

Strathclyde Institute of Pharmacy & Biomedical Sciences

Accredited by Royal Society of Biology



BIOMOLECULAR SCIENCE STUDENT HANDBOOK SESSION 2018/2019

Degrees covered:

BSc in Biological Sciences (Pass degree)
BSc with Honours in Biology with Teaching
BSc with Honours in Biomedical Science
BSc with Honours in Biomolecular Sciences
BSc with Honours in Biochemistry
BSc with Honours in Immunology
BSc with Honours in Microbiology
BSC with Honours in Pharmacology
BSc with Honours in Biochemistry and Immunology
BSc with Honours in Biochemistry and Microbiology
BSc with Honours in Biochemistry and Pharmacology
BSc with Honours in Biochemistry and Pharmacology (CPU)
BSc with Honours in Immunology and Microbiology
BSc with Honours in Immunology and Pharmacology
BSc with Honours in Microbiology and Pharmacology
MSci Biochemistry
MSci Immunology
MSci Microbiology
MSci Pharmacology



JOHN ANDERSON CAMPUS MAP

You can view maps and search for buildings at <https://www.strath.ac.uk/maps/>

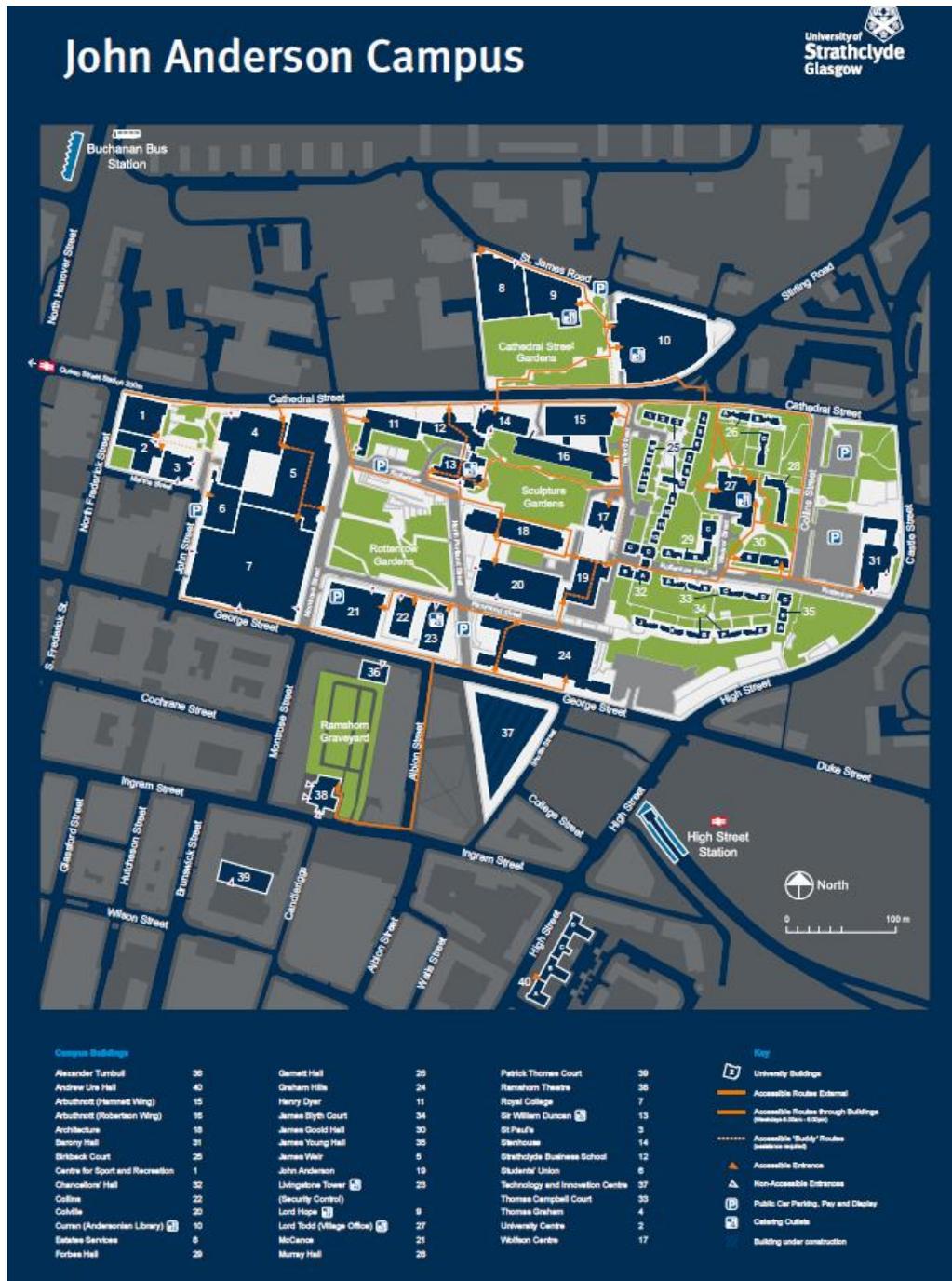


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BIOMOLECULAR SCIENCES HANDBOOK

This Student Handbook is your guide to the degrees that are offered by the Strathclyde Institute of Pharmacy and Biomedical Science (SIPBS) Biomolecular Science programmes. Inside you will find information about services provided to students, the academic programmes, University policies and procedures, and much, much more! For example, there are guidelines for essay writing, and study skills. Much of the information is of particular relevance to new students, but will serve as a useful reminder to others.

The information contained in this handbook was accurate at the time of publication. However, minor changes will inevitably occur and you are therefore advised to **regularly check the news on MyPlace** <https://classes.myplace.strath.ac.uk> and listen carefully to verbal announcements in classes.

This Handbook is available on MyPlace (BM: Biomedical Science page) and is issued in hard-copy only to 1st year students and any direct entry students. It is important that you read this Handbook thoroughly and keep it where you can find it, since you will need to make use, throughout your course, of the information it contains. If you have any questions that this Handbook does not answer, please contact any member of academic, administrative or secretarial staff. We may not always know the answer, but we can generally point you in the right direction.

Most of the material in the Student Handbook will not change from year-to-year, but any changes will be incorporated into the on-line version. It is important, therefore, that in years 2, 3, 4 and 5 you take the opportunity to re-read the Handbook, on-line.

We hope that the Handbooks will not only inform but also encourage and inspire you to explore the University fully and to make use of the opportunities that you are offered as students of this University.

SIPBS web-link -

<https://www.strath.ac.uk/science/strathclydeinstituteofpharmacybiomedicalsciences/>

***Strathclyde Institute of Pharmacy and Biomedical Sciences
September 2018***

**SIPBS
Departmental Office
Level 3, Robertson Wing
161 Cathedral Street
GLASGOW
G4 0RE**

WELCOME AND INTRODUCTION

WELCOME

Firstly, we would like to take this opportunity to welcome all undergraduate students to the Strathclyde Institute of Pharmacy and Biomedical Sciences (SIPBS). This Handbook has been compiled to assist you. However, if you require any further information, please do not hesitate to speak with the Biomolecular Sciences Programme Director, Dr Catherine Lawrence, or Administrator, Mrs Jacqui Miller (contact details can be found on pages 8).

Professional Accreditation of Our Degrees

All our Honours degrees have been accredited by the Royal Society of Biology and our BSc (Hons) in Biomedical Science is also accredited by the Institute of Biomedical Science (IBMS).

Royal Society of Biology link - <https://www.rsb.org.uk/>

Institute of Biomedical Science link - <https://www.ibms.org/>

WELCOME FROM THE PRINCIPAL OF THE UNIVERSITY

I am delighted to welcome you to the University of Strathclyde.

As Strathclyders, you will have the University's strong reputation for the pursuit of 'useful learning' supporting the activities and achievements of your student years.

As a Strathclyder myself – having done my undergraduate and postgraduate degrees here – I too have been a new student, and can appreciate the importance of the welcome you receive from the University. I would like to emphasise that your experience as students is at the heart of everything we do here at Strathclyde. Our determination to maintain a high level of excellence in our teaching and research is part of our commitment to that student experience.

As Principal, I am also committed to regular, direct contact with students through online tools and open meetings that will provide you with opportunities for dialogue and feedback. In addition, as you will see in going through this Handbook, we have a comprehensive range of support and information services for you to take advantage of, now and throughout your time at Strathclyde. If you ever have a problem this handbook will help you find where you can get the support you need. Lots of the information will also be helpful throughout your time at Strathclyde – so keep this booklet to hand as you might find the answers to your questions here.

Professor Jim McDonald

PRINCIPAL AND VICE-CHANCELLOR

STRATHCLYDE INSTITUTE of PHARMACY AND BIOMEDICAL SCIENCES (SIPBS)

Our aims are to provide excellence in teaching, and to carry out high quality research in the pharmaceutical and biomedical sciences. The Institute has over 70 members of academic staff, who are supported by research, technical, administrative and secretarial staff. Most academic staff are actively involved in research programmes in addition to carrying out their teaching duties.

Head of SIPBS:

Director of SIPBS Teaching & Deputy Head:

Director of Biomedical Science:

Professor Robin Plevin

Dr Anne Boyter

Dr Catherine Lawrence

The Faculty of Science

The University has four faculties (Science; Engineering; Business and Humanities & Social Sciences) - these are groups of departments or schools in related areas. The Dean of each Faculty is responsible for all matters of the Faculty, and he is supported by three Vice-Deans, each with special responsibilities for Academic, Knowledge Exchange and Research matters.

For the Science Faculty, the relevant people are:

Dean:	Professor Iain Stewart
Vice-Dean for Academic Affairs:	Dr Debra Willison
Faculty Manager:	Ms Bronagh Dallat
Assistant Faculty Manager:	Mrs Christine Dowds

There are five departments in the Faculty of Science, including the Strathclyde Institute of Pharmacy and Biomedical Sciences (SIPBS). Some of the classes you take may be taught by other Departments or Faculties.

The University of Strathclyde

The University of Strathclyde provides high quality teaching and carries out research in a range of academic and vocational disciplines. There are close to 1,000 academic members of staff and over 15,000 students.

University admissions and student registration is dealt with centrally via Student Experience (Registry) and the Science Faculty contact is Ms Margaret White. The Acting Director of Student Experience and Enhancement Services is Mrs Catherine Milligan (c.milligan@strath.ac.uk).

Clubs and Societies

The University offers a wide range of clubs – please follow the links below for further information - University of Strathclyde Students' Association (USSA) – please follow this link for Club/Societies; Sports Union; Volunteers; Advice Hub etc. - <https://www.strathstudents.com/>

Careers Information on clubs etc. -

<https://www.strath.ac.uk/careers/workexp/makeyourselfemployable/getinvolved/>



COURSE CONTACT INFORMATION

Head of Institute

Professor Robin Plevin
 Email: r.plevin@strath.ac.uk
 Tel: 0141 548 4286

Director of Teaching

Dr Anne Boyter
 Email: anne.boyter@strath.ac.uk
 Tel: 0141 548 4594

Programme Director

Dr Catherine Lawrence
 Email: catherine.lawrence@strath.ac.uk
 Tel: 0141 548 2104

Programme Administrator

Mrs Jacqui Miller
 Email: jacqui.miller@strath.ac.uk
 Tel: 0141 548 5792

Advisors of Study & Year Co-ordinators

1st Year
 2nd Year
 3rd Year
 4th Year
 5th Year

Dr Robert Drummond
 Dr Andrew Paul
 Dr Dino Rotondo
 Dr Chris Carter
 Dr Nick Tucker

Teaching Coordinators

Biomedical Science (Accredited Degree)

Dr Catherine Lawrence

China Pharmaceutical University (CPU)

Dr Eddie Rowan
 Email: e.g.rowan@strath.ac.uk
 Tel: 0141 548 2689

MSci programmes

Dr Nick Tucker
 Email: nick.tucker@strath.ac.uk
 Tel: 0141 548 2861

ERASMUS

Professor Luke Chamberlain
 Email: luke.chamberlain@strath.ac.uk
 Tel: 0141 548 3719

Equality & Diversity Officer

Professor Susan Pyne
 Email : susan.pyne@strath.ac.uk
 Tel: 0141 548 2012

STAFF DIRECTORY

You will find all staff information such as research areas listed on the SIPBS web-page:
<https://www.strath.ac.uk/science/strathclydeinstituteofpharmacybiomedicalsciences/>

Name	Tel Ext.	Location	Email address
	0141-548		
SIPBS ACADEMIC STAFF			
Dr T J Bushell	2856	HW 410	trevor.bushell@strath.ac.uk
Dr M Boyd	2263	HW 509	marie.boyd@strath.ac.uk
Dr A C Boyter	4594	RW 501B	anne.boyter@strath.ac.uk
Dr H Carswell	4925	HW 425	hilary.carswell@strath.ac.uk
Dr K C Carter	3823	HW 610	k.carter@strath.ac.uk
Professor L Chamberlain	3719	HW 410	luke.chamberlain@strath.ac.uk
Dr P Coats	5790	HW 425	paul.coats@strath.ac.uk
Dr J Connolly	2654	RW 601 G	j.g.connolly@strath.ac.uk
Dr S Currie	2405	HW 424	susan.currie@strath.ac.uk
Dr R Drummond	2027	RW 601 K	robert.drummond@strath.ac.uk
Dr V A Ferro	3724	HW 304	v.a.ferro@strath.ac.uk
Professor W Harnett	3725	HW 608	w.harnett@strath.ac.uk
Dr P Herron	2531	HW 623	paul.herron@strath.ac.uk
Professor P Hoskisson	2819	HW 622	paul.hoskisson@strath.ac.uk
Dr H-Rong Jiang	2620	HW 621	huirong.jiang@strath.ac.uk
Dr C Kennedy	2664	RW 601 N	c.kennedy@strath.ac.uk
Dr C E Lawrence	2104	HW 506	catherine.lawrence@strath.ac.uk
Professor J McCarron	4119	RW 401 E	john.mccarron@strath.ac.uk
Dr A McCruden	3749	HW 301 N	a.b.mccruden@strath.ac.uk
Dr A Paul	2028	HW 407	a.paul@strath.ac.uk
Dr B Pickard	4572	HW 409	benjamin.pickard@strath.ac.uk
Professor R Plevin	4286	HW 301 H	r.plevin@strath.ac.uk
Dr C B Prior	2459	HW 601 H	c.b.prior@strath.ac.uk
Professor N J Pyne	2659	RW 601 M	n.j.pyne@strath.ac.uk
Professor S Pyne	2012	RW 601 I	susan.pyne@strath.ac.uk
Professor C W Roberts	4007	HW 607	c.w.roberts@strath.ac.uk
Dr D R Rotondo	3629	HW 310	d.rotondo@strath.ac.uk
Dr E Rowan	2689	RW 601 H	e.g.rowan@strath.ac.uk
Professor W H Stimson	3729	HW 606	w.h.stimson@strath.ac.uk
Dr R Tate	4738	HW 412	r.j.tate@strath.ac.uk
Dr N Tucker	2861	HW 622	nick.tucker@strath.ac.uk
Dr M Wiese	2678	HW 609	martin.wiese@strath.ac.uk
PURE & APPLIED CHEMISTRY STAFF (CH112)			
Dr L Gibson	2795	TG Building	lorraine.gibson@strath.ac.uk
Dr M Dufton	2440	TG Building	mark.dufton@strath.ac.uk
ADMINISTRATIVE STAFF			
Mrs J Miller	5792	RW 301 L	jacqui.miller@strath.ac.uk
Ms S Cassidy	3758	RW 301	stephanie.cassidy@strath.ac.uk
TECHNICAL STAFF			
Ms C Dowdells	3728	Hamnett Wing	c.dowdells@strath.ac.uk

CLASS CO-ORDINATORS

Please note that all students on Joint Honours/MSci and Biomedical Science courses will follow the same curriculum in years 1 and 2. You will only undertake your relevant classes in your discipline for the remaining years 3, 4 and 5.

