoietin, creatine, aspirin, steroids & caffeine on exercise. The influence of exercise itself on the actions of many of these drugs will also be considered.

Teaching: This module includes 30hrs of lectures, 15 hrs of practicals and 6hrs of tutorials.

SB21058 HUMAN PHYSIOLOGY & METABOLISM 2 [20 SCOTCAT Credits] (only available to sports biomedicine students)

Module Leader/Convener: Dr Graham Christie, g.r.christie@dundee.ac.uk

Brief description of module: The purpose of this module is to enable a Sports Biomedicine student to acquire a good understanding of appropriate elements of human physiology and metabolism. On completion of the module, students will be able to explain the role of selected body systems in supporting physical activity and will have knowledge of at least one disease state which compromises the working of the system. Topics will include
- Intra- and intercellular communication.
- The digestion and absorption of nutrients.
- The role of endocrine glands in the maintenance of homeostasis and response to physical activity.
- The development and maintenance of reproductive function in both genders and the development and relevance to exercise of secondary sexual characteristics.
- The function of the nervous system.
- The integrated control of metabolism, particularly in relation to physical activity.

Teaching: 1 lecture/seminar per week (11 in total), 6 three hour practicals and 5 hours of teacher-directed study exercises.
4.6. Level 3 Semester 1 LS Module Descriptors

**BI31017 ANIMAL BEHAVIOUR & ECOPHYSIOLOGY [30 SCOTCAT Credits]**

*Module Leader/Convener: Dr Steve Hubbard, s.f.hubbard@dundee.ac.uk*

- **Brief description of module:** This module has 3 main themes. It commences with an examination of behavioural ecology, which includes topics such as behavioural genetics, learning, the adaptive nature of behaviour, protection from predators and sexual selection. The second theme is concerned with environmental physiology and emphasises the behavioural and physiological adaptations to temperature and respiratory extremes as well as diving, swimming, running and flying. The final part of the module deals with parasite and vector biology.

- **Teaching:** 4 lectures/week (44 in total) with 34 hours of practical/project work.

**BI31018 CELLULAR & MOLECULAR PHYSIOLOGY [30 SCOTCAT Credits]**

*Module Leader/Convener: Dr Graham Christie, g.r.christie@dundee.ac.uk*

- **Brief description of module:** Cellular and Molecular Physiology is concerned with the regulation of normal cellular function and the physiological principles underlying this. Major topics covered include membrane structure and function, primary and secondary active transport, facilitated diffusion, ion channels and their selectivity, regulation of cell metabolism, and communication between as well as within cells, using skeleton cardiac and smooth muscle examples. Finally, neurotransmission of acetylcholine and other major neurotransmitters are compared and consideration given to spinal circuits, nociception, opiates and peptides.

- **Teaching:** 4 lectures/week (44 in total) with 34 hours of tutorials, practicals/study exercises.

**BI31020 DEVELOPMENTAL BIOLOGY [30 SCOTCAT Credits]**

*Module Leader: Dr Will Whitfield, w.g.f.whitfield@dundee.ac.uk*  
*Module Convener: Prof. Kees Weijer, c.j.weijer@dundee.ac.uk*

- **Brief description of module:** The lecture course starts with an introduction highlighting the nomenclature and concepts of development, as well as giving a brief historical introduction. It then proceeds with a description of the development of a number of invertebrate model systems and methods to analyse it. The concepts of mutational analysis using yeast, *Dictyostelium, Drosophila* and *C. elegans* are introduced as examples. It highlights a number of signalling pathways involved in control of cell movement, cell polarisation, axis specification and tissue differentiation. The development of plants is then described. The module continues with consideration of the development of a number of vertebrate model systems to highlight axis formation, formation of the germlayers (endoderm, mesoderm and ectoderm) followed by a discussion of the principles controlling the setting up of the vertebrate body plan. It describes the formation of the nervous system, extremities such as limbs and looks in more detail at tissue specification and interaction. It ends with an introduction to human development. The lecture series is accompanied by practicals that demonstrate the development of some key organisms described in the lectures and allows the students to do some simple experiments themselves.

- **Teaching:** 4 lectures/week (44 in total) with 34 hours of practicals/project work and tutorials.
Brief description of module: The genome is the total complement of genetic information carried by a cell or organism. It functions as a blueprint, specifying all the biological information necessary for making and maintaining a living organism. The aim of this module is to enable the student to appreciate how information contained within the genome is stored, maintained and interpreted, a key step in understanding how it is used by cells and how changes in the genome can cause disease. The lecture series extends the student’s knowledge of the following major themes: the structure of DNA, DNA-protein interactions, DNA replication and repair, transcription, protein synthesis, genome organisation, the regulation of gene expression, protein structure, regulation of protein function, molecular genetic and proteomic analysis and the molecular basis of inherited diseases.

Teaching: 4 lectures/week (44 in total) with 70 hours of tutorials and practicals.

Brief description of module: This module aims to provide an introduction to the principles of neuropharmacology. The major themes covered are ligand-gated ion channels, G-protein linked receptors, second messenger systems and behavioural pharmacology. The lecture course begins with consideration of neurotransmitter release before commencing to examine events at the receptor, using nicotinic cholinergic, GABA, glycine and glutamate receptors as examples of ligand-gated mechanisms while the β-adrenoceptor subfamily are used as the example of the G-protein linked receptor class. Consideration is also given to calcium homeostasis and the role of inositol phospholipids as second messengers. The principles of behavioural pharmacology are described with special emphasis on brain catecholamine, serotonin, GABA, glutamate and opioid systems as targets for centrally acting drugs.

Teaching: 4 lectures/week (44 in total) with 65 hours of tutorials and practicals/project work.

Brief description of module: This module is concerned with aspects of microbial growth in relation to the roles, control and applications of microorganisms in the environment, medicine, healthcare and biotechnology. The aspects of microbial growth considered range from growth and differentiation at the level of individual microbial cells to the growth of microbial populations in the environment and in laboratory and industrial-scale culture systems. The module also provides an overview of the diversity of microbial metabolism, and considers the influence of environmental factors on microbial growth and the roles of microorganisms in geological processes. Selected biotechnological applications of microorganisms are then considered with reference to topics that include the microbial control of pollution, biofuels, secondary metabolites, biosensors, production of industrial enzymes, molecular diagnostics, gene therapies, production of therapeutic proteins and
vaccines. The practical component of the module includes isolation of microorganisms and their physiological and molecular genetic characterisation.

- **Teaching:** 4 lectures/week (44 in total) with 34 hours of practicals/project work and study exercises.

**BI31056 GROSS ANATOMY 1 [30 SCOTCAT Credits]**

*Module Leader/Convener: Dr Roger Soames, r.w.soames@dundee.ac.uk*

- **Brief description of module:** This module focuses upon dissection, typically by teams of four or five students, of the trunk and lower extremity of a human cadaver. Practical (dissection) sessions will almost always be preceded by lectures that should help students understand the anatomy to be seen in the following practical session or address dissection problems specific to the practical in question.

- **Teaching:** 3 lectures/week (33 in total) with 93 hours of laboratory practicals and revision.

**CH32043 ANALYTICAL & PROGNOSTIC CHEMISTRY [30 SCOTCAT Credits]**

*Module Leader: Dr. Linda Morris, l.a.z.morris@dundee.ac.uk*
*Module Convener: Dr. Sandy Chudek, j.a.chudek@dundee.ac.uk*

- **Brief description of module:** This module will provide the student with knowledge of the theory and application of physical, analytical and computational chemistry as applied to pharmaceutical and biological chemistry. Topics will include NMR spectroscopy; Single crystal X-ray diffraction; Spectroscopic and chromatographic analysis; Biochemical thermodynamics; Protein structure prediction and modelling.

- **Teaching:** 4 lectures/week with 60 hours of laboratory practicals and tutorials.

**FO31000 COMPARATIVE OSTEOLOGY [30 SCOTCAT Credits]**

*Module Leader/Convener: Dr Roger Soames, r.w.soames@dundee.ac.uk*

- **Brief description of module:** This module will provide a study of mammalian, avian and reptilian skeletons across a number of species. The student will gain an understanding of non-human skeletal material and the variation in form & function in relation to different species such that they will be able to identify individual bones from the same species as well as bones from a range of different species.

- **Teaching:** 22 lectures and 78 hours of practicals, small group discussion, tutorials and presentations.

**SB31040 CLINICAL EXERCISE SCIENCE [30 SCOTCAT Credits] (only available to sports biomedicine and Physiology with sports biomedicine students)**

*Module Leaders: Dr Audrey Duncan, a.t.duncan@dundee.ac.uk; & Miss Helen Weavers h.m.weavers@dundee.ac.uk*

- **Brief description of module:** This module will deal with the prevention by exercise and exercise therapy of cardiovascular diseases, type 2 diabetes mellitus, respiratory diseases, osteoporosis, muscle wasting disorders and aging, clinical exercise testing and practical teaching of relevant exercise classes.

- **Teaching:** Virtual learning environment: Powerpoint presentations, online tests, release of tasks to be prepared for seminars. Weekly 1 h seminars. Two 3 h laboratory practicals on clinical exercise testing. Eight 2 h exercise practicals.
4.7. Level 3: Semester 2 LS Module Descriptors

**BI32026 BIOCHEMICAL PHARMACOLOGY [30 SCOTCAT Credits]**

*Module Leader: Prof. JJ Lambert, jj.lambert@dundee.ac.uk*
*Module Convener: Prof. John Peters, j.a.peters@dundee.ac.uk*

- **Brief description of module:** The aim of this module is to give students a grounding for Honours Pharmacology and Medicinal Chemistry. The major topics investigated are the kinetics of drug-receptor interaction, drug metabolism, pharmacokinetics and molecular pharmacology. The lecture course starts with a consideration of the chemistry of drug-receptor interaction, structure-activity relationships, kinetics of drug action and receptor models (agonists, partial agonists, spare receptors). It then focuses on techniques used in quantifying drug-receptor interaction, drug metabolism, pharmacokinetics, pharmacogenetics, drug interactions. This is followed by the molecular biology of receptors that involves investigation of approaches to cloning, heterologous expression systems and receptor purification. This leads on to regulation of gene transcription – second messenger systems, signal transduction mechanisms and protein-DNA interactions. Finally, the use of transgenic animals in pharmacology and molecular approaches to CNS development, function and disease states is discussed.

- **Teaching:** 4 lectures/week (44 in total) with 65 hours of practicals and tutorials.

**BI32028 ECOLOGY & CONSERVATION BIOLOGY [30 SCOTCAT Credits]**

*Module Leader/Convener: Dr Keith Skene, k.r.skene@dundee.ac.uk*

- **Brief description of module:** This module endeavours to give a basic understanding of the principles of population, evolutionary and community ecology emphasising how the information can be brought together and applied to questions relating to conservation biology. Students are introduced to a range of UK and worldwide habitats of special interest. An important part of this module is the introduction of students to important habitats in Scotland, their physical environment and their associated flora, fauna and conservation interest. This is achieved by means of field excursions to selected sites. In addition to the general introduction to the different habitats, each excursion also aims to introduce students to a specific analytical or sampling technique and its application to a relevant ecological problem.

- **Teaching:** 4 lectures/week (44 in total) with 34 hours of field excursions, practicals and workshops.

**BI32030 HUMAN SYSTEMS PHYSIOLOGY [30 SCOTCAT Credits]**

*Module Leader: Dr Jane Illes, j.illes@dundee.ac.uk*
*Module Convener: Dr Peter Taylor, p.m.taylor@dundee.ac.uk*

- **Brief description of module:** This module concentrates on the regulation of human body function and the physiological control principles underlying this. A major aim is to further the student’s knowledge of respiratory and cardiovascular systems, nutrition and metabolism, muscles, motorneurones and movement. Topics covered include the mechanics of breathing and its regulation by mechanical and chemical control as well as sensory pathways. Consideration of the control of heart rate, blood pressure and special circulations is followed by discussion of the integration of respiratory and cardiovascular systems control. The effects of exercise on
metabolism as well as cardiovascular and respiratory function are examined. Finally, this module investigates the physiology of muscle, linking electrical events in neurones to physical responses and movement.

- **Teaching:** 4 lectures/week (44 in total) with 34 hours of tutorials and practicals.

**BI32032 MOLECULAR & CELL BIOLOGY [30 SCOTCAT Credits]**

*Module Leader: Dr Gerhard May, g.h.w.may@dundee.ac.uk*

*Module Convener: Prof. Grahame Hardie, d.g.hardie@dundee.ac.uk*

- **Brief description of module:** This module considers the structure and function of cells, building on material covered in the Level 2 module “Cellular & Molecular Biology” module. It covers the way in which cells are built up from molecular components and emphasises the dynamic nature of cell biology. The major topics covered in the lecture series are the cytoskeleton (intermediate filaments, actin, microtubules), cell adhesion junctions, the extracellular matrix, nuclear architecture (including nuclear transport and compartments), immunology (antibody diversity and antigen processing), intracellular transport (endocytosis and protein targeting mechanisms), signal transduction and the regulation of cell growth and division.