Year 1 Co-ordinator	Dr Robert Drummond
BM108 Foundation Biomolecular Science 2: Organisms and Disease	Dr Robert Drummond
BM109 Foundation Biomolecular Science: Cells and their Molecules	Dr Val Ferro
BM110 Being a Biomolecular Scientist 1	Dr Alan McCrudden
CH112 Bio-Organic Chemistry	Dr Mark Dufton
Electives (1 x 20 credits or 2 x 10 credits)	Various
Year 2 Co-ordinator	Dr Andy Paul
BM210 Introduction to Biochemistry	Professor John McCarron
BM211 Introduction to Microbiology	Dr Nick Tucker
BM212 Introduction to Immunology	Dr Catherine Lawrence
BM213 Introduction to Pharmacology	Dr Eddie Rowan
BM214 Being a Biomolecular Scientist 2	Dr Roth Tate
Year 3 Co-ordinator	Dr Dino Rotondo
BM321 Biomedical Biochemistry	Professor Susan Pyne
BM322 Biomedical Pharmacology	Dr Chris Prior
BM323 Biomedical Immunology	Dr Dino Rotondo
BM324 Fundamental Pharmacology	Dr Charles Kennedy
BM325 Fundamental Immunology	Dr Dino Rotondo
BM326 Fundamental Biochemistry	Dr Martin Wiese
BM327 Being a Biomolecular Scientist 3	Dr Chris Prior
BM328 Fundamental Biomedical Science: Haematology & Immunodiagnostics	Dr Dino Rotondo
BM329 Biomedical Microbiology	Dr Kate Duncan
BM330 Fundamental Microbiology	Dr Paul Hoskisson
Year 4 Co-ordinator	Dr K Chris Carter
BM422 Molecular and Cellular Pathology	Dr Alan McCrudden
BM423 Clinical Biochemistry	Dr Ben Pickard
BM424 Clinical Microbiology	Dr Arnaud Javelle
BM425 Advanced Microbiology	Dr Paul Herron
BM426 Clinical Immunology	Dr Hui-Rong Jiang
BM427 Advanced Immunology	Professor William Harnett
BM428 Applied Pharmacology	Dr Charles Kennedy
BM429 Advanced Pharmacology	Professor Nigel Pyne
BM430 Advanced Biochemistry	Dr Andrew Paul
BM432 Being a Biomolecular Scientist 4	Dr Charles Kennedy
BM434 Clinical Pharmacology	Dr Margaret Cunningham
BM435 Applied Microbiology	Dr Nick Tucker

Year 5 Co-ordinator	Dr Nick Tucker
BM501 MSci in Pharmacology	Dr Nick Tucker
BM502 MSci in Immunology	Dr Nick Tucker
BM503 MSci in Biochemistry	Dr Nick Tucker
BM504 MSci in Microbiology	Dr Nick Tucker
BM505 MSci Biochemistry Project and Thesis	Dr Nick Tucker
BM506 MSci Immunology Project and Thesis	Dr Nick Tucker
BM507 MSci Microbiology Project and Thesis	Dr Nick Tucker
BM508 MSci Pharmacology Project and Thesis	Dr Nick Tucker
BM509 Research Topics in Biochemistry	Dr Nick Tucker
BM510 Research Topics in Immunology	Dr Nick Tucker
BM511 Research Topics in Microbiology	Dr Nick Tucker
BM512 Research Topics in Pharmacology	Dr Nick Tucker
MP931 Generic Biomedical and Pharmaceutical Research Skills	Dr Christian Wozny

COMMUNICATION

- **E-MAIL**

At the start of your course you will be given a University of Strathclyde email address. **This is the address that all academic and administrative staff will use to contact you**, for example if changes are made to rooms or timetables, attendance, outstanding coursework etc. It is therefore important that you **regularly check your Strathclyde e-mail** account on a daily basis for new messages. Please ensure that when you communicate with staff, that you include your **full name, registration number, year of study and name of degree** as we deal with over 1500 UG students in SIPBS. *Please also ensure that you address staff accordingly 'Dear Professor/Dr/Mr/Ms etc.'*

- **MyPlace – Virtual Learning Environment (VLE)**

MyPlace is a Moodle-based Virtual Learning Environment for all undergraduate and postgraduate students at the University of Strathclyde.

MyPlace can be accessed directly (<https://classes.myplace.strath.ac.uk>) or via PEGASUS (<https://pegasus.strath.ac.uk>) (detailed below).

MyPlace is the electronic gateway to information on all aspects of your degree, including Class Descriptors, on-line teaching materials (PowerPoint presentations, handouts, lecture notes, and self-assessment quizzes), details of assessment and discussion groups, as well as information on room and timetable changes will be posted on MyPlace. It is vital that you check this site **at least daily**, to ensure that you do not miss important details and changes.

Learning support material is designed to support your own learning and is not a substitute for attending lectures.

Please note: MyPlace is strictly monitored to make sure that no abusive or offensive personal material is posted. Culprits may have their access restricted.

- **PEGASUS**

PEGASUS (Portal Engine Giving Access to Strathclyde University Systems) is used by the University to communicate important information to staff and students

Functions for Students on PEGASUS:-

- **Personal Details** – view, check, amend name, address and emergency contact details;
- **Examination Timetable** – dates, times, places of scheduled exams;
- **Questionnaires** – get your say when feedback requested, give your opinion in surveys, vote in polls;
- **Request Certificates** – for council tax, statement of student status;
- **Announcements** – keep up to date with the latest news for you;
- **Special Requirements** – check the special arrangements which have been recommended for you;

CHANGE OF ADDRESS

Students are required by Regulation 6.4.9 to keep Student Business (Science) informed of their current addresses, both permanent and term-time. Student Business send at least four letters to each UG student every year. It is therefore important that we have the correct home (permanent) and term-time address. You can update your personal details on your PEGASUS account.

COMPUTER REGULATIONS

Students are reminded that they are bound by the University Computer Regulations. These require that students **do not** reveal their DS account details to anyone else.

MYPLACE (VLE)

MyPlace is the [Moodle](#)-based learning system used across the University of Strathclyde. You will find your online class material uploaded here and activities associated with your classes. MyPlace is used extensively and you will be able to see messages posted relating to your classes, upload your online assignments, you will see your online class assessment marks here. You will require your [login](#) with your [DS username and password](#) to view your classes.

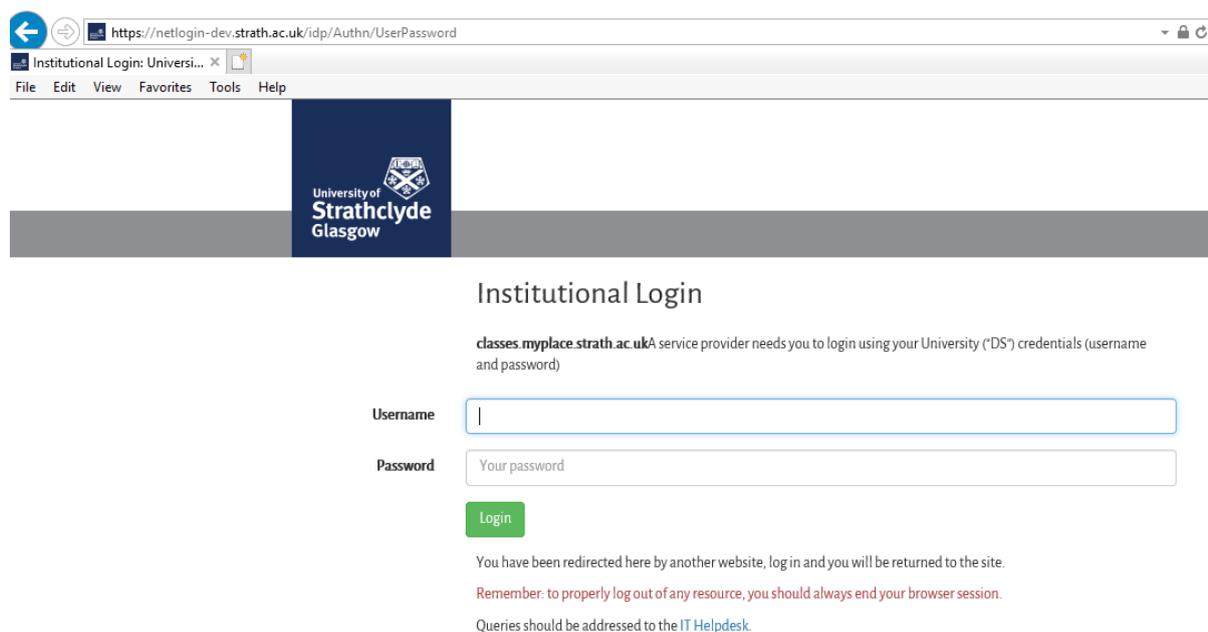
We have detailed below some useful information to help you navigate around MyPlace. Please note that during the summer of 2018, updates to Moodle have taken place and therefore you may notice some changes – for further information, please follow the Student Support Homepage – see print screen below.

The screenshot shows the MyPlace Support Homepage. The left sidebar contains a 'Pages' section with a 'Blog' link and a 'PAGE TREE' with links to 'Staff Support Homepage', 'Student Support Homepage', 'Planned Myplace Service Interruptions', 'Troubleshooting Articles', and 'How-To Articles'. The main content area has a search bar and two images: 'Student Support' (a woman with a laptop) and 'Staff Support' (a chalkboard with math). Below the images, text states: 'Myplace is Strathclyde University's online learning system. Sometimes referred to as a Virtual Learning Environment (VLE) or Learning Management System (LMS) it's the place where staff and student collaborate online, where you submit and grade assignments and post and view information. Just like many online environments there are a wide variety of ways to use the system both as a student and a staff member that, from time to time, you'll need some guidance about how to do find information, how to carry out certain tasks and troubleshoot problems. From this page you can browse Student Support topics and Staff Support topics.' A 'homepage' button is visible at the bottom right.

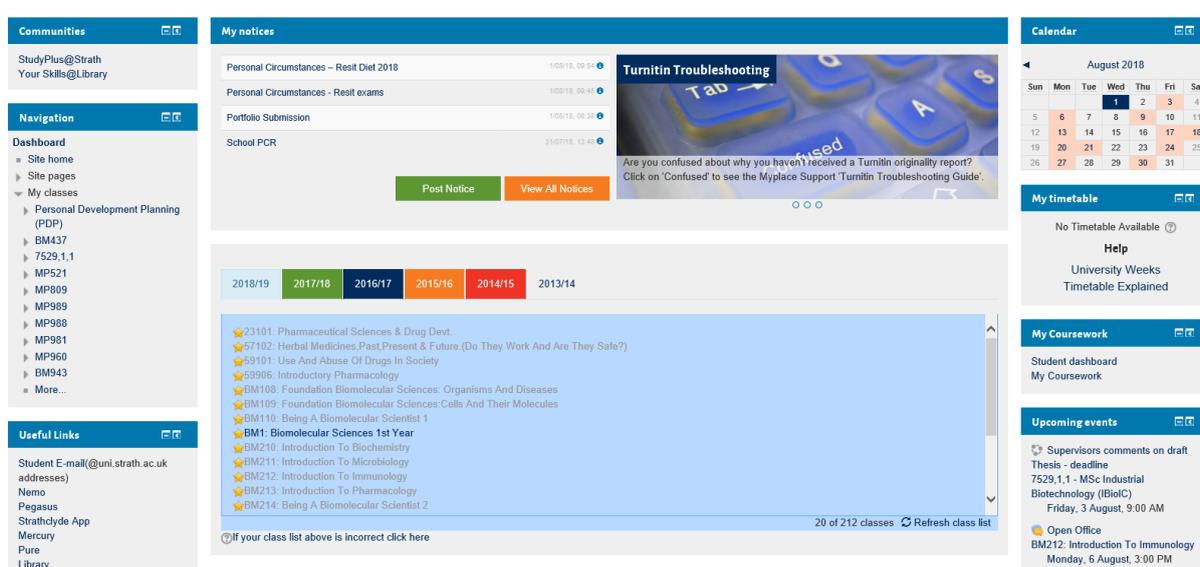
Each page will contain the class co-ordinator, staff teaching on class, class test/assessment/exam information (past papers) – links to useful information. You will also find a running order of the class, which will inform you what topics are being discussed in each week and details of class assessments etc. will also be listed.

Visit - <https://classes.myplace.strath.ac.uk/> to access the MyPlace home page.

Log into MyPlace by using your DS username and password (same as accessing PEGASUS):



Once you have logged on, you will see the following screen, choose the class you wish to look at:



Once you click on your class, you will see the material/content.

To allow you to view your class assessment marks, please follow the 'Administration' button. Then choose 'grades'.

The screenshot shows a university website interface. On the left is a 'Navigation' sidebar with a 'Dashboard' section containing links like 'Site home', 'Site pages', and 'My classes'. Under 'My classes', there is a list of courses including 'Biology Teacher CPD and teaching resources', 'BM', 'BM+', 'BM1', 'BM2', 'BM4', 'BM3', 'BM5', 'MP923', 'MP924', and 'More...'. Below this is a 'Classes' section with 'BM108' selected, showing sub-links for 'Participants', 'Competencies', and 'Grades'. At the bottom of the sidebar is an 'Administration' section with links for 'Class administration', 'Question bank', and 'Grades'. The main content area has a green header 'STRATHCLYDE INSTITUTE OF PHARMACY AND BIOMEDICAL SCIENCES' and a sub-header 'BM108: Foundation Biomolecular Sciences: Organisms Evolution and Disease'. Below this is a table of class details:

Class Coordinator	Dr Robert Drummond
Teaching Staff	Dr Chris Carter Dr Paul Coats Dr Robert Drummond Dr Alan McCrudden Dr Ben Pickard Dr Eddie Rowan Dr Shuzo Sakata
Semester	2
Assessment	Formative: Including: workshop performance - peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate Summative: MCQ Exam (70%), Class test MCQ Exam (30%) Resit: Exam (100%)

Below the table are sections for 'University Timetable' (with a link to www.strath.ac.uk/timetables), 'Student/Staff Committee Meeting' (with a note about minutes being published), and 'Student Handbook' (with a note about finding the handbook on the generic Biomedical Sciences Year 1 page).

At the bottom of the main content area, there is a green 'CLASS INFORMATION' button and a partially visible red button labeled 'BM108 Class Details 2018-2019'.

ACADEMIC WEEKS CALENDAR

University of Strathclyde Academic Calendar 2018-19

Date Week Commencing	University & Timetabling System Weeks	University Holidays	Academic Calendar
Mon 30/07/2018	1		Resit Exams
Mon 06/08/2018	2		Resit Exams
Mon 13/08/2018	3		Resit Exams
Mon 20/08/2018	4		
Mon 27/08/2018	5		
Mon 03/09/2018	6		
Mon 10/09/2018	7		Welcome and Development Week
Mon 17/09/2018	8		Wk 1 Semester 1
Mon 24/09/2018	9	Mon 24.09.18	Wk 2
Mon 01/10/2018	10		Wk 3
Mon 08/10/2018	11		Wk 4
Mon 15/10/2018	12		Wk 5
Mon 22/10/2018	13		Wk 6
Mon 29/10/2018	14		Wk 7
Mon 05/11/2018	15		Wk 8
Mon 12/11/2018	16		Wk 9
Mon 19/11/2018	17		Wk 10
Mon 26/11/2018	18		Wk 11
Mon 03/12/2018	19		Semester 1 Exams
Mon 10/12/2018	20		
Mon 17/12/2018	21		Christmas Vacation
Mon 24/12/2018	22	Mon 24.12.18 to	Christmas Vacation
Mon 31/12/2018	23	Wed 02.01.19	Christmas Vacation
Mon 07/01/2019	24		Consolidation and Development Week
Mon 14/01/2019	25		Wk 1 Semester 2
Mon 21/01/2019	26		Wk 2
Mon 28/01/2019	27		Wk 3
Mon 04/02/2019	28		Wk 4
Mon 11/02/2019	29		Wk 5
Mon 18/02/2019	30		Wk 6
Mon 25/02/2019	31		Wk 7
Mon 04/03/2019	32		Wk 8
Mon 11/03/2019	33		Wk 9
Mon 18/03/2019	34		Wk 10
Mon 25/03/2019	35		Wk 11
Mon 01/04/2019	36		Spring Break
Mon 08/04/2019	37		Spring Break
Mon 15/04/2019	38	Fri 19.04.19	Semester 2 Exams
Mon 22/04/2019	39	Mon 22.04.19	
Mon 29/04/2019	40		
Mon 06/05/2019	41	Mon 06.05.19	
Mon 13/05/2019	42		
Mon 20/05/2019	43		
Mon 27/05/2019	44	Mon 27.05.19	
Mon 03/06/2019	45		
Mon 10/06/2019	46		
Mon 17/06/2019	47		
Mon 24/06/2019	48		
Mon 01/07/2019	49		
Mon 08/07/2019	50	Fri 12.07.19	
Mon 15/07/2019	51	Mon 15.07.19	
Mon 22/07/2019	52		

PERSONAL RESPONSE SYSTEM (PRS)

SIPBS is making wider use of technology in support of learning so that students' can map their knowledge and understanding throughout the year on a class by class basis.

The tools that the Institute will employ are personal response systems (PRS). Staff will make use of software (e.g. FLOW, Textwall, PollEverywhere, and Socrative) although our preferred system is OMBEA – instructions below for your attention. During the session, you might be doing a multiple choice test, short answers, true/false questions etc. This might test your understanding as you progress through a lecture, or it might be used to give you targets during a tutorial. Sometimes it can be adapted to be a peer review system – where you can vote on the quality of a group's presentation. If you are a first year, you will be using this in your induction week for the 'Treasure Hunt'.

Once you have joined, the questions are sent to your phone for your response, there is no cost associated with this task and all data is treated anonymously. If you send a text you will be charged your normal text rate.

OMBEA - How to Get Connected

1. Participants can respond using any web-enabled device, such as an iPhone.
2. Launch a new internet browser window.
3. In the web address bar they should type ra.ombea.com.
4. The ResponseApp page loads up and will ask you for the Session ID. The 6 digit Session ID will be provided by your lecturer.
5. Participants enter the Session ID and click **Join**.



ADVISORS

Advisor of Studies

Your Advisor of Studies, is your year co-ordinator (if you are not sure, see page 8 of this booklet) will give you advice about the classes that you will take in each year of study.

Personal Development Advisor

Each student is allocated a Personal Development Advisor (PDA) who is a member of academic staff of SIPBS. All new first year students will be notified in their BM110 class as your BM110 Tutor will also be your PDA. Direct Entry 2nd and 3rd year students will receive an email (to your strath account) confirming who your PDA/Counsellor is. Your Personal Development Advisor is also named on your PEGASUS page.

The functions of the Personal Development Advisor (PDA) are to be a friendly contact who will:

- provide general advice about the University and the course
- take an interest in the student and monitor academic progress
- be available to give advice on particular problems if they arise and to put the student in touch with the specialized services of the University
- write references for the student for job applications.

Students may request a meeting with their Personal Development Advisor (PDA) at any time. To get in touch with your Personal Development Advisor, you should send an e-mail or telephone (direct line is 0141 548 **** followed by four digit extension number). ***If the Personal Development Advisor does not respond to your e-mail or you experience a problem with the counselling scheme, please contact Mrs Jacqui Miller, Departmental Administrator.***

If you are worried about anything at all, **do not wait**; go and speak to your Personal Development Advisor. The problem may be resolved by discussion with your Personal Development Advisor, or alternatively they may put you in contact with the appropriate support in the University. Advisees can request a change of advisor from the person they are initially assigned. Any requests should be redirected to Mrs Jacqui Miller.

What if I have a problem with my studies?

- If you have any questions about your **curriculum**, you should contact your Advisor of Studies (see page 8).
- If you have a specific problem with a particular aspect of a **class**, contact the lecturer or demonstrator concerned. You may also wish to speak to the Class Coordinator identified on the Class Descriptor on MyPlace. The Biomedical Sciences degrees have Year Coordinators (see page 10 of this booklet) who can also deal with problems related to individual Classes. In addition the following degrees have Coordinators who are responsible for overseeing and coordinating the degrees: Biomedical Science, Biomedical Science (accredited degree), ERASMUS (see page 8).
- If you have a more general academic problem, then talk to your assigned Personal Development Advisor (PDA).

Course Feedback / Student – Staff Committee

HOW CAN I EXPRESS MY OPINIONS ON THE COURSE?

There are a number of ways in which you can tell us what you think about your course and give us suggestions for improvement. The **Student Staff Committee (SSC)** is a forum in which your class representatives can discuss any issues relating to the class. Any student can participate in the **Curriculum Matters** group. In this forum we meet informally to work with students to improve specific areas of the course e.g. induction week, laboratory classes, timetables and projects. **Class evaluation questionnaires** and the **NSS survey** let you tell us anonymously what you thought of your course and classes. Drop us a note in the **suggestion box** on Level 1 of Hamnett Wing.

STUDENT STAFF COMMITTEE

The Biomedical Sciences Student-Staff Committee (SSC) meets twice each semester. The dates are still to be confirmed although you will receive a message via MyPlace confirming. We can only set the dates for the meetings once all Committee members have attended training. Each course has a representative on the Committee. The purpose of the Committee is to provide a forum for students to express their views on the organisation of the course and the running of individual classes. Please ensure that you notify your course representative(s), who will bring your views to the meetings.

REMIT OF THE COMMITTEE

Strathclyde University has a long tradition of taking student views and feedback into account in decisions concerning teaching and assessment. The University want to hear your views so they can improve the quality of the education you're getting at Strathclyde, and maintain Strathclyde's position as one of the best universities in the country. The main vehicle for the expression of student views is the student-staff committee system.

This comprises both staff members and student representatives from each year (1-5) of each degree course. The course representatives are responsible for conveying to the departments the views of classmates, helping them to improve your course. This method of representation is crucial to ensuring that students get the best they possibly can out of their time at Strathclyde.

WHAT'S INVOLVED IN BEING A COURSE REP?

You will have to attend Student-Staff committees, which are usually twice a semester, and course rep training, which will be held on Wednesday afternoon, by the Students' Association, in Semester 1. Other than that, you can spend as little or as much time on being a course rep as you choose. Good course reps will make sure that their fellow students know who they are and how to contact them. This can be done through having a dedicated space on the departmental noticeboard or MyPlace, holding an office hour, or even just chatting to students informally after lectures or in the bar. As a course rep, you can also access advice and support all year round from the Democratic Services Co-ordinator at the Students' Association.

To enable more effective communication between student representatives, the students they represent and the University, the university proposes to establish a dedicated student area on the Academic Office website, which will hold the contact details of student reps. It is therefore a condition of selection as a student rep that you consent to your contact details being available in this manner. <https://www.strathunion.com/>

HOW DO I GET INVOLVED?

In the first 2 weeks of Semester 1, staff will be asking for volunteers to serve as course reps. You will probably get asked in lectures or laboratories but, if not, contact any staff member to find out how to stand. Any student can stand as a course rep, and you'll usually serve for one year.

WHAT'S IN IT FOR ME?

As well as having the opportunity to make a meaningful contribution to your department, you can really change things that annoy you and your fellow students. Being a rep also looks great on your CV – it gives you the chance to build up your communication skills, gain confidence speaking in public and show you can get changes past the university bureaucracy. It also shows your achievements aren't just academic – something employers are definitely looking for.

CURRICULUM MATTERS

This is an informal meeting held once or twice each semester in which we work with students to improve specific aspects of the course and to involve students in designing and planning their curriculum. Any student is welcome to participate and **cake** is provided!

STUDENT QUESTIONNAIRES

Student Class Evaluation

The University request student feedback relating to all taught classes – student class evaluations – these are normally issued via Myplace at the end of semester 1 and end of semester 2 teaching. You will receive a message/email from Myplace to confirm when they are available for your comment/feedback.

We value your comments if we are to improve our teaching. The Institute of Pharmacy and Biomedical Sciences is committed to the principle of taking students' views into account; for example, student evaluation of classes is an important part of the review procedures and students' views are regularly presented to the Biomedical Sciences Teaching Course Committee (BSTCC) and the Institute Teaching, Learning and Assessment Committee (TLAC). This process is helped enormously by students assessing the various classes at different points throughout the academic year.

National Student Survey

The National Student Survey operates across all publicly funded Higher Education Institutions across the UK and aimed at **final** year students. Students are asked to complete a survey – you will receive email communication/MyPlace messages when the survey opens and we do appreciate you taking time to complete this important survey.

For further information, please visit the National Student Survey web page - <https://www.thestudentsurvey.com/>

The screenshot shows the National Student Survey (NSS) 2018 website. The page has a dark blue background. At the top center is the NSS logo. Below it is a large orange button with the text "COMPLETE THE SURVEY". Underneath the button is a navigation menu with several links: "WHY TAKE THE SURVEY", "ABOUT THE NSS", "Q&A - STUDENTS", "Q&A - INSTITUTIONS", "CONTACT US", and "PRIVACY". The main heading is "Why take the survey?" followed by "The National Student Survey (NSS) 2018". Below this is a paragraph of text explaining the survey's purpose and dates. At the bottom of the page, there are four statistics presented in a grid format: "NEARLY 3 MILLION STUDENTS HAVE TAKEN THE NSS", "THERE ARE 27 CORE NSS QUESTIONS", "TAKE PART AND MAKE A DIFFERENCE", and "MORE THAN 7/10 WE TALK TO STUDENTS ACROSS THE UK" and "STUDENTS AT 357".

DEGREE EXAMINATIONS

Exam Timetabling

Degree examinations are held in December and in April/May, with the resit examinations being held in July/August. Students must **not** arrange holidays during the period of exam diets. The dates for 2018-2019 are listed on page 17. Please note that the timetable for degree examinations, are not compiled by the department – they are compiled by the Examinations Section in Student Business. Normally timetables for the January, April/May and August diets are not published by the University until December, April and July respectively. When ready, the exam timetables will appear on PEGASUS.

Other examinations and class tests may be held from time to time but you can expect to be given details about these from the different classes which you are taking.

If you have a query relating to examinations, you should contact the relevant Year or Teaching Coordinator as listed on page 9.

If you think that you may be experiencing circumstances that may adversely affect your performance in examination it is important that you contact Mrs Jacqui Miller as soon as possible. You should not attempt exam(s) for which you are unfit to complete.

Students who have missed examination(s) due to illness must submit a medical certificate within 7 days clearly stating the dates in which the student was incapacitated. If a student is unable to obtain a certificate within this period, you should inform Mrs Jacqui Miller immediately. Self-certification will not be sufficient.

You must contact Mrs Jacqui Miller:

- at least 2 weeks before any examination if you have special needs, or
- to arrange to sit resit examinations abroad. (This may be possible in exceptional circumstances, but the candidate is responsible for all associated arrangements and costs. Examinations in the December and May diets must be taken in the University, as well as laboratory-based examinations at any diet).

Anonymous Marking

The University operates an anonymous marking system. University anonymous answer books will be used. Students should ensure that they complete the front page details correctly and stick down the fold over section so that their name is hidden.

Use of Calculators in Degree Exams

The policy of the Institute of Pharmacy and Biomedical Sciences in relation to the use of calculators is set out below.

1. Students are only allowed to use calculators that **do not have**
 - programmable facilities
 - graphical display facilities
 - facilities that permit storage or communication of information.
2. Calculators may only be used in specified class tests and degree exams.
3. Class Coordinators will decide and communicate to students whether calculators are required.
4. It is the student's responsibility to confirm whether calculators can be used in tests/exams.
5. Any student who already owns or intends to buy a calculator that has any of the above prohibited features will need to obtain a suitable model for use in tests/exams.
6. Students must not bring into an examination or assessed test any calculator that is not permitted.
7. It is solely the student's responsibility to ensure that they have a permitted calculator and sufficient batteries for the tests/exams.
8. Students will not be permitted to share calculators in tests/exams.

Use of Dictionaries in Exams

Students whose native language is not English are permitted to use English/native language dictionaries in University examinations (except language exams). These dictionaries will be subject to scrutiny by the Invigilator in Charge of each examination. Please note that neither medical dictionaries nor electronic dictionaries are permitted in examinations.

PROGRESSION TO SUBSEQUENT YEARS OF STUDY

Decisions on progress are taken by **The Board of Examiners**, which meets in June, and, for students who have to re-sit examinations, in September. The Boards of Examiners will make one of the following decisions:

P - A Clear Pass

The student has no re-sits and should proceed to the next year of study.

May Proceed

The student may proceed to the next year of the course, but should take re-sits in those classes which he or she has failed.

WD - Withdraw

The student will be instructed to withdraw from the course. This decision may be accompanied by a recommendation that the candidate be advised of the possibility of transfer to another degree.

R - Re-sit (June Board only).

The student should take re-sit examinations in August, after which a decision will be made on possible progress to the next year of study.

REATTEND

The student must re-attend the year in the following session.

Suspend (September Board only)

This means that the student has not satisfied the requirements for progress to the next year of the course and will be required to enter academic suspension. The student may take re-sit examinations in the coming Session.

Attempt Discounted in PEGASUS

This means that the student's attempt in a degree examination has been nullified and he/she is allowed to sit the exam again. If the discount is in a first attempt, then any coursework that contributes to the degree exam mark will be counted at the next sitting.

VOLUNTARY SUSPENSION

If a student feels that their studies have been affected by personal or medical matters they can apply to Student Business (Registry) to go into Voluntary Suspension either for a Semester or a whole session.

In addition to making one of the decisions above, the Board may decide either

- to **caution** a student whose performance has been poor, in which case, the Faculty Officer or other attending administrator will inform the student that this poor performance gives cause for concern, and advise him or her to consult their Counsellor

Or

- to **warn** a student that he or she has exhausted their final attempt at a class and will have just one further opportunity to obtain a pass.

Follow this link for an application form for voluntary suspension -

<https://www.strath.ac.uk/sees/studentpolicies/policies/attendance/absenceandvoluntarysuspension/>

University Compensation Scheme for 1st & 2nd & 3rd Years

The University Compensation Scheme applies to Years 1 & 2 of all full-time, part-time and distance-learning courses in SIPBS. This is provided that the total number of credits for the classes under consideration amounts to a minimum of 120. In respect of part-time study, compensation shall only be applied at the point on the course at which students have completed classes that amount to a total of 120 credits. Note for some SIPBS accredited degrees the compensation scheme **will not apply** (see below).

To be eligible for compensation, a student is required to obtain a credit weighted average of class marks of at least 45%. All classes taken by a student shall be included in the calculation of the credit weighted average and shall be eligible for compensation except where marks are returned as a P or F in which case these classes shall be discounted from the calculation of the credit weighted average and shall not be eligible for compensation.

A student who has achieved a credit weighted average of at least 45% but has failed one or more classes shall be awarded a Pass by Compensation in classes totalling up to 20 credits where the marks obtained are in the 30%-39% range.

In the event of a student who is eligible for compensation obtaining marks in the range 30-39% for classes totalling more than 20 credits, then normally the highest fail marks shall be Passed by Compensation. However, the final decision regarding which mark will be compensated shall be at the discretion of the relevant Board of Examiners.

Where course regulations or departmental requirements specify that a Pass in a particular subject is required for progress, then a Pass by Compensation shall not be sufficient to fulfil this requirement. A student shall be permitted to take the resit examination for a class in which a Pass by Compensation had already been achieved in order to fulfil a specific course requirement e.g. in situations where a student selects a principal subject that requires a Pass in particular classes.

In the event of a student taking a resit examination for a class already Passed by Compensation at the first diet, then both marks e.g. June = 30% (Pass by Compensation) and September = 78% shall be recorded on the student's record, academic transcript and the respective June and September examination schedules.

Compensation shall normally be applied at June meetings of Boards of Examiners only, that is, when the student's first attempts at the examination of the curriculum are being considered. In cases where a student has not obtained all the credits for the classes in the course curriculum they were taking at the June meetings of Boards of Examiners, then resits in all failed classes (i.e. those not passed or passed by compensation) should be attempted at the next available opportunity (normally the August diet of examinations).

Students **shall not** be permitted to resit any class for which credits have already been awarded (unless a pass is required for progress or professional accreditation), simply for the purpose of attempting to increase their credit-weighted average.

Compensation shall only be applied to a student's **first attempt** at a class unless the student is re-attending the year taking a full curriculum. A student taking examinations at a second or subsequent attempt as a result of being required to repeat a year taking a partial curriculum, being registered in academic suspension or in registration with attendance, shall not be eligible for compensation in that session.

In the event of a professional body providing written confirmation that it would not accredit a course operating a compensation scheme, then the class/course concerned may be exempted from the scheme.

CALCULATION OF FINAL HONOURS MARK

Joint and Single Honours; Biomedical Science (IBMS accredited degree)

The Honours Board mark for each student will be assembled as follows:

- 75%** **Level 4 Classes, credit-weighted** (BM499 mark, rounded to the nearest integer)
- 25%** **Level 3 classes**, using the Student Business (Registry)-derived CMA of Level 3 classes (to one decimal place)

First-attempt marks will be used to calculate the Level 3 component to one decimal place. The Level 3 marks will be posted, in advance of the final examinations, on the Myplace VLE website.

For CPU students 100% of marks from Level 4 classes only are used (ie the BM499 mark is the board mark).