- **Teaching:** 4 lectures/week (44 in total) with 56 hours of tutorials and practicals.

**BI32052 IMMUNOLOGY & MOLECULAR MICROBIOLOGY [30 SCOTCAT Credits]**

*Module Leader/Convener: Dr Hilary Kay Young, h.k.young@dundee.ac.uk*

- **Brief description of module:** This module will cover the following topics: Normal human microbiota and agents of infection; The immune response to infection; Molecular virology; Bacterial molecular pathogenesis; Molecular diagnostics; Antibacterial chemotherapy; Protozoal immune evasion and modulation; Antiprotozoal chemotherapy; Autoimmune disease; Innate immunity / receptor recognition; Inherited immunodeficiencies

- **Teaching:** 4 lectures/week (44 in total) with 40 hours of laboratory practicals.

**BI32054 COMPARATIVE ZOOLOGY [30 SCOTCAT Credits]**

*Module Leader/Convener: Dr Allan Jones, a.m.jones@dundee.ac.uk*

- **Brief description of module:** The first half of this module will review the functional and evolutionary relationships underlying skeletal support, protection, locomotion, reproduction and development in the principal invertebrate groups. The second half of the module will consider the major adaptations of form and function in aquatic, amphibious and terrestrial vertebrates and the constraints which may have limited these adaptations. The module gives considerable emphasis to the practical aspects of Zoology and will include dissection of animal material.

- **Teaching:** 4 lectures/week (40 in total) with 30 hours of laboratory practicals.

**BI32065 GROSS ANATOMY 2 [30 SCOTCAT Credits]**

*Module Leader/Convener: Dr Roger Soames, r.w.soames@dundee.ac.uk*

- **Brief description of module:** This module focuses upon dissection, typically by teams of four or less, of the back, upper limb, head and neck of a human cadaver.
Practical (dissection sessions will almost always be preceded by lectures designed to help students understand the anatomy to be seen in the following practical(s) or to address concepts and problems specific to the practical in question.

- **Teaching:** 3 lectures per week and three x 3 h laboratory practicals.

**CH31042 ORGANIC CHEMISTRY [30 SCOTCAT Credits]**

*Module Leader/Convener: Dr Linda Morris, l.a.z.morris@dundee.ac.uk*

- **Brief description of module:** This module will provide the student with some basic skills in synthetic organic chemistry and some of the knowledge needed to understand mechanisms, reactivity and stereochemistry in organic chemistry, with reference to pharmaceutical and biological examples and applications.

- **Teaching:** 4 lectures/week (44 in total) with 56 hours of practicals and tutorials.

**CH32051 PRE-CLINICAL DRUG DISCOVERY [30 SCOTCAT Credits]**

*Module Leader: Dr. Linda Morris, l.a.z.morris@dundee.ac.uk*

*Module Convener: Prof. IH Gilbert, i.h.gilbert@dundee.ac.uk*

- **Brief description of module:** This module will provide the students with a firm background in molecular pharmacology and drug design. The object is to put into context the other modules taught in this year, enabling the student to obtain a broad overview and specific knowledge of the methods and processes of pharmaceutical discovery. Topics will include Mechanistic Enzymology; Drug targets and drug leads; Pharmaceutical development; Metabolism and drug interactions.

- **Teaching:** 4 lectures/week with 60 hours of laboratory practicals and tutorials.

**FO32047 HUMAN OSTEOLOGY [30 SCOTCAT Credits]**

*Module Leader/Convener: Prof. Sue Black OBE, s.m.black@dundee.ac.uk*

- **Brief description of module:** This module will consider detailed study of the human skeletal system, considering the growth and development of every bone in the human skeleton from its embryological origin through to its final adult morphology. The student will have a unique understanding of human skeletal form and function with the ability to identify intact and fragmented human remains at all levels of the age continuum. Imaging of bone – photography and other means of presentation of the bone image. The skeletal systems studied will include:
  - The axial skeleton – Skull and vertebral column.
  - The thorax – sternum, ribs and costal cartilages
  - The pectoral girdle – Clavicle and scapula
  - The upper limb – humerus, radius, ulna, carpals and phalanges
  - The pelvic girdle – ilium, ischium and pubis
  - The lower limb – femur, patella, tibia, fibula, tarsals and phalanges

- **Teaching:** Virtual learning environment: Powerpoint presentations, online tests, release of tasks to be prepared for seminars. Weekly 1 h seminars. Five 3 hour laboratory practicals.
SB32041 MOLECULAR EXERCISE PHYSIOLOGY [30 SCOTCAT Credits]

Module Leader/Convener: Dr Pete Taylor, p.m.taylor@dundee.ac.uk

- **Brief description of module:** This module will deal with skeletal muscle adaptation to exercise, signals and stresses associated with resistance and endurance exercise, activation of signal transduction pathways during exercise, gene regulation by signal transduction pathways, regulation of complete and incomplete fast-to-slow fibre phenotype changes, regulation of muscle hypertrophy, mitochondrial biogenesis, satellite cell proliferation, genome viewing, comparative sequence analysis, polymorphisms, promoter analysis in silico, angiogenesis.

- **Teaching:** Virtual learning environment: Powerpoint presentations, online tests, release of tasks to be prepared for seminars. Weekly 1 h seminars. Five 3 hour laboratory practicals.
4.8. Honours Year Descriptor

4.8.1. Modular structure:
For all Life Sciences degrees, level 4 is subdivided into four 30 SCOTCAT modules that collectively account for 120 credits, corresponding to a total student effort of 1200 hours. Table 5 gives an outline description of each module and indicates their individual contribution to the total assessment.

4.8.2. Honours Projects
The publication and allocation of Honours project titles is handled on a School-wide basis by Dr Will Whitfield, the Honours Year Organiser. Documents containing titles & brief descriptions of projects, along with the Degrees for which they are suitable, will be published early in term 3. Level 3 students intending to proceed to Honours should choose eight titles suitable for their chosen Degree and email the ranked list (including the project title and the identifying LSP number) to Dr Will Whitfield w.g.f.whitfield@dundee.ac.uk

4.8.3. Honours Course Units
The Honours Theory Unit options, from which you will make your choices, will be published shortly before the beginning of your Honours year.