Marks for each Level 4 class, the Honours Board mark and Level 3 component, will be presented to the Board, with the total mark be rounded to the nearest integer. Marks will be presented using the student's registration number and name. Students must achieve a BM499 mark of 40% or above to be awarded all 120 credits for their 4th year classes, and are not required to pass every individual class.

Students who fail to achieve a BM499 mark of 40% will exit with a pass degree in Biological Sciences.

As we no longer use viva voce in SIPBS the "Predominance" rule will apply when dealing with borderline marks. The Institute has decided to replace them with an open, transparent system that is based on student's exam performance which is less stressful to students and considered a fairer method. The new criteria has been adopted after seeking advice from different people e.g. external examiners.

For all degrees in the Biomedical Sciences a borderline candidate will have his/her final degree classification mark based on his/her performance in 80 credits out of a 120 credits from 4th year:

- 69 with 80 credits or more 1st class marks = 1st by predominance*
- 59 with 80 credits or more 2:1 marks = 2:1 by predominance*
- 49 with 80 credits or more 2:2 marks = 2:2 by predominance*
- 39 with 80 credits or more 3rd class marks = 3rd by predominance*

Award and Honours Classification

The Faculty-wide Honours bands are:

- 70 and above 1st Class Honours
- 60 – 69 2nd Class Honours (Upper division)
- 50 – 59 2nd Class Honours (Lower division)
- 40 – 49 3rd Class Honours

MSci Courses

In order to progress into the research intensive fifth year of the MSci course, students must have a COMBINED third and fourth year mark of 60% or greater. Those students not achieving this standard will graduate at the end of fourth year with the relevant BSc joint honours degree, for which they are eligible.

The pass mark for all year 5 MSci marks is **50%**.

The final MSci Board mark for each student will be assembled as follows:

- a credit-weighted mark for Level 4 classes (25%)
- a credit-weighted mark for performance in Level 5 classes (75%)

First attempt marks will be used to calculate both components.

Marks for each Level 5 class, the Integrated Masters Board mark and Level 4 component, will be presented to the Board, with the total mark being rounded to the nearest integer. Students must achieve a BM599 mark of 50% or above to be awarded all 120 credits for their 5th year classes, and are not required to pass every individual class.

MSci Classification

Classification	Composite Mark
Distinction	70 -100
Merit	60 – 69
Award	50 – 59

Final degree classification will be published via the Pegasus as soon as is possible after the Honours & MSci Examination Board. **Only the information regarding the class of degree will be issued at this time.** Student Business (Registry) will be informed of the aggregated Honours mark and this will be recorded on each student's transcript under a 120 credit class code. Students will be able to obtain from Student Business (Registry) an official transcript of their examination performance after graduation.

External Examiners

SIPBS have appointed four External Examiners, one for each discipline. Each External Examiner is responsible for checking all exams papers, attending Honours Board of Examiners meetings, scrutinising scripts and marks. Meetings with students are also arranged at the Honours Boards. For session 2018/2019, the following External Examiners have been appointed:

Professor Adam Cunningham (Immunology)	University of Birmingham
Dr Jenni Harvey (Pharmacology)	University of Dundee
Professor Jacqueline McCormack (Biomedical Science and Biochemistry)	Institute of Technology Sligo
Professor Carol Munro (Microbiology)	University of Aberdeen

MARKING GUIDE - 2018-2019 (LEVELS 1- 4 CLASSES)

This is the marking guide which all staff use for years 1 to 4 marking. All student work (examinations, essays, assignments, presentations, etc.) is assessed against the learning outcomes for the class that are listed on each Class Descriptor.

MARK	ASSESSMENT CRITERIA
80 – 100	<p>Truly Exceptional/Outstanding demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • wide appropriate knowledge, understanding and insight (and where appropriate effective project work) and shows evidence of reading and thought beyond required/guided reading • contains particularly appropriate examples and a high standard of writing and communication • appropriate use of references • <i>The best that can be expected under examination conditions at this stage of a candidate's career.</i>
70 – 79	<p>Excellent demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • wide appropriate knowledge, understanding and insight (and where appropriate effective project work) and shows evidence of reading and thought beyond required/guided reading • contains particularly appropriate examples or a high standard of writing and communication • appropriate use of references.
65 – 69	<p>Comprehensively good demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • wide appropriate knowledge and understanding (and where appropriate effective project work) • contains either no lapse in detail or limited evidence of appropriate reading beyond required/guided reading • a high standard of writing and communication
60 – 64	<p>Comprehensively good demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • wide appropriate knowledge and understanding • contains the occasional lapse in detail and no evidence of appropriate reading beyond required/guided reading
55 – 59	<p>Incomplete but generally good demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • sound knowledge and understanding of essential material (and where appropriate essential project skills) • general accuracy with occasional mistakes or uncoordinated use of information
50 – 54	<p>Incomplete but generally good demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • sound knowledge and understanding of most of the essential material (and where appropriate essential project skills) • general accuracy with occasional mistakes and uncoordinated use of information
45 – 49	<p>Rather weak but satisfactory demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • basic sound knowledge and understanding (and where appropriate basic project skills), but • some non-critical omissions • weaknesses of logic and/or evidence • poor but adequate presentation
40 – 44 PASS	<p>Rather weak but satisfactory demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • basic sound knowledge and understanding (and where appropriate basic project skills), but • some non-critical omissions and/or mistakes • illogical in parts and/or lack of evidence • poor but just adequate presentation
30 – 39 FAIL	<p>Very weak and unsatisfactory demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • lack of substance but contains some relevant information that may be out of context but demonstrates some understanding (and where appropriate some project work completed under supervision) • serious omissions and/or mistakes • illogical and serious lack of evidence • lack of familiarity with the subject of assessment and/or assessment vehicle
20 – 29	<p>Clear failure in demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • some attempt to answer the question • some key words or phrases • serious errors and/or illogicality
10 – 19	<p>Clear failure in demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • little or highly inadequate attempt to answer the question • a few key words or phrases • serious errors and/or illogicality
1 – 9	<p>Utter failure in demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • no hint of understanding but containing 1 or 2 keywords or phrases • serious errors and/or illogicality
0	No relevant work submitted for assessment

MARKING GUIDE - 2018-2019 (LEVEL 5 CLASSES)

This is the marking guide which all staff use for year 5 (MSci courses) marking. All student work (examinations, essays, assignments, presentations, etc.) is assessed against the learning outcomes for the class that are listed on each Class Descriptor.

MARK	ASSESSMENT CRITERIA
80 – 100	<p>Truly Exceptional/Outstanding demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • wide appropriate knowledge, understanding and insight (and where appropriate, effective project work) and shows evidence of reading and thought beyond required/guided reading • contains particularly appropriate examples and a high standard of writing and communication • appropriate use of references • <i>The best that can be expected under examination conditions at this stage of a candidate's career.</i>
70 – 79	<p>Excellent demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • wide appropriate knowledge, understanding and insight (and where appropriate, effective project work) and shows evidence of reading and thought beyond required/guided reading • contains particularly appropriate examples or a high standard of writing and communication • appropriate use of references.
65 – 69	<p>Comprehensively good demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • wide appropriate knowledge and understanding (and where appropriate, effective project work) • contains either no lapse in detail or limited evidence of appropriate reading beyond required/guided reading • a high standard of writing and communication
60 – 64	<p>Comprehensively good demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • wide appropriate knowledge and understanding • contains the occasional lapse in detail and no evidence of appropriate reading beyond required/guided reading
55 – 59	<p>Incomplete, but generally good demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • sound knowledge and understanding of essential material (and where appropriate, essential project skills) • general accuracy, with occasional mistakes or uncoordinated use of information
50 – 54 PASS	<p>Incomplete, but generally good demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • sound knowledge and understanding of most of the essential material (and where appropriate, essential project skills) • general accuracy, with occasional mistakes and uncoordinated use of information
45-49 FAIL	<p>Rather weak demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • basic sound knowledge and understanding (and where appropriate, basic project skills), but • serious omissions • weaknesses of logic and/or evidence • poor, but adequate presentation
40 – 44	<p>Rather weak demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • basic sound knowledge and understanding (and where appropriate, basic project skills), but • serious omissions and/or mistakes • illogical in parts and/or lack of evidence • poor, but just adequate presentation
30 – 39	<p>Very weak and unsatisfactory demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • lack of substance, but contains some relevant information that may be out of context, but demonstrates some understanding (and where appropriate, some project work completed under supervision) • very serious omissions and/or mistakes • illogical and serious lack of evidence • lack of familiarity with the subject of assessment and/or assessment vehicle
20 – 29	<p>Clear failure in demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • some attempt to answer the question • some key words or phrases • serious errors and/or illogicality
10 – 19	<p>Clear failure in demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • little or highly inadequate attempt to answer the question • a few key words or phrases • serious errors and/or illogicality
1 – 9	<p>Utter failure in demonstration of learning outcomes that shows</p> <ul style="list-style-type: none"> • no hint of understanding, but containing 1 or 2 key words or phrases • serious errors and/or illogicality
0	<ul style="list-style-type: none"> • no relevant work submitted for assessment

PRIZES

The department award prizes to students in Honours year, the prize-giving ceremony is normally held on the same day as Graduation. The following prizes are awarded each year:

Biochemistry prize	<i>Awarded to the student with the best academic performance in the final Biochemistry classes (BM430 and BM423 and/or BM431) and Biochemistry-coded 40-credit project component of BM432.</i> <u>Undergraduate Recognition Award - Sponsored by Biochemical Society</u>
Immunology prize	<i>Awarded to the student with the best academic performance in the final Immunology classes (BM426 and BM427 and/or BM433) and Immunology-coded 40-credit project component of BM432.</i> <u>Sponsored by British Society of Immunology</u>
Microbiology prize	<i>Awarded to the student with the best academic performance in the final Microbiology classes (BM425 and BM424 and/or BM435) and Microbiology-coded 40-credit project component of BM432.</i>
The Physiological Society Prize: Pharmacology prize	<i>Awarded to the student with the best academic performance in the final Pharmacology classes (BM429 and BM434 and/or BM428) and Pharmacology-coded 40-credit project component of BM432.</i> <u>Sponsored by The Physiological Society</u>
Institute of Biomedical Science President's Prize: Biomedical Science prize	<i>Awarded to the student with the best academic performance in the final Biomedical Science classes (BM422, BM423, BM424 and BM426) and 40-credit project component of BM432.</i> <u>Sponsored by Institute of Biomedical Science (IBMS)</u> <u>Student MUST be a member of IBMS</u>
Prize for best BMS 4 th year undergraduate student	<i>Awarded to the student with the best academic performance in the whole curriculum of their degree for 4th year classes</i> <u>Sponsored by Royal Society of Biology</u>
Prize for the best BMS MSci student	<i>Awarded to the student with the best academic performance in the whole curriculum of their MSci degree.</i>
Prize for the most improved BMS student	<i>Awarded to the student with the most improved academic performance from Year 3 to Year 4.</i>

Years 1 to 3 - Dean's Certificates

The Dean recognises exceptional performance each academic year for students in years 1 to 3, by the issue of a Dean's certificate to the best students in the Faculty. This award recognises students who achieve a credit mark average of 80% and above.

PERSONAL CIRCUMSTANCES for EXAM PERFORMANCE

The Department has established a Personal (Mitigating) Circumstances Committee and students' who believe medical or other circumstances have affected their performance on the course, require to make a written statement to that effect, so that circumstances can be considered by the Board of Examiners.

<https://www.strath.ac.uk/staff/policies/academic/>

The following mitigating circumstances will be considered by Examination Boards (general, Honours, PGT):

- *Serious or significant* medical conditions or illness (including both physical and mental health problems).
- Ailments such as severe colds, migraines, stomach upsets, etc. **ONLY** where the ailment was so severe it was impossible for you to attend an examination.
- *Exceptional* personal circumstances (e.g. serious illness or death of a parent or other person who brought you up, grandparent, brother or sister, spouse or partner or close friend, including participation in funeral and associated rites; family break up; being a victim of significant crime; being in a serious car accident).
- Exceptional travel circumstances *beyond your control* which prevented you from attending an examination or other scheduled assessment.
- Severe financial problems which could not be anticipated (e.g. failure of a bank; withdrawal of funding for a reason out with your control).

This list is not exhaustive.

The following will **not** normally be considered to be mitigating circumstances:

- Minor (usually seasonal) ailments such as sore throats, minor colds, headaches, hangovers, etc.
- Long term illness or disability, where special arrangements have already been made for your assessments (or where such arrangements could have been made if the University had been made aware of the problem at the proper time).
- Circumstances which have already been fully catered for by the granting of a coursework extension.
- Examinations on the same or consecutive days.
- An inability to prioritise and schedule the completion of several pieces of work over a period of time.
- An inability to adjust to life away from home.
- Problems caused by English not being your principal language. You should seek advice in good time from the English Language Teaching Division, the Centre for Academic Practice and Learning Enhancement, the Writing Centre or the English Language Tutor.
- Concerns about political or social unrest in your home country which was ongoing at the time you left to take up your place at Strathclyde (other than where there has been a sharp deterioration of the situation since your departure).
- Poor time management or personal organisation (e.g. failure to plan for travel problems resulting in late submission of coursework or inability to get to an examination in time; misreading the examination timetable).
- Foreseeable last-minute delays such as computer crashes, printing problems, failure to back up material.
- Representing the University or your country at a sporting event (you should advise the Department/Faculty in advance and arrange for an extension for coursework and/or for a first attempt at a later diet of examinations). [The University has an agreement that Elite Athletes can

attend sporting events and will be granted extensions/first attempts at a later diet of examinations, but they must nonetheless inform their Department/Faculty in advance.]

- Circumstances within your control (e.g. holiday; paid employment; getting a cheaper flight; choosing to miss an assessment or coursework deadline for something which you consider to be more important).
- Claims made after the published deadline for receipt of mitigating circumstances except where you were unable to meet the submission date for exceptional reasons which can be validated (e.g. hospitalization).
- Claims without independent supporting evidence.
- Claims which do not state clearly how your performance in your assessments has been affected.

Students who wish to have their mitigating circumstances taken into consideration by Examination boards **must notify Student Experience Services** and provide **independent supporting evidence** such as:

- Confirmation from a medical practitioner (usually a UK registered medical practitioner within the locality of your registered term time address);
- A copy of a death certificate or other related document;
- A police incident number notification;
- A letter of confirmation from an academic member of staff, Hall Warden, Chaplain or other religious leader, the Student Advisory and Counselling Service, ASK or other appropriate independent third party (preferably not a relative or friend).

Please follow the link shown below to complete the form:-

https://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/PersonalCircumstancesForm_Aug2013.pdf.pagespeed.ce.9EFCeavcKH.pdf

Boards will **normally require a medical certificate from your UK registered medical practitioner for absence from examinations**, but if this cannot be provided for good and proper reasons, then the Board will need to see a letter of confirmation from an independent third party (preferably not a relative or friend).

If you do not notify Student Experience that you want mitigating circumstances to be considered and fail to provide independent supporting evidence, mitigating circumstances will not normally be considered. **It is your responsibility to notify Student Experience and to organise and provide supporting evidence.** Notification and support evidence can be submitted through the Personal Circumstances section on PEGASUS. Hard copies of original supporting evidence should also be submitted to Student Business (Science).

3

Please ensure that you also submit a copy of all documentation to Mrs Jacqui Miller (jacqui.miller@strath.ac.uk)

If you are unable to upload the supporting evidence you should take it to Student Business, in person.

Claims must be submitted within five working days of the end of the examination diet. Failure to submit your mitigating circumstances within five working days will normally render them inadmissible in the event of a subsequent academic appeal.

Resit Examinations

Students may resit an examination or assessment that they have failed, regardless of whether they have been allowed to proceed.

Students will be allowed only two attempts at each assessment.

STUDENT APPEALS

APPEALS PROCEDURE

All students have the right to appeal against progress or award decision of the Board of Examiners. You should however note that there are **time limits** on appeals and that an appeal will not normally be heard unless you undertake appeal proceedings whilst still a student at the University (i.e. before you graduate).

The letter from Student Business (Registry) informing the student of the decision of the Board of Examiners will specify a deadline for submission of an appeal. All appeals, together with supporting documentary evidence, should normally be lodged in writing with the appropriate Faculty Officer no later than this deadline.

Students who believe they may have grounds for an appeal against the Board of Examiners should submit appeals, in the first instance, to Ms Bronagh Dallat, Science Faculty Officer, University of Strathclyde, Room 5.25, Royal College Building, 204 George Street, Glasgow, G1 1XW along with supporting documentation.