TABLE 5: LEVEL 4 HONOURS MODULES

<table>
<thead>
<tr>
<th>Module Code</th>
<th>Module Title</th>
<th>Credits (Percentage of Total Assessment)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI40048</td>
<td>Honours Project</td>
<td>30 SCOTCAT credits (25% of total assessment)</td>
</tr>
<tr>
<td></td>
<td>Projects may be either laboratory, field-based experimental exercises or ‘desk-top’ studies in the form of a dissertation or Bioinformatics analysis. Students will spend a total of 300 hours of effort (approximately 16 hours per week) to complete their project.</td>
<td></td>
</tr>
<tr>
<td>BI40050</td>
<td>In-Course Skills</td>
<td>30 SCOTCAT credits (25% of total assessment)</td>
</tr>
<tr>
<td></td>
<td>This module runs through both semesters and involves 200 hours of student effort spent on unit-associated exercises along with a further 100 hours devoted to a variety of in-course studies including statistics and other elements that may vary according to the degree programme.</td>
<td></td>
</tr>
<tr>
<td>BI40051</td>
<td>Semester 1 Theory module</td>
<td>30 SCOTCAT credits (25% of total assessment)</td>
</tr>
<tr>
<td></td>
<td>This module comprises four honours course units appropriate to a chosen degree. Two of these units will be from Period A, the first half of semester 1 and two from Period B, the second half of semester 1. Each honours course unit consists of between 10 and 15 hours of staff contact time (delivered in either 4 or 5 sessions), which may involve lectures, tutorials and set exercises (e.g. literature analyses) relating to specialised topics at the forefront of research. Students are expected to spend an additional 60 to 65 hours of private study on each unit, corresponding to a total of 300 hours for the module.</td>
<td></td>
</tr>
<tr>
<td>BI40052</td>
<td>Semester 2 Theory module</td>
<td>30 SCOTCAT credits (25% of total assessment)</td>
</tr>
<tr>
<td></td>
<td>This module comprises four honours course units appropriate to a chosen degree, two from Period C, the first half of semester 2 and two from Period D, the second half of semester 2. The details for the honours course units are the same as for BI40051 Semester 1 Theory module.</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 5: IMPORTANT REGULATORY INFORMATION for LIFE SCIENCE STUDENTS

5.1. The SQA Framework, Degree Structure, Regulations & the Scotcat Credit System

The Scottish Qualifications Authority has a framework that lays out the minimum number of SCOTCAT credits that must be obtained for the award of Certificates, Diplomas and Degrees in all Scottish Higher Education Institutions. Table 6 shows how the Framework is applied in the College of Life Sciences at Dundee University:

Table 6: SQA framework for Scottish Higher Education Establishments

<table>
<thead>
<tr>
<th>AWARD</th>
<th>SCOTCAT credits required</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSc with Honours</td>
<td>Minimum of 480 SCOTCAT credits including a combined total of 240 credits at Levels 3 &amp; 4</td>
</tr>
<tr>
<td>(to be completed in no more than 5 academic years)</td>
<td></td>
</tr>
<tr>
<td>BSc named</td>
<td>Minimum of 360 SCOTCAT credits with a minimum of 120 credits at Level 3</td>
</tr>
<tr>
<td>(to be completed in no more than 4 academic years)</td>
<td></td>
</tr>
<tr>
<td>BSc un-named</td>
<td>Minimum of 360 SCOTCAT credits with a minimum of 60 credits at Level 3</td>
</tr>
<tr>
<td>(to be completed in no more than 4 academic years)</td>
<td></td>
</tr>
<tr>
<td>Dip. HE Sci.</td>
<td>Minimum of 240 SCOTCAT credits with a minimum of 90 credits at Level 2</td>
</tr>
<tr>
<td>Cert. HE Sci.</td>
<td>Minimum of 120 SCOTCAT credits with a minimum of 90 credits at Level 1</td>
</tr>
</tbody>
</table>

1 of which one or more years may be credits accrued by credit transfer from alternative qualifying programmes, which may be at other Institutions.

Every Module carries a SCOTCAT credit rating and you gain these credits only if you obtain the pass mark for the Module. Your Programmes of Study over several years make up your Degree Programme. Table 6 stipulates what each Degree Programme must contain in terms of total number of SCOTCAT credits, and in terms of the Modules that must be included within it (pre-requisite modules). You should become familiar with the College of Life Sciences Degree Regulations available at:

http://www.dundee.ac.uk/lifesci/regs.htm

Please seek help from your adviser of studies if you need help with understanding any aspect of the Regulations.

5.1.1. The SCOTCAT Credit Scheme & the Student Workload

The SCOTCAT scheme envisages 1200 hours of work by you each year, based upon 40 hours a week for 30 weeks, successful completion of which will give you a total of 120 credits. The module SCOTCAT rating indicates the total number of hours of effort that is required of you in that module e.g. a 20 credit module requires 200 hours of effort. Such a module could contain 30 hours of lectures, 25 hours of laboratory practicals and 5 hours of tutorials. The balance of the 200 hours (in this example 140 hours) must be spent by you on independent learning including background reading, getting your notes into shape,
completing coursework, revision etc. If you obtain an overall pass grade for that module, you will be awarded 20 SCOTCAT credits. If you fail, no credits will be awarded.

If you are a full-time student, you are expected to pass modules totalling 120 credits each year. Failure to do so may impact on the type of degree you achieve and the number of years it will take you to gain a degree. You will not be allowed to proceed to Honours unless you have passed all of the essential pre-requisite modules for your chosen degree subject and have accrued a minimum of 360 SCOTCAT credits.

### Table 7: Advisers of Studies 2009/10

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Tel No.</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr M E M Benwell</td>
<td>CG.06, Carnelley Building</td>
<td>384760</td>
<td><a href="mailto:m.e.m.benwell@dundee.ac.uk">m.e.m.benwell@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr N J Brewer</td>
<td>CG.08, Carnelley Building</td>
<td>384706</td>
<td><a href="mailto:n.j.brewer@dundee.ac.uk">n.j.brewer@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr G R Christie</td>
<td>CB.09, Carnelley Building</td>
<td>384330</td>
<td><a href="mailto:g.r.christie@dundee.ac.uk">g.r.christie@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr J R Elliott</td>
<td>C.1.04, Carnelley Building</td>
<td>384578</td>
<td><a href="mailto:j.r.elliott@dundee.ac.uk">j.r.elliott@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr P Felts</td>
<td>Anatomy Corridor, MSI</td>
<td>384214</td>
<td><a href="mailto:p.felts@dundee.ac.uk">p.felts@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr J Illes</td>
<td>CB.10, Carnelley Building</td>
<td>384966</td>
<td><a href="mailto:j.illes@dundee.ac.uk">j.illes@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr A M Jones</td>
<td>CB.08, Carnelley Building</td>
<td>385120</td>
<td><a href="mailto:a.m.jones@dundee.ac.uk">a.m.jones@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr GA Lyles</td>
<td>Pathology &amp; Neurosciences, Ninewells Hospital &amp; Medical School</td>
<td>633895</td>
<td><a href="mailto:g.a.lyles@dundee.ac.uk">g.a.lyles@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr G H W May</td>
<td>CB.17, Carnelley Building</td>
<td>384329</td>
<td><a href="mailto:g.h.w.may@dundee.ac.uk">g.h.w.may@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr L A Morris</td>
<td>CB.23, Carnelley Building</td>
<td>384682</td>
<td><a href="mailto:l.a.z.morris@dundee.ac.uk">l.a.z.morris@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Prof J A Peters</td>
<td>Pathology &amp; Neurosciences, Ninewells Hospital &amp; Medical School</td>
<td>633117</td>
<td><a href="mailto:j.a.peters@dundee.ac.uk">j.a.peters@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr Patrick Randolph-Quinney</td>
<td>Basement, MSI Building</td>
<td>384220</td>
<td><a href="mailto:p.s.randolphquinney@dundee.ac.uk">p.s.randolphquinney@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr K Skene</td>
<td>C.B.21, Carnelley Building</td>
<td>384257</td>
<td><a href="mailto:k.r.skene@dundee.ac.uk">k.r.skene@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr Roger Soames</td>
<td>Ground Floor, MSI Building</td>
<td>386384</td>
<td><a href="mailto:r.w.soames@dundee.ac.uk">r.w.soames@dundee.ac.uk</a></td>
</tr>
<tr>
<td>Dr Hilary-Kay Young</td>
<td>CG.07, Carnelley Building</td>
<td>384278</td>
<td><a href="mailto:h.k.young@dundee.ac.uk">h.k.young@dundee.ac.uk</a></td>
</tr>
</tbody>
</table>

### 5.2. Advisers of Studies - Arranging Your Programme of Study

You will meet Your Adviser of Studies when you first matriculate. They will help you to select modules to ensure that you gain the Modules necessary to proceed to the next year of study or to gain your intended degree. Your Adviser of Studies can also act as a Personal Tutor. This means that you are welcome to meet with your Adviser to discuss any matter giving rise for concern. (See Table 7 for list of Advisers)

#### 5.2.1. Changing Modules or Your Programme of Study

You must seek the permission of your Adviser of Studies if you wish to make any changes to your programme of study. Your Adviser is the only person authorised to agree changes. This could include substituting one Module for another, simply dropping one or more Modules (provided that you understand and accept the consequences of a reduced workload) or changing your degree in view.

You must make any changes to your module selection within 2 weeks of the start of Semester 1 or Semester 2.
5.3. Studying Abroad & Criteria

You may wish to spend a period of study overseas (a semester or year) as part of a University of Dundee degree and so should check out the information on one or other of the following at http://www.dundee.ac.uk/undergraduate/studying_abroad/

- **ERASMUS Life Long Learning Programme** - study and work placement in Europe
  - 2nd or 3rd year for one or two semesters
- **Transatlantic Student Exchange** - spend your 2nd year of study in either the USA or Canada
- **Australasia Students Exchange** - spend one or two semesters of your 3rd year of study in Australia, New Zealand or Hong Kong

5.3.1. Criteria for Life Sciences student eligibility

You must ensure that the programme of study you intend to take, at the host institution, is appropriate grounding for continuing with your chosen degree when you return to Dundee. Please note that, to have your application authorised by the Dean of the School of Life Sciences Learning & Teaching, you MUST satisfy the following criteria

- You must have passes in all modules and a minimum of a B3 grade average for the year of study prior to that during which you wish to go on the exchange
- You must also have a good record of attendance and submission of in-course work for all years of study to date.

5.4. Prizes, Certificates & Life Sciences Award Ceremony

- **Certificates** – All students who achieve grades A1-A3 for their overall module mark, at their first attempt, are awarded a Certificate of Excellence for that module.
- **Module Prize** – The top student on each module will receive a specific prize provided they have achieved a minimum of an overall A3 grade at their first attempt
- **Other Prizes** – There are prizes & bursaries awarded by the School and College each year as listed in Appendix 1
- **Awards Ceremony** – Students who have won module, School and College prizes are presented with certificates and prizes at a special Awards Ceremony which normally takes place in November of the new session.

5.5. Assessment and Examinations

All assessed elements of life science modules are graded in accordance with the University of Dundee’s Assessment Policy which can be viewed in full at: http://www.somis.dundee.ac.uk/academic/assesspolicy.htm

5.5.1. Reporting grades and Aggregation Scales

Table 8 overleaf summarises the alpha numeric reporting scale that is used for all module assessments and shows its relationship to honours degree grades. As the assessment for all life science modules comprise a number of assessed elements, the overall grade for the modules will be calculated using the numerical aggregation scale to average the grades of the individual assessments taking into account their weightings listed in the ‘Module assessment scheme’ section of handbooks.
### TABLE 8 – Reporting and Aggregation Scales

<table>
<thead>
<tr>
<th>Reporting Scale</th>
<th>Descriptor</th>
<th>Honours class</th>
<th>Aggregation scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td></td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>A2</td>
<td>Excellent</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>A3</td>
<td></td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>B1</td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>B2</td>
<td>Very good</td>
<td></td>
<td>2(i)</td>
</tr>
<tr>
<td>B3</td>
<td></td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>C1</td>
<td></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>C2</td>
<td>Good</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>C3</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>D1</td>
<td>Satisfactory</td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>D2</td>
<td></td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>D3</td>
<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>MF</td>
<td>Marginal fail</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>CF</td>
<td>Clear fail</td>
<td>Marginal fail</td>
<td>9</td>
</tr>
<tr>
<td>BF</td>
<td>Bad fail</td>
<td>Clear fail</td>
<td>6</td>
</tr>
<tr>
<td>QF</td>
<td>Qualified fail</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>CA</td>
<td>Certified absence or certified non-submission</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>MC</td>
<td>Certified absence or certified non-submission due to illness</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>AB</td>
<td>Absent or non-submission for no good reason</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

#### 5.5.2. MC (medical certificate) and/or CA (certified absence) Grades

Adjustments for MC/CA grades depend upon the element of assessment as follows:

- For assessed certified absence or non-submission of coursework, suitable adjustment will be made to the overall module grade to take these into account. Where this adjustment results in an upgrading, your overall module grade will be duly amended following the examiners meeting for the module.

- For certified absence from Degree examinations, your overall module grade will be amended to reflect 0 MC such that your coursework marks will go forward to the next diet of examinations for which your result will be recorded as a first attempt and not a resit on your official transcript.