For further information, please visit the following page –
<https://www.strath.ac.uk/studentlifecycle/appeals/>

What are the grounds of appeal?

All appeals against a decision of a Board of Examiners must be made on at least one of the following grounds:

- that there were procedural irregularities in the assessment process;
- inadequate assessment, prejudice or bias on the part of the examiners; and/or
- medical, personal or other circumstances affecting the student's performance of which the examiners were unaware at the time of the assessment.

If you would like advice about appeals, please contact the Information and Advice Team (email: infoandadvice@strath.ac.uk) / telephone: 0141 548 4104) or the Students' Association ASK Service (Advice, Support and Knowledge) (email: ask4@theunion@strath.ac.uk) / telephone: 0141 567 5040).

Where your appeal is against an award you are not permitted to graduate and should inform the Graduation Section of Student Experience immediately. An appeal submitted by the appropriate deadline will normally be heard within 30 working days of its receipt by the Faculty Office.

If an appeal is not upheld the appellant has the right of appeal to the Senate. Senate appeals should be addressed to the Head of Education Strategy, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow, G1 1XQ.

Appeals against the exercise of academic judgement will **not** be heard. If you do not understand why you have received a lower mark than expected, you should contact the person responsible for the class and ask for feedback on your performance.

For Academic Policies and Procedures, please follow the link shown below:-
<https://www.strath.ac.uk/staff/policies/academic/>

Outcome of Appeal

The Appeals Committee will consider your appeal as quickly as possible. The decision for your appeal will depend on the evidence you submit. The Mitigating Circumstances Committee (MCC) will have considered any evidence you have submitted after your exams therefore an Appeal usually requires different evidence to that submitted to the MCC. The grounds for an Appeal can be found on the University web site (<https://www.strath.ac.uk/studentlifecycle/appeals>). Your Department will also be asked to comment on your case. The decision of the Appeals Committee will be conveyed to you in writing as soon as possible after its meeting.

An appeal will **NOT** result in the award of additional marks and in the final year of study this means that an appeal will not result in a change in degree class. If your appeal is upheld the affected assessment will be **discounted** and you will be given the opportunity to have a **deferred attempt** i.e. sit the assessment at the next exam diet as a first attempt. Your previous mark(s) at the assessment(s) will be deleted and should you perform at a lower level you cannot request reinstatement of your previous marks.

STRUCTURE AND CONTENT OF COURSES



Royal Society of Biology Accreditation

Our BSc Biomedical Science degrees are accredited by the Royal Society of Biology. This accreditation is one way of showing employers you have the practical skills and knowledge they are looking for.

Accredited degrees by the Royal Society of Biology follows an independent and rigorous assessment of degree programmes which contain a solid academic foundation in biological knowledge and key skills, and prepare graduates to address the needs of employers.

Accreditation of degree programmes by the Royal Society of Biology aims to:

- Recognise academic achievement
- Drive up standards of learning and teaching in the biosciences
- Enhance competitiveness for students in a crowded global jobs market
- Provide industry with an assurance of the level of employability skills and subject relevant bioscience skills provided by a degree
- Maintain and improve the UK's position as a premier location to develop the life scientists of the future.

Studying on these programs means you are eligible to become a member of the Royal Society of Biology. Find out more here <https://www.rsb.org.uk/index.php/membership/individual-membership>

Degree Regulations

Each degree or group of degrees has a specific set of Regulations that specify the Classes that must be passed for each year of Study. These Regulations are presented in the following pages and can also be found in the University Calendar.

The Credit System

Each class is allocated a credit value based on the number of student effort hours. This includes the number of contact hours (lectures, laboratories or tutorials), as well as the amount of assessment or coursework and the amount of self-study (reading and revision) expected. **Each 20 credit class represents 200 student effort hours. Typically, a 20-credit lecture class would comprise 40 contact hours and 160 hours for assignments, reading, revision and assessment.**

Each class has a class code comprising either 2 letters and 3 digits, or 5 digits. The letters "BM" indicate that the class is taught by SIPBS. The next number indicates the year of the class, e.g. BM1XX is a first year class, BM2XX is a second year class. The final two numbers identify the class itself. BM102 is the first year class Molecular Bioscience.

Class Descriptors

Class Descriptors for each class can be found on the relevant class page on MyPlace. These include details of the person in charge of the class (the Class Coordinator), staff teaching on the class, the credit value of the class, the content of the class, the class aims and learning outcomes, details of the type and number of assessments and the range of key skills included in the class. All class descriptors are attached to the electronic version of this handbook.

Elective Classes

Elective classes are normally chosen from subjects outside your principal area of study. This provides you with an opportunity to broaden your education.

In First Year, students are able to choose Elective Classes, so all 1st year students are issued with an Elective Guide that summarizes classes that are available and compatible with the timetable. *You should have received this information via email prior to starting and also at First Day Information Session on Thursday 17th September – if you have misplaced, please log onto MyPlace, BM1 page where you will find the elective guide. Information on how to add your elective onto your PEGASUS Curriculum will be detailed in the Elective Guide.*

You will also have received a list of popular elective classes which fit the vacant slots in the timetable. However, the list does not claim to be exhaustive. Synopses for common elective classes are available. **Although it is possible to change an elective class on your curriculum after the start of the Semester, you should be aware that such changes are only possible during the first two weeks of each Semester.**

COURSE SPECIFIC INFORMATION

As you may be aware, this handbook has been compiled for a number of students covering a variety of courses within SIPBS. You will often see staff posting messages on MyPlace stating for the attention of 'Biomedical students' – this message is for your attention/information and refers to the following cohorts:

- BSc in Biological Sciences (Pass degree)
- BSc with Honours in Biomedical Science (this is the accredited degree)
- BSc with Joint Honours in Biochemistry/Immunology/Microbiology/Pharmacology
- BSc with Single Honours in Biochemistry/Immunology/Microbiology/Pharmacology
- MSci Biochemistry/Immunology/Microbiology/Pharmacology

Changing your Course

Students on all degrees take the same core classes in the first 2 years of study. You can request to transfer between BSc degrees at the end of **second** year, prior to starting third year. At the end of third year students may request to transfer between joint and single honours degrees. At the end of **fourth** year students may request to transfer between BSc and MSci programmes. **ALL** requests will be subject to satisfying the appropriate course requirements and if there is sufficient space on the course they wish to transfer into and if a minimum number of students have requested the course. Information will be sent out to students in Semester 2 via MyPlace and an information session will take place.

MSci in Biochemistry, Immunology, Microbiology or Pharmacology

The aim of the MSci degree is to provide joint honours students the option to specialise in a single discipline through a further year of study.

In addition, all MSci students entering 3rd year are required to choose an additional discipline to the course you are already registered for - this is to ensure that you have another 40 credits added to your curriculum, therefore totalling 120 credits overall - a combination of classes which mirrors the joint honours.

Note: In order to progress into the research intensive fifth year of the MSci course, students must have a COMBINED third and fourth year mark of 60% or greater. Those students not achieving this standard will graduate at the end of fourth year with the relevant BSc joint honours degree, for which they are eligible.

Students studying for the MSci degrees in Biochemistry, Immunology, Microbiology and Pharmacology will undertake an extensive research project lasting 20 weeks spread across semesters one and two. The project will be laboratory-based and involve the generation of original data. The project will contribute towards the following 80 credit classes:

- **BM 505 MSci Biochemistry Project and Thesis**
- **BM 506 MSci Immunology Project and Thesis**
- **BM 507 MSci Microbiology Project and Thesis**
- **BM 508 MSci Pharmacology Project and Thesis**

Students are reminded that the pass mark for all Year 5 classes is 50%.

The overall mark for these classes consists of:

- **30%** for student performance during the project
- **50%** for the thesis
- **20%** for the seminar presentation

MSci students will also be expected to complete an advanced Research Topics class in their selected discipline. These classes are taught in small groups and involve extensive critical analysis of the literature:

- **BM509 Research Topics in Biochemistry**
- **BM510 Research Topics in Immunology**
- **BM511 Research Topics in Microbiology**
- **BM512 Research Topics in Pharmacology**

MSci students are also required to complete the postgraduate level Generic Skills class **MP931**, which includes strong components on data analysis, bioethics, interpersonal skills and other key skills identified as being vital for a good career by government and industry.

PERSONAL DEVELOPMENT PLANNING (PDP)

Personal Development Planning (PDP) is a structured and supported process in which you reflect upon your learning, performance and achievements, and plan your personal, educational and career development. Your PDP assessment forms part of the following classes:

- Year 1 BM110
- Year 2 BM214
- Year 3 BM327
- Year 4 BM432
- Year 5 MP931

For the above classes, there are no marks associated with the PDP element, however, ***you must complete the PDP to be awarded credit for the relevant class in each year.***

The PDP handbook has been uploaded onto the following MyPlace pages for your attention:

BM	Biomolecular Science
BM1	Biomolecular Sciences 1 st year
BM2	Biomolecular Sciences 2 nd year
BM3	Biomolecular Sciences 3 rd year
BM4	Biomolecular Sciences 4 th year
BM5	Biomolecular Sciences 5 th year

Equality, Diversity and Inclusion (E, D & I) for Students Online Training Module

As part of your PDP, all students are required to complete the Equality, Diversity and Inclusion Online Training Module.

This is part of BM108 for all Year 1 students. For Year 2 Direct Entry students, it is included in BM214; for Year 3 Direct Entry students, it is included in BM327.

- **All students need to complete this online training module.**
- **Failure to complete the course will be regarded as a failure to complete required components of the relevant class (Year 1, BM108; and for students joining in Year 2, BM214 or Year 3, BM327) and will result in you being 'Not Qualified'.**

You will only need to complete the E, D & I course **ONCE** throughout your time at the University. Please follow this link - <https://classes2018-2019.myplace.strath.ac.uk/course/view.php?id=23107> and log in with your unique University user name and password.

The course takes the form of several screens of information which will take approximately 30 - 60 minutes to read through. These are followed by a few multiple choice questions to complete. Your score will be displayed at the end.

We will check your completion of the course, which is **COMPULSORY**. You should complete the course by **Thursday 31st January 2019**. Reminders will be sent from time to time, if needed.

If you experience any problems accessing the course, please contact philip.brown@strath.ac.uk who will be able to assist you.

DEGREE REGULATIONS



11.22 Strathclyde Institute of Pharmacy and Biomedical Sciences

Biomedical Sciences

BSc with Honours in Biochemistry and Immunology
BSc with Honours in Biochemistry and Microbiology
BSc with Honours in Biochemistry and Pharmacology
BSc with Honours in Immunology and Microbiology
BSc with Honours in Immunology and Pharmacology
BSc with Honours in Biomedical Science
BSc in Biological Sciences
Diploma of Higher Education in Biological Sciences
Certificate of Higher Education in Biological Sciences

Course Regulations

[These regulations are to be read in conjunction with Regulation 11.1]

Status of the Courses

11.22.1 All students are normally admitted in the first instance as potential Honours students. Transfer between the courses is possible prior to the third year of study, subject to satisfying the appropriate course requirements.

Mode of Study

11.22.2 The courses are available by full-time and part-time study.

Curriculum (Full-time study)

First Year

11.22.3 All full-time students shall undertake classes amounting to 120 credits as follows:

Compulsory

Class	Level	Credits	
BM 108	Foundation Biomolecular Science 2: Organisms and Disease	1	20
BM 109	Foundation and Biomolecular Sciences: Cells and their Molecules	1	20
BM 110	Being a Biomolecular Scientist 1	1	40
CH 112	Bio-Organic Chemistry	1	20
Elective Class(es)			20

Second Year

11.22.4 All full-time students shall undertake classes amounting to 120 credits as follows:

Compulsory

Class	Level	Credits	
BM 210	Introduction to Biochemistry	2	20
BM 211	Introduction to Microbiology	2	20
BM 212	Introduction to Immunology	2	20
BM 213	Introduction to Pharmacology	2	20
BM 214	Being a Biomolecular Scientist 2	2	40

Third Year

11.22.5 All full-time students shall undertake classes amounting to 120 credits as follows:

Compulsory

Class	Level	Credits	
BM 327	Being a Biomolecular Scientist 3	3	40

Together with classes appropriate to the chosen course:

Biochemistry and Immunology

Compulsory Classes

BM 321	Biomedical Biochemistry	3	20
BM 323	Biomedical Immunology	3	20
BM 325	Fundamental Immunology	3	20
BM 326	Fundamental Biochemistry	3	20

Biochemistry and Microbiology

Compulsory Classes

BM 321	Biomedical Biochemistry	3	20
BM 326	Fundamental Biochemistry	3	20
BM 329	Biomedical Microbiology	3	20
BM 330	Fundamental Microbiology	3	20

Biochemistry and Pharmacology

Compulsory Classes

BM 321	Biomedical Biochemistry	3	20
BM 322	Biomedical Pharmacology	3	20
BM 324	Fundamental Pharmacology	3	20
BM 326	Fundamental Biochemistry	3	20

Microbiology and Pharmacology

Compulsory Classes

BM324	Fundamental Pharmacology	3	20
BM322	Biomedical Pharmacology	3	20
BM330	Fundamental Microbiology	3	20
BM329	Biomedical Microbiology	3	20

Biological Sciences and Biomolecular Sciences

Optional Classes

80 credits chosen from the classes listed in this Regulation.

Biomedical Science

Compulsory Classes

BM 321	Biomedical Biochemistry	3	20
BM 325	Fundamental Immunology	3	20
BM 328	Fundamental Biomedical Science: Haematology and Immunodiagnostics	3	20
BM 329	Biomedical Microbiology	3	20

Immunology and Microbiology

Compulsory Classes

BM 323	Biomedical Immunology	3	20
BM 325	Fundamental Immunology	3	20
BM 329	Biomedical Microbiology	3	20
BM 330	Fundamental Microbiology	3	20

Immunology and Pharmacology

Compulsory Classes

BM 322	Biomedical Pharmacology	3	20
BM 323	Biomedical Immunology	3	20
BM 324	Fundamental Pharmacology	3	20
BM 325	Fundamental Immunology	3	20

Pharmacology

Compulsory Classes

BM324	Fundamental Pharmacology	3	20
BM322	Biomedical Pharmacology	3	20

Optional Classes

40 credits chosen from the classes listed in this Regulation

Immunology

Compulsory Classes

BM325	Fundamental Immunology	3	20
BM323	Biomedical Immunology	3	20

Optional Classes

40 credits chosen from the classes listed in this Regulation

Biochemistry

Compulsory Classes

BM326	Fundamental Biochemistry	3	20
BM321	Biomedical Biochemistry	3	20

Optional Classes

40 credits chosen from the classes listed in this Regulation

Microbiology

Compulsory Classes

BM330	Fundamental Microbiology	3	20
BM329	Biomedical Microbiology	3	20

Optional Classes

40 credits chosen from the classes listed in this Regulation

Fourth Year

11.22.6 All full-time students shall undertake classes amounting to 120 credits as follows:

Compulsory

Class*	Level		Credits
BM499	Composite Mark for Honours Curriculum. A 3 rd year pass is required in the discipline from which the optional class is chosen	4	120

BM499 comprises

Compulsory Class

BM432	Being a Biomolecular Scientist 4 (40 credits) together with classes appropriate to the chosen course:	4	40
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Biochemistry and Immunology

Compulsory Classes

BM426	Clinical Immunology	4	20
BM430	Advanced Biochemistry	4	20

20 credits from the following classes:

BM427	Advanced Immunology	4	20
BM433	Applied Immunology	4	20

Plus 20 credits from the following classes:

BM423	Clinical Biochemistry	4	20
BM431	Applied Biochemistry	4	20

Biochemistry and Microbiology

Compulsory Classes

BM425	Advanced Microbiology	4	20
BM430	Advanced Biochemistry	4	20

20 credits from the following classes

BM424	Clinical Microbiology	4	20
BM435	Applied Microbiology	4	20

Plus 20 credits from the following classes

BM423	Clinical Biochemistry	4	20
BM431	Applied Biochemistry	4	20

Biochemistry and Pharmacology

Compulsory Classes

BM429	Advanced Pharmacology	4	20
BM430	Advanced Biochemistry	4	20
20 credits from the following classes			
BM434	Clinical Pharmacology	4	20
BM428	Applied Pharmacology	4	20
Plus 20 credits from the following classes			
BM423	Clinical Biochemistry	4	20
BM431	Applied Biochemistry	4	20

Microbiology and Pharmacology

Compulsory Classes

BM429	Advanced Pharmacology	4	20
BM425	Advanced Microbiology	4	20
20 credits from the following classes			
BM434	Clinical Pharmacology	4	20
BM428	Applied Pharmacology	4	20
Plus 20 credits from the following classes			
BM424	Clinical Microbiology	4	20
BM435	Applied Microbiology	4	20

Biomedical Science

Compulsory Class

BM426	Clinical Immunology	4	20
BM423	Clinical Biochemistry	4	20
BM424	Clinical Microbiology	4	20
BM422	Advanced Biomedical Science: Cellular and Molecular Pathology	4	20

Immunology and Microbiology

Compulsory Classes

BM426	Clinical Immunology	4	20
BM425	Advanced Microbiology	4	20
20 credits from the following classes			
BM427	Advanced Immunology	4	20
BM433	Applied Immunology	4	20
Plus 20 credits from the following classes			
BM424	Clinical Microbiology	4	20
BM435	Applied Microbiology	4	20

Immunology and Pharmacology

Compulsory Classes

BM426	Clinical Immunology	4	20
BM429	Advanced Pharmacology	4	20
20 credits from the following classes			
BM427	Advanced Immunology	4	20
BM433	Applied Immunology	4	20
Plus 20 credits from the following classes			
BM434	Clinical Pharmacology	4	20
BM428	Applied Pharmacology	4	20

Immunology

Compulsory Classes

BM427	Advanced Immunology	4	20
BM426	Clinical Immunology	4	20
BM433	Applied Immunology	4	20

Plus 20 credits chosen from the classes listed in this Regulation.