#### 5.5.3. QF Grade = Qualified fail

QF means that you have not met the criteria required to obtain an overall pass. Therefore, you will be required to be reassessed on the component which you have failed e.g. the degree examination or specific piece(s) of coursework. In the event that you obtain a QF grade, then the reassessment grade will take into account the component you passed at diet 1 e.g. your coursework will be included at the resit diet.
5.5.4. Use of English Translation Dictionaries in Examinations
If you are a student, whose first language is not English and you wish to use an English translation dictionary during exams, then you must apply, through the SLSL&T School Office, for a letter giving you permission to use a paper-based dictionary. You must take the letter to ALL examinations for checking, along with the dictionary, by the senior invigilator. Electronic dictionaries are not allowed in exams.

5.5.5. Assessment Criteria (APPENDIX 2)
Assessment criteria corresponding to the reporting scale used for all examinations and the Honours classification system can be found in APPENDIX 2 of this Guide.

5.6. Eligibility for Examinations & What Happens If You Fail
Satisfactory attendance at classes, completion of in-course assignments and other activities specified in each of the module handbooks are prerequisites for eligibility to sit examinations held in the Degree Examination Diets. If you fail to meet these requirements, your DP (Duly Performed) certificate may be withdrawn which will debar you from gaining the credits for the module. Having a DP withdrawn has serious implications for your progression through your Degree Programme.

5.6.1. What Can Happen If You Fail To Pass Modules
Failure to pass a resit examination always has consequences for your Degree Programme. In the extreme event that you did not gain the prescribed minimum number of credits (80 SCOTCATS per academic session for fulltime students), you would be subject to the Termination of Studies Regulations, in which case you will be informed of the procedures to be followed by letter, following publication of the results of the resit examinations.

- **Requirements for avoiding termination of studies:** - if you are a full time student, you are required to acquire a minimum 80 credits for each academic year of attendance. If, by the end of the re-sit diet of exams, you have failed to acquire 80 credits for the year, you would be invited to submit an appeal, and your case would be considered by the college termination of studies committee, which would decide, following inspection of your academic record and consideration of any mitigating circumstances you present, whether to allow you to return or whether to require you to discontinue your studies. If the college requires you to discontinue your studies, you have the right to appeal to the equivalent senate committee.

- **Failing even one Module**, although not necessarily leading to Termination of Studies, has an impact on your future because you have to gain enough SCOTCAT credits for a Degree. A failed Module may have to be taken again the following year, possibly on an “extended DP”, which allows you to sit the examinations without attending classes. However, for students entering in 2006 and later, EDPs will be permitted to enable progression from Levels 1 to 2 ONLY. If you fail a level 2 or 3 module, you may be required to repeat the module in attendance.

- **If you fail more than 2 Modules**, you may have to remain at the same level of study for another year and not allowed to progress to the next level until you have passed an adequate number of modules.

To summarise, failure to pass modules inevitably leads either to additional pressure at the next Level of Study, or failure to progress to the next Level of Study, with consequent lengthening of the time and expense to achieve your degree. You should note also that
fail grades appear on University Academic Transcripts which may be requested to support job applications.

5.6.2. Academic Related Appeals

Undergraduates not subject to Termination of Studies but who wish to make academic appeals are governed by the Senate Undergraduate Appeals Procedures [http://www.somis.dundee.ac.uk/academic/ug regs.htm](http://www.somis.dundee.ac.uk/academic/ug regs.htm). Appeals must be based on grounds of bias, prejudice, procedural irregularity or extenuating circumstances of which the examiners were unaware when their decision was taken. In all cases, the first resort is for you to seek resolution of the matter with the Dean. All appeals must be submitted, in writing, to the School Office within four weeks of the date on which you were first informed of the decision against which you wish to appeal.

5.7. Eligibility for Entry to Honours

To enter Final Honours year, you MUST have already accumulated 360 credits, of which 120 must be at Level 3 or higher. Furthermore, all Level 3 modules must normally be passed with an average grade of D1 or better at first attempt. If you are given the opportunity to resit an exam, then an average grade of C3 or better will be required for any Level 3 module passed at any further attempt. In addition, entry to honours is also dependent upon you having obtained passes in all of the life sciences special generic skills SPELS modules at levels 1-3. Entry into Final Honours is also subject to the approval of the Degree Convener for your chosen Degree and some degrees stipulate a higher level of achievement than the minimum standards described above. Therefore, it is important that you check your degree programme regulations & specifications on the School web pages at [http://www.dundee.ac.uk/lifesci/Specs.html](http://www.dundee.ac.uk/lifesci/Specs.html).

5.8. Plagiarism & Academic Dishonesty

The University of Dundee’s Code of Practice on Plagiarism and Academic Dishonesty may be viewed in full at [http://www.somis.dundee.ac.uk/academic/Plagiarism.htm](http://www.somis.dundee.ac.uk/academic/Plagiarism.htm).

Plagiarism and other forms of academic dishonesty are particularly unpleasant forms of intellectual deceit. There are greater temptations for students to engage in these activities in assessed coursework, whether that be essays, computer programmes, laboratory or practical work or undergraduate and postgraduate dissertations and theses. Therefore prevention is particularly important and, where possible, plagiarism detection software is used. Also, teaching staff are experienced in identifying possible cases of academic dishonesty. The University regards academic dishonesty as an extremely serious offence of equal import to cheating in written examinations, and it is dealt with accordingly.

5.8.1. Examples of academic dishonesty include

- **Collusion** - the representation of a piece of unauthorised group work as the work of a single candidate
- **Commissioning** - submitting an assignment done by another person as the student's own work
- **Duplication** - the inclusion in coursework of material identical or substantially similar to material which has already been submitted for any other assessment within the University
- **False declaration** - making a false declaration in order to receive special consideration by an Examination Board or to obtain extensions to deadlines or exemption from work
Falsification of data - presentation of data in laboratory reports, projects, etc based on work purported to have been carried out by the student, which have been invented, altered or copied by the student.

Plagiarism - the unacknowledged use of another's work as if it were one's own. Examples are:
- inclusion of more than a single phrase from another's work without the use of quotation marks and acknowledgement of source
- summarising another's work by changing a few words or altering the order of presentation without acknowledgement
- copying another's work
- use of another's ideas without acknowledgement or the presentation of work as if it were one's own which is substantially the ideas of another

Further explanation and guidance on how to avoid infringing them can be found on the Advance@Dundee at: [http://www.dundee.ac.uk/advancedundee/D/d018p.htm](http://www.dundee.ac.uk/advancedundee/D/d018p.htm).

Particularly useful information on how (and how not) to paraphrase the work of others can be viewed at: [http://www.wisc.edu/writing/Handbook/QPA_paraphrase.html](http://www.wisc.edu/writing/Handbook/QPA_paraphrase.html).

5.9. Academic Standards & Student representation

The University has a responsibility to assure the standards of its academic awards and the quality of teaching. All students are given an opportunity to give us their individual views of the modules by completing electronic module evaluation questionnaires via my Dundee. Any constructive comments you make about modules are fed back and used in course monitoring and contribute to the future development of modules. This is a feature of the University Academic Standards procedure and is fully supported by DUSA. The results of the questionnaires will also be available to you via the My Dundee module.

School President & students Representation – For information on student representation within the university Check out the URL below: [http://www.dusa.co.uk/content/index.php?page=19552](http://www.dusa.co.uk/content/index.php?page=19552).

The elected School President for Life Sciences for session 2009/10 is Lynsey-Ann Burke [l.a.burke@dundee.ac.uk](mailto:l.a.burke@dundee.ac.uk). It is the job of the school President to work with class representatives and other students to ensure issues and comments are picked up and brought to the attention of the appropriate committees such as the School Board of Life Sciences Learning & Teaching or the DUSA Student Representative Council meetings.

Class representatives & staff student liaison - For each Life Science module, 2 class reps are elected to represent fellow students at the Staff Student Liaison Committee which meets at least once per semester. The role and guidance for student representatives can be found at web site above. Any students can suggest items for the agenda for the Staff Student Liaison meetings via their class reps or school president. Please note that these formal mechanisms for Staff Student Liaison are in addition to the standing invitation to let us have your informal comments and queries at any time either by emailing the module leaders directly or via the module discussion boards.
<table>
<thead>
<tr>
<th>Prize Title</th>
<th>Prize Amount</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ali Knox Award</td>
<td>£1000.00</td>
<td>Awarded to a student who, in the opinion of their fellow students and staff, has demonstrated determination and enthusiasm in overcoming enormous obstacles to succeed in their studies.</td>
</tr>
<tr>
<td>Anatomical Sciences Honours Prize</td>
<td>£100.00</td>
<td>Awarded to the Best 1st Class Honours Student in Anatomical Sciences</td>
</tr>
<tr>
<td>Armitstead Bursary</td>
<td>~£500.00</td>
<td>Undergraduate scholarship awarded to entrant students and/or students entering the 2nd or a subsequent year of their course (up to 10 awards annually)</td>
</tr>
<tr>
<td>BA - British Association 1939 Prize (Medal)</td>
<td>Medal</td>
<td>Awarded to the Most Distinguished Undergraduate from 4th/Honours year</td>
</tr>
<tr>
<td>Biochemistry Honours Prize</td>
<td>£100.00</td>
<td>Awarded to the Best 1st Class Honours Student in Biochemistry</td>
</tr>
<tr>
<td>Biovitrum Prize</td>
<td>£250.00</td>
<td>Awarded to the Best 1st Class BSc/BMSc Honours Student in Neuroscience</td>
</tr>
<tr>
<td>Carl Zeiss Prize</td>
<td>£100.00</td>
<td>Awarded to the student with the Best Honours Pharmacology or Neuroscience Project</td>
</tr>
<tr>
<td>Dawson Anatomy Award</td>
<td>£100.00</td>
<td>Awarded to the Student who has demonstrated the most determination and enthusiasm to advance their understanding of anatomy by dissection</td>
</tr>
<tr>
<td>DDS - Drug Development (Scotland) Prize</td>
<td>£150.00</td>
<td>Awarded to the Best 1st Class Honours BSc/BMSc Pharmacology student</td>
</tr>
<tr>
<td>Ede &amp; Ravenscroft Prize</td>
<td>£250.00</td>
<td>Awarded for Superior academic performance for continuing students entering 2nd or 3rd year</td>
</tr>
<tr>
<td>Environmental &amp; Applied Biology Honours Prize</td>
<td>£100.00</td>
<td>Awarded to the Best 1st Class Honours Student in Biological Sciences</td>
</tr>
<tr>
<td>Forensic Anthropology Honours Prize</td>
<td>£100.00</td>
<td>Awarded to the Best 1st Class Honours Student in Forensic Anthropology</td>
</tr>
<tr>
<td>Jonathan Glover Trust Prize - Biology</td>
<td>£50.00</td>
<td>Awarded to the Best 3rd year student in Biology if performance is deemed meritorious</td>
</tr>
<tr>
<td>Jonathan Glover Trust Prize - Microbiology</td>
<td>£50.00</td>
<td>Awarded to the Best 3rd year student in Microbiology if performance is deemed meritorious</td>
</tr>
<tr>
<td>Prize Title</td>
<td>Prize Amount</td>
<td>Criteria</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>--------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Jonathan Glover Trust Prize - Zoology</td>
<td>£50.00</td>
<td>Awarded to the Best 3rd year student in Zoology if performance is deemed meritorious</td>
</tr>
<tr>
<td>Lippincott Human Anatomy Prize</td>
<td>£100.00</td>
<td>Awarded to the Best 3rd year student of Anatomy - Book Token - if performance is deemed meritorious</td>
</tr>
<tr>
<td>Molecular Biology Honours Prize</td>
<td>£100.00</td>
<td>Awarded to the Best 1st Class Honours Student in Molecular Biology</td>
</tr>
<tr>
<td>Open Bursary</td>
<td>£100.00</td>
<td>Criteria set by the College</td>
</tr>
<tr>
<td>Organon Prize</td>
<td>£150.00</td>
<td>Awarded to the best 3rd Year Pharmacology Student if performance is deemed meritorious</td>
</tr>
<tr>
<td>Pharmaceutical Chemistry Honours Prize</td>
<td>£100.00</td>
<td>Awarded to the Best 1st Class Honours Student in Pharmaceutical Chemistry</td>
</tr>
<tr>
<td>Physiological Society Prize</td>
<td>£100.00</td>
<td>Awarded to the Graduating student who has excelled in the work of the Honours Project and Dissertation</td>
</tr>
<tr>
<td>Roger Booth Prize</td>
<td>£100.00</td>
<td>Awarded to the Best 3rd Year Life sciences student</td>
</tr>
<tr>
<td>Scheuer Medal</td>
<td>Medal</td>
<td>Awarded to the Student with the Highest overall mark for module FO32047 Human Osteology</td>
</tr>
<tr>
<td>Society for General Microbiology</td>
<td>£100.00</td>
<td>Awarded to the Best level 3 student progressing to Honours Microbiology if performance is deemed meritorious</td>
</tr>
<tr>
<td>Sports Biomedicine Honours Prize</td>
<td>£100.00</td>
<td>Awarded to the Best 1st Class Honours Student in Sports Biomedicine</td>
</tr>
<tr>
<td>Stephen Williamson Prize</td>
<td>£150.00</td>
<td>Awarded to the Best student entering Final Honours year in the College</td>
</tr>
</tbody>
</table>
### APPENDIX 2: LIFE SCIENCES ASSESSMENT CRITERIA FOR EXAMINATIONS & ASSESSMENT GRADES