(A 3rd year pass is required in the discipline from which the optional class is chosen)

Pharmacology

BM429	Advanced Pharmacology	4	20
BM434	Clinical Pharmacology	4	20
BM428	Applied Pharmacology	4	20

Plus 20 credits chosen from the classes listed in this Regulation.

(A 3rd year pass is required in the discipline from which the optional class is chosen)

Biochemistry

BM430	Advanced Biochemistry	4	20
BM423	Clinical Biochemistry	4	20
BM431	Applied Biochemistry	4	20

Plus 20 credits chosen from the classes listed in this Regulation.

(A 3rd year pass is required in the discipline from which the optional class is chosen)

Microbiology

BM425	Advanced Microbiology	4	20
BM424	Clinical Microbiology	4	20
BM435	Applied Microbiology	4	20

Plus 20 credits chosen from the classes listed in this Regulation.

(A 3rd year pass is required in the discipline from which the optional class is chosen)

Biomolecular Sciences

Optional Classes

80 credits chosen from the classes listed in this Regulation.

(A 3rd year pass is required in the discipline from which the optional class is chosen)

Curriculum (Part-time study)

11.22.7 In each academic year, a student studying on a part-time basis shall normally undertake a curriculum of no fewer than 60 credits chosen from the appropriate full-time curriculum.

Progress (Full-time study)

11.22.8 In order to progress to the second year of the course, a student must have accumulated at least 100 credits from the course curriculum including no fewer than 80 credits from the first year compulsory classes.

11.22.9 In order to progress to the third year of the course, a student must have accumulated at least 220 credits from the course curriculum including no fewer than 100 credits from the second year compulsory classes in the chosen course.

11.22.10 In order to progress to the fourth year of the course, a student must have accumulated at least 360 credits from the course curriculum including no fewer than 100 credits from the third year compulsory classes in the chosen course.

Progress (Part-time study)

11.22.11 In order to progress to the next full-time equivalent year of the course, a part-time student must normally satisfy the appropriate progress requirements for full-time study.

11.22.12 In any one academic year, a part-time student shall not normally carry more than 20 outstanding credits from one academic year to the next.

Final Assessment and Honours Classification

11.22.13 On successful completion of the fourth year, a candidate will be awarded 120 Level 4 credits under the class code *BM499*.

11.22.14 The final Honours classification will normally be based on:

- (i) the first assessed attempt at compulsory and specified optional classes in the third and fourth years.
- (ii) if appropriate, an oral examination.

Award

11.22.15 **BSc with Honours:** In order to qualify for the award of the degree of BSc with Honours in the chosen course, a candidate must have accumulated no fewer than 480 credits from the course curriculum.

11.22.16 **BSc:** In order to qualify for the award of the BSc in Biological Sciences, a candidate must have accumulated no fewer than 360 credits from the course curriculum.

11.22.17 **Diploma of Higher Education:** In order to qualify for the award of a Diploma of Higher Education in Biological Sciences, a candidate must have accumulated no fewer than 240 credits from the course curriculum.

11.22.18 **Certificate of Higher Education:** In order to qualify for the award of a Certificate of Higher Education in Biological Sciences, a candidate must have accumulated no fewer than 120 credits from the course curriculum.

11.22.19
to 11.22.30 (Numbers not used)

11.22 Strathclyde Institute of Pharmacy and Biomedical Sciences

BSc with Honours in Biochemistry and Pharmacology (CPU)

Course Regulations

[These regulations are to be read in conjunction with Regulation 11.1]

Status of the Courses

11.22.86 All students are normally admitted in the first instance as potential Honours students.

Mode of Study

11.22.87 The course is available by full-time study only.

Place of Study

11.22.88 Students will study years 1-3 at China Pharmaceutical University (CPU). 25% of each year of study in China will be taught by UoS staff based at CPU. Year 4 will be taught at UoS.

Curriculum (Full-time study)

First Year

11.22.89 All full-time students shall undertake classes amounting to 120 credits as follows:

Compulsory

Class	Level	Credits
BM113	CPU Biological Sciences 1	1 120

Second Year

11.22.90 All full-time students shall undertake classes amounting to 120 credits as follows:

Compulsory

Class	Level	Credits
BM215	CPU Biological Sciences 2	2 120

Third Year

11.22.91 All students shall undertake classes amounting to 120 credits as follows:

Compulsory

Classes	Level	Credits
BM331	CPU Biological Sciences 3	3 120

Fourth Year

11.22.92 All students shall undertake classes amounting to 120 credits as follows:

Compulsory

Classes	Level	Credits	
BM 499	Composite Mark for Honours Curriculum	4	120

BM 499 comprises

Compulsory Class

BM432 Being a Biomolecular Scientist 4 (40 credits) together with classes appropriate to the chosen course:

Biochemistry and Pharmacology

Compulsory Classes

BM429	Advanced Pharmacology	4	20
BM430	Advanced Biochemistry	4	20

20 credits from the following classes

BM434	Clinical Pharmacology	4	20
BM428	Applied Pharmacology	4	20

Plus 20 credits from the following classes

BM423	Clinical Biochemistry	4	20
BM431	Applied Biochemistry	4	20

Progress (Full-time study)

11.22.93 In order to progress to the second year of the course, a student must have accumulated 120 credits from the course curriculum.

11.22.94 In order to progress to the third year of the course, a student must have accumulated 240 credits from the course curriculum.

11.22.95 In order to progress to the fourth year of the course, a student must have accumulated at least 360 credits from the course curriculum.

Final Assessment and Honours Classification

11.22.96 On successful completion of the fourth year, a candidate will be awarded 120 Level 4 credits under the class code *BM 499*.

11.22.97 The final Honours classification will be based on the first assessed attempt at compulsory classes in the fourth year.

Award

11.22.98 **BSc with Honours:** In order to qualify for the award of the degree of BSc with Honours in the chosen course, a candidate must have accumulated no fewer than 480 credits from the course curriculum.

11.22.99 **BSc:** In order to qualify for the award of the BSc in Biological Sciences, a candidate must be in attendance at the University of Strathclyde and have accumulated no fewer than 360 credits from the course curriculum.

11.22.100 to
11.22.120 (numbers not used)



MSci in Biochemistry
MSci in Immunology
MSci in Microbiology
MSci in Pharmacology

Course Regulations

[These regulations are to be read in conjunction with Regulation 12.1]

Status of the Courses

12.22.41 The courses are at Integrated Masters level. Students may transfer into the MSci from a relevant BSc subject to satisfying the progress regulations. Transfer to a relevant BSc degree is possible at any time, subject to satisfying the appropriate progress regulations.

Mode of Study

12.22.42 The courses are available by both full-time and part-time study.

Curriculum (Full-time study)

First Year

12.22.43 All full-time students shall undertake classes amounting to 120 credits as follows:

Compulsory

Classes	Level	Credits	
BM 108	Foundation Biomolecular Science 2: Organisms and Disease	1	20
BM 109	Foundation Biomolecular Sciences: Cells and their Molecules	1	20
BM 110	Being a Biomolecular Scientist 1	1	40
CH 112	Bio-Organic Chemistry	1	20
Elective Class(es)			20

Second Year

12.22.44 All full-time students shall undertake classes amounting to 120 credits as follows:

Compulsory Classes

	Level	Credits	
BM 210	Introduction to Biochemistry	2	20
BM 211	Introduction to Microbiology	2	20
BM 212	Introduction to Immunology	2	20
BM 213	Introduction to Pharmacology	2	20
BM 214	Being a Biomolecular Scientist 2	2	40

12.22.45 **Third Year**
All full-time students shall undertake classes amounting to 120 credits as follows:

Compulsory Classes		Level	
	Credits		
BM 327	Being a Biomolecular Scientist 3	3	40

Together with classes appropriate to the chosen course:

Biochemistry

Compulsory Classes		Level	
	Credits		
BM326	Fundamental Biochemistry	3	20
BM321	Biomedical Biochemistry	3	20

Immunology

Compulsory Classes		Level	
	Credits		
BM325	Fundamental Immunology	3	20
BM323	Biomedical Immunology	3	20

Microbiology

Compulsory Classes		Level	
	Credits		
BM330	Fundamental Microbiology	3	20
BM329	Biomedical Microbiology	3	20

Pharmacology

Compulsory Classes		Level	
	Credits		
BM324	Fundamental Pharmacology	3	20
BM322	Biomedical Pharmacology	3	20

Optional classes

A further 40 credits from the classes listed in this regulation

12.22.46 **Fourth Year**
A student must take a minimum of 40 credits in the subject that forms the named Masters degree (which will be studied in year 5). All full-time students shall undertake classes amounting to 120 credits choosing two subject combinations from the following:

Compulsory Classes		Level	
	Credits		
BM 432	Being a Biomolecular Scientist 4	4	40

Together with classes appropriate to the chosen course:

Biochemistry

Compulsory Classes

BM 430	Advanced Biochemistry	4	20
Up to 40 credits from the following classes			
BM423	Clinical Biochemistry	4	20
BM431	Applied Biochemistry	4	20

Immunology

Compulsory Classes

BM426	Clinical Immunology	4	20
Up to 40 credits from the following classes			
BM427	Advanced Immunology	4	20
BM433	Applied Immunology	4	20

Microbiology

Compulsory Classes

BM425	Advanced Microbiology	4	20
Up to 40 credits from the following classes			
BM424	Clinical Microbiology	4	20
BM435	Applied Microbiology	4	20

Pharmacology

Compulsory Classes

BM429	Advanced Pharmacology	4	20
Up to 40 credits from the following classes			
BM434	Clinical Pharmacology	4	20
BM428	Applied Pharmacology	4	20

Optional Classes

Up to 40 further credits in one subject from the classes listed in this regulation. A 3rd year pass is required in the discipline from which the optional class is chosen.

Fifth Year

12.22.47 All students shall undertake classes amounting to 120 credits as follows:

Compulsory Class		Level	
	Credits		
<i>Biochemistry</i>			
BM 503	MSci in Biochemistry	5	120
<i>Immunology</i>			
BM 502	MSci in Immunology	5	120
<i>Microbiology</i>			
BM 504	MSci in Microbiology	5	120

<i>Pharmacology</i>			
BM 501	MSci in Pharmacology	5	120

Each of the above classes comprises:

Compulsory Classes

MP 931	Generic Biomedical and Pharmaceutical Research Skills	5	20
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Together with the class appropriate to the chosen course:

Biochemistry

BM 505	MSci Biochemistry Project and Thesis	5	80
BM 509	Research Topics in Biochemistry	5	20

Immunology

BM 506	MSci Immunology Project and Thesis	5	80
BM 510	Research Topics in Immunology	5	20

Microbiology

BM 507	MSci Microbiology Project and Thesis	5	80
BM 511	Research Topics in Microbiology	5	20

Pharmacology

BM 508	MSci Pharmacology Project and Thesis	5	80
BM 512	Research Topics in Pharmacology	5	20

Curriculum (Part-time study)

12.22.48 In each academic year, a student studying on a part-time basis shall normally undertake a curriculum of no fewer than 60 credits chosen from the appropriate full-time curriculum.

Progress (Full-time study)

12.22.49 In order to progress to the second year of the course, a student must normally have accumulated at least 100 credits from the course curriculum including no fewer than 80 credits from the first year compulsory classes.

12.22.50 In order to progress to the third year of the course, a student must normally have accumulated at least 240 credits from the course curriculum including no fewer than 120 credits from the second year compulsory classes.

12.22.51 In order to progress to the fourth year of the course, a student must normally have accumulated at least 360 credits from the course curriculum including no fewer than 120 credits from the third year curriculum. In addition, a student must have achieved an approved standard of performance with regard to level of study and academic attainment.

12.22.52 In order to progress to the fifth year of the course, a student must normally have accumulated at least 480 credits from the course curriculum including no fewer than 120 credits from the fourth year curriculum. In addition, a student must have achieved an approved standard of performance with regard to level of study and academic attainment.

Progress (Part-time study)

- 12.22.53 In order to progress to the next full-time equivalent year of the course, a part-time student must normally satisfy the appropriate progress requirements for full-time study.
- 12.22.54 In any one academic year, a part-time student shall not normally carry more than 20 outstanding credits from one academic year to the next.

Final Assessment and Degree Classification

- 12.22.55 On successful completion of the fifth year, a candidate will be awarded 120 Level 5 credits under the class code BM501, BM502, BM503 or BM504 as appropriate.
- 12.22.56 The final classification will normally be based on:
- (i) the first assessed attempt at compulsory and specified optional classes in the third, fourth and fifth years;
 - (ii) if appropriate, an oral examination.

Award

- 12.22.57 **MSci:** In order to qualify for the award of the degree of MSc in the chosen course, a candidate must have accumulated no fewer than 600 credits from the course curriculum.

Transfer

- 12.22.58 A student who fails to satisfy the progress or award requirements for the degree of MSci may be transferred to the BSc with Honours in an appropriate Joint Honours combination of subjects based on 3rd and 4th Year options.
- 12.22.59 to
- 12.22.60 (Numbers not used)



ERASMUS/ Exchange Students

SIPBS has a range of in-coming and out-going students, both project based and those taking instructional classes in the areas of Pharmacy and Biomedical Sciences.

Out-going (Strathclyde based) students are selected based on their credit mark average in the autumn following an information session and a formal application procedure (check MyPlace regularly for information).

The first point of contact for in-coming and out-going ERASMUS/Exchange students is Professor Luke Chamberlain (luke.chamberlain@strath.ac.uk).

For further information, follow the links below:

<https://www.strath.ac.uk/studywithus/studyabroad/>

University of Strathclyde **in-coming** exchange Student Information

<https://www.strath.ac.uk/studywithus/studyabroad/comingtostrathclyde/europeanexchange/erasmus/>

University of Strathclyde **out-going** exchange Student Information

<https://www.strath.ac.uk/studywithus/studyabroad/goingabroad/>

ATTENDANCE AND PERFORMANCE

Every applicant admitted to a course of study shall be required to attend regularly and to perform satisfactorily the work of each class in their curriculum.

Calendar Regulation 15.1.12 - A student who, in the opinion of the Head(s) of the Department(s) (or nominee(s)) offering a class, does not satisfy the requirements as to attendance and to performance and having been informed in writing, shall not be entitled to take the examinations in the subject of that class and shall be so informed. The names of such students shall be reported immediately to the relevant Board of Study. A student may subsequently be permitted by the Course Director (or nominee) to take the examination in the subject of the class at the next available opportunity subject to satisfactory completion of appropriate course work.

Students have an obligation to inform the University (Student Business (Registry)) at the first reasonable opportunity of any medical or other circumstances which might adversely affect their attendance, performance and/or ability to study.

SIPBS (the Department) will regularly monitor the attendance of students at lectures and in laboratory classes. Any student who fails to attend on 3 separate occasions during a semester without a valid reason will be asked to explain their absence to the Director of Teaching. A student who consistently fails to attend may be asked to withdraw.