<table>
<thead>
<tr>
<th>Life Sciences Assessment Criteria (for individual answers)</th>
<th>University Common Assessment Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key to categories of marking criteria:</strong></td>
<td></td>
</tr>
<tr>
<td>(i) Information &amp; knowledge</td>
<td>Reporting scale</td>
</tr>
<tr>
<td>(ii) Reading of literature (beyond lectures)</td>
<td>Descriptor</td>
</tr>
<tr>
<td>(iii) Addressing the question</td>
<td>Classification for Honours</td>
</tr>
<tr>
<td>(iv) Understanding the topic</td>
<td>A1 – A3</td>
</tr>
<tr>
<td>(v) Originality/independent thinking</td>
<td>Excellent</td>
</tr>
<tr>
<td></td>
<td>1st class</td>
</tr>
<tr>
<td></td>
<td>B1 – B3</td>
</tr>
<tr>
<td></td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Upper Second</td>
</tr>
<tr>
<td></td>
<td>C1 – C3</td>
</tr>
<tr>
<td></td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Lower Second</td>
</tr>
<tr>
<td></td>
<td>D1 – D3</td>
</tr>
<tr>
<td></td>
<td>Satisfactory</td>
</tr>
<tr>
<td></td>
<td>Third Class</td>
</tr>
</tbody>
</table>

- (i) Contains all of the information required with either no or very few errors.
- (ii) Shows evidence of having read relevant literature and is able to use this effectively in the answer.
- (iii) Addresses the question correctly, understanding all its nuances. Little or no irrelevant material.
- (iv) Demonstrates full understanding of topic within a wider context. Shows excellent critical and analytical abilities.
- (v) Should contain evidence of sound independent thinking.
- (vi) Ideas expressed clearly and concisely. Essay written logically and with appropriate structure. Standard of English very high. Diagrams, where used, detailed and relevant.

- (i) Contains most of the information required with a few minor errors.
- (ii) Shows evidence of having read some of the relevant literature and is able to use this in the answer.
- (iii) Addresses the question adequately. Little or no irrelevant material.
- (iv) Demonstrates substantial understanding of topic within a wider context. Shows good critical and analytical abilities.
- (v) Shows some independent thinking, some of which may be faulty.
- (vi) Ideas generally expressed coherently. Essay written logically and with appropriate structure. Standard of English high. Diagrams, where used, detailed and relevant.

- (i) Contains the essential core of the information required with some minor errors and only a few major errors.
- (ii) May show evidence of having read some relevant literature; fails to understand it or use it correctly in the answer.
- (iii) Does not address all aspects of the question. May contain some irrelevant material.
- (iv) Demonstrates reasonable but incomplete understanding of topic and its context.
- (v) Shows limited critical and analytical abilities. Shows limited independent thinking.
- (vi) Ideas not always expressed coherently. Some faults in logic and structure of essay. Standard of English acceptable. Diagrams, where used, not always detailed or relevant.

- (i) Contains a reasonable amount of the information required with several minor and only a few major errors.
- (ii) Limited evidence of having read literature; fails to understand it or use it correctly in the answer.
- (iii) Addresses only some aspects of the question. May include some irrelevant material.
- (iv) Demonstrates limited or patchy understanding of the topic and its context. Little evidence of critical and analytical abilities.
- (v) Shows little independent thinking.
- (vi) Ideas rarely expressed coherently. Some faults in logic and structure of essay. English mediocre. Diagrams, where used, lacking in detail and relevance.

- (i) Contains a limited amount of the information required with many minor and some major errors.
(ii) Little or no evidence of having read relevant literature.  
(iii) Does not really address the question. May include a lot of irrelevant material.  
(iv) Demonstrates little understanding of topic and its context. Very little evidence of critical and analytical abilities.  
(v) Shows no independent thinking.  

<table>
<thead>
<tr>
<th>MF</th>
<th>Marginal Fail/Compensatable</th>
</tr>
</thead>
<tbody>
<tr>
<td>BF</td>
<td>Bad Fail</td>
</tr>
</tbody>
</table>

Diagrams, where used, lacking in detail and relevance.

(i) Contains very little of the information required and/or substantial factual errors.  
(ii) Little or no evidence of having read the relevant literature.  
(iii) Fails to address the question either because material is largely irrelevant or because there is little or no information.  
(iv) Demonstrates very little understanding of topic and its context. No evidence of critical and analytical abilities.  
(v) Shows no independent thinking.  

<table>
<thead>
<tr>
<th>CF</th>
<th>Clear Fail</th>
</tr>
</thead>
</table>

Diagrams, where used, lacking detail and relevance.

HONOURS DEGREE CLASSIFICATION & GRADE SPECTRUM

Honours classification for all Degree programmes will normally be based upon the following grade spectrum expressed in proportions of the overall assessment total for the Degree.

<table>
<thead>
<tr>
<th>Grade</th>
<th>1st</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>grades at A3 or above in at least 50% of total assessment</td>
</tr>
<tr>
<td></td>
<td>grades at B3 or above in at least 75% of total assessment</td>
</tr>
<tr>
<td></td>
<td>grades at C3 or above in 100% of total assessment</td>
</tr>
<tr>
<td>2/1</td>
<td>grades at B3 or above in at least 50% of total assessment</td>
</tr>
<tr>
<td></td>
<td>grades at C3 or above in at least 75% of total assessment</td>
</tr>
<tr>
<td></td>
<td>grades at D3 or above in 100% of total assessment</td>
</tr>
<tr>
<td>2/2</td>
<td>grades at C3 or above in at least 50% of total assessment</td>
</tr>
<tr>
<td></td>
<td>grades at D3 or above in at least 75% of total assessment</td>
</tr>
<tr>
<td>3</td>
<td>grades at D3 or above in at least 75% of total assessment</td>
</tr>
</tbody>
</table>

In addition, the overall average grade (calculated using the aggregation scale in Table 2) for each class of Honours must be equal to or higher than one grade below the class boundary: that is B1 for a first, C1 for an upper second, D1 for a lower second and E for a third.