TIER 4 STUDENTS

For all of our international students' on a Tier 4 VISA, attendance is closely monitored by the University, throughout the duration of your studies. For Tier 4 students to remain compliant with their Tier 4 VISA and for the University to comply with our Tier 4 sponsor license, we will collect data electronically and manually that relates to a student's engagement with their studies and use of University facilities including library, computing and some online services and, in some cases, attendance at laboratory classes, lectures, tutorials, class tests and examinations.

It is important that you check your Strathclyde email account regularly as you may receive communication inviting you to report, in person to confirm your continued engagement. You must respond and attend if you receive, please ensure that you bring along your matriculation (registration) card. You are also required to notify the department (Mrs Jacqui Miller) if you are ill or need to miss a class for any other reason. It is also important that you notify Mrs Jacqui Miller if you intend to leave the University for any reason (returning home, holidays etc.).

Please note that students who fail to attend will receive an 'Amber' email, then a 'Red' email. Failure to comply will result in the University contacting the United Kingdom Borders Agency (UKBA).

ABSENCE FROM CLASSES

For absences of seven days or less:

The self-certification convention applies where there is absence from classes or tutorials for seven days, or fewer consecutive University teaching days. The self-certification form, available from Student Business (Registry), should be completed and forwarded to Student Business Science (Registry) for noting in your file.

For absence of more than seven days:

Where sickness results in absence of more than seven normal University days, you are required to submit a medical certificate to Student Business-Science (Registry) who will then inform the relevant Department and, if the absence continues for fourteen days or more, will also inform the relevant grant-awarding body.

ABSENCE FROM EXAMINATIONS AND CLASS TESTS

For absences from an examination, class test or inability to compete assessed coursework:

The self-certification convention does not apply. If you are absent from a formal examination or class test, or fail to submit a prescribed assignment on time because of illness, you **must** submit a medical certificate. **Examination Boards will not take account of special pleading on the grounds of illness unless the plea is accompanied by the appropriate medical certification / death certificate of relative.**

If you are notifying the department of any absence, illness or handing in a Self/Medical Certificate / Death Certificate you must do so by contacting Mrs Jacqui Miller (jacqui.miller@strath.ac.uk).

CLASS ASSESSMENTS CLASHING WITH RELIGIOUS OBSERVANCE

It is the responsibility of students to advise their appropriate Course Co-ordinator at the start of each semester of any religious events that could clash with class tests or degree exams.

STUDENT CONDUCT DURING CLASSES

Disruptive behaviour during classes will not be tolerated. This includes not only talking, deliberately making a noise or using a mobile phone, but also anything which interferes with the learning experience of others present. If you ignore a request from academic staff to cease this form of behaviour, your name will be given to the Head of School. You may be asked to leave the lecture room.

If the offence is repeated, Head of School will consult with the Head of the relevant Department/s and ask you to attend an interview. Your conduct may then be referred to the Principal.

You should be aware of the following University Ordinances:

Ordinance 12.4:

Any member of the academic staff may, if he/she deem it necessary, require any student who is guilty of disorderly or improper conduct in a lecture room or laboratory to withdraw from the room for the day, and shall forthwith bring the offence to the notice of the Head of Department concerned or to his/her depute.

Ordinance 12.2:

The Principal may, at his absolute discretion, suspend any student from attendance at any class or classes or exclude any student from the University or its precincts, and shall report every such case to the Court and the Senate at their next meetings.

STUDENT CONDUCT

Students are reminded that a high standard of personal conduct is expected of them at all times, both on and off campus.

SAFETY IN LABORATORIES

Please note that you will be given a safety induction upon commencement of your studies.

The safety of people in their places of work is regulated by law (Health and Safety at Work Act, 1974). People whose work involves handling hazardous materials also are protected by the Control of Substances Hazardous to Health Regulations (1989) (COSHH). For the purposes of legislation, students are considered to be employees of the University. These laws oblige the employers (The University) to ensure that their buildings, laboratories, apparatus, and experimental procedures are safe and to ensure that all of these are inspected regularly. The employer also is required to ensure that people handling hazardous materials are informed of their properties and of the proper methods of using them. Moreover, the law requires students to conduct themselves and their work in a safe and responsible manner.

To minimise the risk of accidents in laboratories, you must obey a few simple rules:

- students must not enter laboratories whilst under the influence of alcohol or drugs unless they have been prescribed by a physician. If you suspect that anyone is under the influence of anything please advise a member of staff immediately;
- **PREGNANCY:** It is imperative that you advise your Course Director, Dr Catherine Lawrence, if you are pregnant as there are health and safety issues that need to be considered particularly when working in the labs. Forms are also required to be completed.
- do not enter a laboratory until a demonstrator is present;
- wear a laboratory coat and safety glasses;
- if you wear contact lenses, please use safety glasses too;
- do not eat, drink, smoke or apply cosmetics in laboratories;
- obey instructions given by hazard warning signs;
- coats, bags etc. must not be brought into the laboratory and must be placed in a locker whilst you are in the laboratory;
- mobile phones must not be taken into a laboratory (see policy below).

Before embarking on any new course of laboratory work, the demonstrator, in the introductory talk, will remind you of considerations of safety:

- follow the experimental instructions closely and read the section in your laboratory manual dealing with the properties of hazardous materials used in the experiments. If you are in doubt about these consult a demonstrator;
- do not pipette by mouth, use a pipette filler;
- use fume cupboards for manipulating volatile materials;
- work in a neat and tidy manner – untidiness can be dangerous both to you and others;
- Do not work in the laboratory alone. If you constantly find difficulty in arranging company with other laboratory workers, report this to your supervisor;
- Laboratory work is permitted only between the hours of 9am and 5pm. Exceptionally, arrangements may be made with your supervisor to work outside these hours, provided appropriate supervision can be arranged;
- Ensure that you know the location and telephone number of your academic supervisor. **IN AN EMERGENCY DIAL 2222.** This will connect you to the University Control Desk which can organise First Aid and all Emergency Services immediately.

FIRE

Familiarise yourself with the fire regulations (escape routes etc.) for the area of the building where each laboratory is located. Once you are outside the building ensure that you stand in a safe place while waiting for permission to re-enter the building.

ACCIDENT

If an accident occurs in a laboratory, summon the assistance of a demonstrator at once so that the most appropriate action can be taken without delay.

DISRUPTION OF CLASSES

Disruptive behaviour during classes will not be tolerated. This includes not only talking, deliberately making a noise or using a mobile phone, but also anything which interferes with the learning experience of others present. If you ignore a request from academic staff to cease this form of behaviour, your name will be reported to the Course Director. You may be asked to leave the lecture room.

If the offence is repeated, the Course Director will consult with Head of Institute of Pharmacy and Biomedical Sciences and ask you to attend an interview. Your conduct may then be referred to the Senate Disciplinary Committee.

You should be aware of the following University Ordinances:

Ordinance 12.4:

Any member of the academic staff may, if he/she deems it necessary, require any student who is guilty of disorderly or improper conduct in a lecture room or laboratory to withdraw from the room for the day, and shall forthwith bring the offence to the notice of the Head of the Department concerned or to his/her depute.

Ordinance 12, 2:

The Principal may, at his absolute discretion, suspend any student from attendance at any class or classes or exclude any student from the University or its precinct and shall report every such case to the Court and the Senate at their next meetings.

SMOKING POLICY

Your attention is drawn to the **No Smoking Code of Practice**. Smoking is not permitted in the University premises, unless it is within a designated area. You are asked to comply with this Code. Full details of University Policy can be found at

[HTTPS://WWW.STRATH.AC.UK/WELLBEING/LIFESTYLE/SMOKING/](https://www.strath.ac.uk/wellbeing/lifestyle/smoking/)

MOBILE TELEPHONES AND PORTABLE MUSIC PLAYERS IN LABORATORY CLASSES

SIPBS has a strict policy regarding portable electronic devices and laboratory classes. Students are not permitted to bring mobile telephones or portable music players into any laboratory class. All such devices should be left in the student's locker outside the laboratory. It is not sufficient for the student simply to have the device switched off. This policy is necessary for two reasons of safety: (i) the devices are distracting and a lack of concentration can compromise student safety and (ii) there is significant risk of contamination of the device (either biological or chemical) and this could lead to student health implications.

Any student who repeatedly breaks this rule will be reported to the Director of Teaching in SIPBS, who will contact them to obtain an explanation for their behaviour. If it is necessary for a student to make a telephone call during a laboratory class then they should speak to the member of academic staff in charge of the laboratory session, explaining the nature of the emergency and requesting permission to leave the laboratory to make the call.

ACADEMIC DISHONESTY

The University regards plagiarism, cheating and other forms of academic dishonesty as extremely serious. Possible penalties include:

- resubmission of course work
- recording a mark of zero for the assessment
- referring the case to the University's Senate Disciplinary Committee
- delay in Graduation
- all subsequent submissions, including exam papers, being scrutinised
- expulsion from the University

The severity of the offence will determine the severity of the penalty.

In addition to the above, for all instances of academic dishonesty a copy of the University's Academic Dishonesty Report Form will be completed and submitted to Student Business (Registry) for inclusion in the student's records. This form will be completed and submitted irrespective of whether or not the incident is referred to the University's Senate Discipline Committee. The University's Policy and Procedures for dealing with academic dishonesty are available for inspection at:

<https://www.strath.ac.uk/sees/studentpolicies/policies/appealscomplaintsdiscipline/academicdishonestyguidance/>

[https://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/Academic_dishonesty_form\(revised_August_2013,_PDF_version\).pdf](https://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/Academic_dishonesty_form(revised_August_2013,_PDF_version).pdf)

The student is responsible for ensuring their own academic honesty and not committing plagiarism. Uncertainty or ignorance of what constitutes plagiarism will not be accepted as a defence or plea in mitigation.

PLAGIARISM

Within SIPBS the MINIMUM penalty for a student found guilty of committing plagiarism will be to record a mark of zero for the entire piece of coursework assessment, regardless of the extent of the copying. MORE SERIOUS CASES OF PLAGIARISM WILL BE RECOMMENDED FOR MORE SEVERE PENALTIES.

Plagiarism is the offence of attributing someone else's work to your own name. In this context "someone else's work" refers to **all** published material and **any** material available from the internet, regardless of source.

Note that if you knowingly allow another student to copy from you, you will be regarded as guilty of collusion.

You are advised to regard published material as being there to help you, not to write the assignment for you: that has to be your own. However much you are informed by what you have read, your response to the topic set must be written in your own words.

Examples of plagiarism which apply both to conventional sources and information downloaded from the internet are:

- inclusion of more than a single phrase from another's work without the use of quotation marks and appropriate 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 works as if it were the student's own work when it is substantially the ideas of another.

If you feel it would be helpful to use another author's own words to illustrate a point you wish to make, be sure to use quotation marks and to reference the author clearly. You should also clearly reference:

- assertions of fact that cannot be presumed to be common knowledge;
- paraphrases of other writers' statements;
- opinions and generalisations derived directly from other writers;
- borrowed tables and diagrams (for which the source is usually written underneath the table or diagram).

If you are unclear about how to reference material, you should consult the lecturer who set the assignment.

Assignments

It is expected that assignments are the original work of the individual submitting them. In particular, you must avoid committing either plagiarism or collusion.

Failure to behave in this expected way will lead to a penalty being imposed.

For all submitted pieces of work students must include and sign the following statement:

"I declare that, except where specifically indicated, all the work presented in this report is my own and I am the sole author of all parts."

Work submitted for assessment is liable to be checked electronically for copying from other sources. This may be done immediately, or at a later date.

The University has access to the Turnitin plagiarism prevention website (www.turnitin.com) and staff and students can use this facility to check coursework for plagiarism at any time. Additionally, all students will be asked to submit at least one piece to this site early in the academic session to help develop an understanding of what constitutes plagiarism. If there is a problem with plagiarism on this first occasion, the student will be asked to revise and resubmit their coursework. All subsequent coursework submissions will be treated as final and any plagiarism detected in these will lead to a penalty being applied

Details of how and when to use the Turnitin plagiarism prevention website will be provided through individual class information.

OTHER TYPES OF ACADEMIC DISHONESTY

Others examples of academic dishonesty include:

- *cheating in written examinations*: illicit copying or communicating; possession of prohibited materials;
- *false candidature*: being replaced by a false candidate or impersonating a candidate;
- commissioning, stealing or acquiring and 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 another 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.

Anyone discovered to have behaved in any such way will be penalised.

MISUSE OF COMPUTING FACILITIES

The use of computing facilities within the University is governed by Regulation 6.11 of the University Calendar. In particular, it is important to note that User identifiers and passwords are issued in order to restrict access to and protect certain facilities. You must not allow another individual access to your password and user identifier. It is the responsibility of all users to maintain the security of their own password. An individual user will be held responsible for any and all activity on University computing facilities which is initiated by their user identifier.

CONDUCT IN EXAMINATIONS

Conduct at examinations is covered by Regulation 4 in the University Calendar. The Biomedical Sciences Programme additionally has its own guidelines for examinations. Students should note the following points:

1. All jackets / coats, bags, books, study aids and class notes must be left at the back or front of the exam hall.
2. **All mobile phones must be switched off and left in your bag/coat.**
3. Students should bring their registration card to the exam.
4. Where the use of calculators is approved, the invigilators are authorized to carry out random checks on them.
5. The **only** items you should have on your desk are matriculation card, pens/pencils etc. (**no pencil cases allowed**) and approved calculator (for certain exams only). If other items are allowed the class co-ordinator will notify you in advance of the examination.
6. If any other items are found with a student during the exam this may be considered as an attempt to cheat and will be reported to the Head of Teaching.
7. Students are expected to work totally independently in examinations, even when they are of the "open book" type. This means that you should not attempt to communicate during the course of an examination (in the examination hall or elsewhere) with another person orally, electronically or in writing, nor should you copy material prepared by another person.
8. The process of invigilation will be thorough. Invigilators have authority to carry out random checks on the answer books.
9. Students **must write clearly** in ink. If the script is **illegible**, the student can only be marked for the sections that can be read. The onus is on the student to write clearly.

We realise that steps such as random checks of answer books may be disturbing to students, but we are anxious to ensure that unfair means are not used in the examinations. Students are reminded that leniency has not been shown in the past and will not be shown to individuals found using unfair methods: all cases will be referred to the Senate Disciplinary Committee.

STUDY SKILLS

GETTING THE MOST OUT OF LECTURES, TUTORIALS AND PRACTICALS

Settling into the culture of learning at University can be difficult whether you have come straight from school, from an employment situation or from other educational establishments such as Further Education Colleges. Classes are large, sometimes over full and it can be hard to get to know people. Going to practical classes helps you to meet people because you are usually working in pairs or small groups where it is easier to introduce yourself. Tutorial groups are also helpful because again you are working with smaller groups of students.

The following questions are based on conversations with past students who successfully completed their degree courses but who felt isolated when they first came to University because of their new and different environment. The notes which follow are designed to give you some reassurance and help you to get the most out of following a University degree course and still have time for fun and leisure activities:

- Do your tutors and lecturers seem too busy to notice you as an individual?
- Does it seem to be difficult knowing what notes to take from different lecturers?
- Does it seem hardly worthwhile going to lectures?
- What is the point of all these practicals?
- I don't get anything out of going to tutorials, I could be in the pub!

Does any of this match the thoughts you have had?

The real culture shock for students coming to University for the first time is that the responsibility for learning lies with you and although this sounds clichéd unfortunately it is true. BUT there are ways of tackling that statement which ensure that it becomes more acceptable to you in a very positive way.

Take a few minutes to consider the following questions:

- Why did you decide to follow up your studies by going to University?
- Why did you decide on the course you are following?
- Is it the right course for you?
- What are your goals?
- Where do you hope to be in five years' time?
- What are your priorities?

When you take time to consider these questions and define your answers hopefully you will begin to focus in on your own aspirations and goals. Having a goal to aim for is very positive and it requires a positive plan that only you can be truly responsible for. With reference to **your** goals you should ask yourself:

- How am I going to get there?
- What knowledge will I require?
- What skills will I require?

Most University courses are structured in such a way that you gain a broad knowledge of a range of subjects and more specific understanding of specialist subjects which you choose to follow in the later years of undergraduate study. The most usual teaching methods you will encounter are lectures, practical classes and tutorials.

Lectures

Lectures are recognised as an efficient way of sharing information with large groups of students. The lecture format has always been considered as a forum in which to impart a framework of the course material to the students.

A lecture is **not** a dictation session so you will find it difficult to write down every word of a lecture and indeed if you try to do this you will find that you miss the point of the lecture. It is difficult to listen properly and write at the same time.

It is usually the case that textbooks are recommended for particular courses. It is a good idea to try and obtain copies of the *key* texts which you will require. Lecturers should give a course outline in the first lecture of a series and if s/he does not do this, don't be afraid to ask for one. This should give you a good idea of the topics you will cover. Identify these topics in your textbook so that you know where to look for extra information.

You should attend as many lectures as possible; there is always information communicated or an emphasis on particular topics which you cannot necessarily glean from other peoples' notes.

It is necessary to develop *active listening skills* to get the most out of a lecture. Try to discipline yourself into clearing your mind before going to each lecture. If you are thinking about the last lecture, what you did last night or about the party you are going to tonight, you are not fully committing yourself to listening to the present lecture so you will miss the point of much that is being said.

Listening Exercise

Active listening is an invaluable skill to develop and with some practise you will find that you remember more and understand more from each lecture.

Taking Notes

Where note taking is appropriate make brief notes on the key points of any topic which is being covered. Jot down important diagrams which may not be in textbooks or important formulae which may be used frequently. Make a note of any extra reference material or extra reading which is recommended. Remember you will take in more by actively listening than by frantically scribbling. Supplement your notes later when you have had a chance to look at extra material. If you discipline yourself into doing this at an early stage you will be surprised at how effective this is as a strategy. Time management is also crucial.

Practical Classes

Practicals may sometimes seem unexciting but generally they are geared up to train you in specific skills for example, managing your time, organisational skills, analytical skills, observational skills, working with others etc. By starting with easy experiments you will develop these skills which are essential to tackling more difficult experiments where the outcome is not predictable.

There is good reason for including a lot of practical work in science and engineering courses. Whether you continue into postgraduate studies or whether you obtain employment in industry or completely outside the subject area you have been studying, supervisors and employers are interested in the skills you can display as well as in the subject knowledge you have. Attend your practical classes and think of the skills you are developing at each stage of the experiment:

- getting started in the laboratory
- organising materials and equipment
- observing the experiment at all stages
- making notes

- analysing your data
- preparing a report

Remember that a high level of personal transferable skills development will stand you in good stead both during your University career and in employment situations. Be sure to recognise where practical classes are designed to complement the material you covered in lectures.

Tutorials

Consider tutorials as an opportunity for you to speak, to develop your oral presentation skills and possibly your presentational skills. Many students find it difficult to speak up in teaching and learning situations in case they answer a question wrongly or ask a question which everyone else will think is silly. Tutorials are usually composed of much smaller groups of students working together and it is here that you should take the opportunity to communicate confidently with your peer group (remember they all feel the same way as you do) and with people in positions of 'authority'. There comes a moment when you have no choice but to present a paper or deliver an oral report on some work you have done. Build up your confidence by speaking up in situations which are not in any way threatening, then it won't be a problem when you are speaking on a more formal occasion with a larger audience. Team working skills are often essential in tutorials where there may be a set of group tasks to tackle.

REMEMBER THAT LEARNING IS AN ACTIVE PROCESS

STUDY SKILLS

PREPARING FOR AND COPING WITH THE EXAMS

Physical environment

Choose situations which make you feel comfortable, for example a particular space in the library, in your own home or study room in Halls of Residence.

Plan a timetable

Use a time management schedule to prioritise study times and try to stick to your schedule.

Mental activity

Remember that your concentration span is limited so don't sit for 3-4 hours at a time staring at one page of notes. Work for an hour or so reading and making extra notes. Draft out or use real exam questions from past papers and consider how much or how little you know and understand.

Stop to take a break

Have a coffee or short walk and mentally review what you have achieved. Return to your studies and move further into your revision until lunch time and take another break. You will find that the process of activity and review will be useful and will help you to set a pattern of study.

Quality of study

Remember that it is not time itself spent on studying which matters, it is the quality of the exercise of studying. Develop an understanding of the material you are working on. Information simply committed to memory will rarely see you safely through your exams.

Choice of material

Don't shy away from material which you find most difficult to understand because if you do it will be precisely this material which will be problematic for you in the exam. Tackle this material first!

Problems

If there are sections of the course material which you cannot understand try to find the appropriate lecturer/tutor to help you. If you have planned your timetable well enough this should be fairly easy to do but try not to leave this until the day before the exam. The lecturers will be busy at this time and may not be able to see you immediately. Make appointments and stick to them.

If you can't find the lecturer you would like to talk to, ask someone on the same course as you. Education is **not** a competition and sometimes the best person to ask is someone working at the same level. If these strategies don't work for you try using a variety of different textbooks, some authors explain difficult concepts better than others.

When to stop

Although it is very tempting to do so, research has shown that last minute revision is not very productive. Try to ensure that the night before your exams is free. Go for a walk, mentally review what you have been working on, make sure you relax and unwind and have a good night's sleep so that you feel refreshed and confident in the exams.

Tackling the exam paper

One of the most difficult things to impress upon students is the importance of reading the exam questions thoroughly. Time taken to do this will pay off in the end despite your feelings that you must start writing immediately. Imagine how you will feel if you dive into a question because you have recognised a few key words. You are almost finished writing your answer and when you look at the exam paper and actually read the question, you find you have misinterpreted it. You will have lost not only a lot of time but probably a lot of marks as well. You are not going to get marks on the basis of writing down everything you know about a subject in no particular order. Good marks will be obtained by answering the questions you have been asked and showing your knowledge, understanding and skill in interpreting the question correctly.

Read each question properly and choose carefully the questions you feel most confident about answering. Decide on the order in which you will tackle the questions. It is useful to draft a few notes on the structure of your answer, particularly if it is an essay question. If it is a problem question, be sure to start to consider the correct formulae and order of tackling the problem before you start. Score out your rough work so that examiners don't need to read through it.

When you have finished answering your questions, take a few minutes to read through your answers. Have you missed out any crucial information in your haste to get writing? If you have planned well this shouldn't happen but if you have missed something out it is all right to add a footnote.

Although you are understandably trying desperately to show off your knowledge be sure to write legibly. Marks can easily be lost if the examiners can't read anything you have written. If you have drawn diagrams, make sure you have labelled them clearly or they will be meaningless.

Try to keep calm and **Good Luck**.

For further information/guidance, please follow this link –
<https://www.strath.ac.uk/studyskills/>

STUDY SKILLS

ESSAY: A STUDENT GUIDE

This information is relevant for answering both final year exam questions and any essay based coursework assignments.

There are various distinct types of essay question each demanding a slightly differing approach. These are as follows:

1. Where you are specifically asked to demonstrate that you have an ample store of knowledge that enables you to relate facts and principles in a specific area of the subject, and to organise them in a coherent and logical progression.
2. Where you are required to demonstrate a command of essential knowledge in a particular area. Instead of looking exclusively backward to the past course you are asked to look forward to possible applications of things learnt. Such questions may be based on novel situations or problems and NOT on the particular ones used in the course.
3. Where you are asked to comment on an indeterminate issue (i.e. personal views on current bioscience issues etc.) What you conclude may be less important than the use of scientific evidence on which the conclusion is based as well as the cogency of the arguments used. Whilst this type of question will provide insight into the nature and quality of the thought processes involved, it still requires you to relate facts and principles and organise them logically and clearly.

General Points

All these objectives can be approached with careful planning. Time spent in drawing up a rough plan of your answer can reap considerable dividends. Stop, think carefully and plan, before writing any essay.

All essays should have a **beginning, middle** and an **end**.

The **beginning** is to set the scene. Essentially it will give an indication of the background to the answer as well as the general lines of argument to be pursued. The **middle** should present the arguments, the facts, the supporting evidence and the principles etc. so that the reader is left in no doubt about your command of the issues involved. The **end** should be summative and should be structured so that the reader is left with a clear final indication of your conclusions or the general message.

Hints for writing good essays:

- Read the question carefully
- For home-based essays read around the subject and take notes but know when to stop reading and start to plan your answer
- Plan an answer to the **actual question asked**, not the one you wish to answer. Even in an exam draw up a plan at the start of the answer - the examiner is likely to be suitably impressed.
- In the introduction show an understanding of the question (define what you understand by the terms in the question). Then indicate your approach to the essay.
- The main body of the essay should support statement with evidence and examples. Do not simply copy from the textbooks. Try to include your own ideas. No waffle please. Diagrams welcome.
- In the conclusion summarise the main points and suggest areas where further work is needed.

IN-COURSE ASSESSMENT

In addition to degree examinations, many classes also incorporate assessed elements such as Class Tests, essays and other assignments. Assessment submission dates will normally be announced at least 2 weeks in advance of the assessment deadline or test and details will be included on the relevant Class page on MyPlace.

Class Tests

Class Tests are handled in a similar way to degree examinations. Students should bring their registration cards to the test.

Assignments

To ensure anonymity in marking, students **should not** put their name on their assignments. **Only the registration number should be used.**

FEEDBACK ON ASSESSMENTS

Students can expect to receive feedback on assessment that will allow them to improve their work. This may include:

- Specific comments on the strengths and weaknesses of the students work
- General feedback given to the whole class that outlines common faults

You will also receive the class standard deviation and the average class mark, this information will be posted on the relevant class MyPlace page along with your class assessment/test results.

SIPBS aim to return assessed work to students within three weeks of the submission date. If there is a delay in releasing marks within the time frame, then you will be notified, in advance. Students should contact the relevant class co-ordinator if they have any queries on the return of their work.

LATE SUBMISSION OF COURSEWORK

Authorised Late Submissions

Extension to the deadlines of **up to 1 week** for coursework assignments and Honours projects **may** be granted if there are **good grounds that can be substantiated**.

If one week's extension is considered insufficient, the student may be offered:

either a discounted attempt. The work will not be required to be completed
or an alternate piece of coursework to complete with a new deadline.

The details of the extension will be at the discretion of the Year Coordinator in consultation with the Class Coordinator.

Any request for an extension should be made in writing (which includes e-mail) **before** the deadline to the appropriate **Year Co-ordinator (NOT** the class organiser or member of staff that set the work). The Class affected and member of staff who set the assignment must be clearly indicated. If for any reason the Year Co-ordinator cannot be contacted, students should make the application in writing to the Biomedical Sciences Programme Coordinator. Retrospective requests will not normally be considered.

What situations are likely to merit an extension?

Any situation that arises that is outside the control of the student can be considered. The following examples are likely to merit an extension, although other situations may be considered:

- Personal Illness or accident
- Illness to another person for whom you are responsible
- Bereavement of friend or family member
- Damage to property
- Transportation problems (on the deadline date only)

What situations are unlikely to merit an extension?

- Holidays
- Family events such as weddings
- Problems with PCs, disks (floppy & CD), memory sticks and printers. All data and work should be regularly backed up and students should also be aware of the location of university computer rooms.

What sort of evidence is required?

Some form of documentary evidence to support a situation should be provided normally within 1 week of the deadline. This can include:

- Medical Certificates (essential for 1. Personal Illness)
- A letter from a doctor, social worker, police, bus or train company on official documentation or headed notepaper with full contact details (for situations 2-5)

Please note that any request must be made in writing (which includes email) before the assessment deadline to the relevant Year Co-ordinator.

Unauthorised Late Submissions and Penalties:

Deadlines for submission will be strictly adhered to. This is to ensure fairness to other students. For example, if a deadline is 4 pm then any work that is handed in after that time will be deemed to be late.

- For unauthorized submissions that are **up to 1 week late**, a penalty of 20% of the total possible mark will be levied.
- Unauthorised late submissions of **more than 1 week** will not be accepted **and will be given a mark of zero.**

University Policy and Procedure for Late Submission of Coursework

The University have produced a Policy and Procedure for Late Submission of Coursework effective from 01 August 2018 – see extract below. For the full policy and procedure, please select the links below -

<https://www.strath.ac.uk/staff/policies/academic/>

https://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/Policy_and_Procedure_for_Late_Submission_of_Coursework_Final_2018.pagespeed.ce.Kz4LhBtJRh.pdf

4. PRINCIPLES AND GUIDELINES FOR IMPLEMENTATION

All staff should adhere to the following guiding principles and procedures in handling coursework that is submitted late as defined above in section 2.

4.1 Coursework submission window

4.1.1 All Departments/Schools should normally set a Monday midday deadline for the submission of coursework. Where the submission deadline is not set for a Monday, for example on bank holidays, the submission window should be adjusted accordingly; for example, a Tuesday deadline would result in the submission window extending to 16.00 on the following Monday.

4.1.2 Assessments submitted after the Monday midday deadline without an approved extension will be subject to penalties on a sliding percentage scale.

4.1.3 Penalties will be applied to late submitted assessments up until Fridays at midday, and assessments submitted after 16.00 on Fridays will receive a mark of zero.

4.1.4 'Working days' means Monday to Friday inclusive, excluding public holidays and University closure days.

4.2 Penalties will be applied on a sliding scale

4.2.1 A "sliding scale" penalty system should be applied to minimise occurrences of late submission of coursework.

4.2.2 The sliding scale applied will be based on the maximum marks available on a percentage scale.

4.2.3 Coursework that is submitted late, but within 24 hours of the submission deadline will be subject to a 10 point deduction on the percentage mark being applied to the original mark.

4.2.4 For each subsequent day that a coursework is submitted late up until four working days after the deadline, a penalty of 5 percentage point deduction per day will be applied to the original mark.

4.2.5 The maximum number of percentage points that can be deducted for late submission is 25.

4.3 The policy should be supportive of students and not adversely impact on progression where the work is of a pass standard

4.3.1 All submitted assessments will be marked at face value with feedback provided, irrespective of the mark formally recorded. That is, all students should be made aware of the mark awarded prior to the application of any penalty for late submission.

4.3.2 In cases where a student can demonstrate that unforeseen, unanticipated problems have arisen before the midday deadline on the day of submission, they must contact the appropriate member of their course team to indicate the nature of the issue. Following formal notification to the Department/School, students will be granted an automatic exceptional period of extension to 16.00 on the day of submission thereby allowing time to mitigate against unforeseen personal events, issues etc. on the day of submission. Penalties will be applied after 16.00.

4.3.3 During the exceptional period of extension, IT issues and travel problems would be accepted as grounds for extension to the 16.00 deadline, although alone they would not be grounds for lengthier extension requests.

4.4 A minimum mark for late work of a pass standard that is submitted within the assessment submission window will be set to the pass mark

4.4.1 A minimum mark of 40%, for coursework submitted late (but within the assessment submission window) that is of a pass standard, will be applied to undergraduate coursework, and a minimum mark of 50% to be applied to postgraduate and level 5 of integrated masters.

4.4.2 If the academic quality of the work submitted is below the pass mark, no penalty should be applied with the emphasis on supporting these students in any resubmission.

4.5 Departments/Schools should have oversight of student submission patterns

4.5.1 Departments/Schools should maintain records of late submission of coursework in order to identify students who may require pastoral or academic support.

4.5.2 Students should be contacted if more than two consecutive submission deadlines are missed, with a view to appropriate support being offered.

4. Examples of implementing the sliding penalty scale

Example	Day of submission	Penalties applied
1.	Late submission between Monday and Friday midday, student has an approved extension	No penalty to be applied.
2.	Late submission on Monday, student has communicated unforeseen exceptional circumstances before 16.00	No penalty to be applied.
3.	Late submission on Monday, student has no approved extension and there has been no contact from student communicating unforeseen exceptional circumstances	10 percentage point penalty applied to original mark, unless the penalty reduces the student's mark to below 40% (UG) or 50% (PG), in which case the mark is capped at 40% (UG) and 50% (PG)
4.	Late submission on Tuesday before midday, student has no approved extension and there has been no contact from student communicating unforeseen exceptional circumstances	10 percentage point penalty applied to original mark, unless the penalty reduces the student's mark to below 40% (UG) or 50% (PG), in which case the mark is capped at 40% (UG) and 50% (PG)
5.	Late submission on Tuesday after midday, student has no approved extension and there has been no contact from student communicating unforeseen exceptional circumstances	15 percentage point penalty (10 points for first day, 5 points for second day), unless the penalty reduces the student's mark to below 40% (UG) or 50% (PG), in which case the mark is capped at 40% (UG) and 50% (PG)
6.	Wednesday submission after midday, student has no approved extension and there has been no contact from student communicating unforeseen exceptional circumstances	20 percentage point penalty (10 for first day, 5 for second day, 5 for third day), unless the penalty reduces the student's mark to below 40% (UG) or 50% (PG), in which case the mark is capped at 40% (UG) and 50% (PG)
7.	Thursday submission after midday, student has no approved extension and there has been no contact from student communicating unforeseen exceptional circumstances	25 percentage point penalty (10 for first day, 5 for second day, 5 for third day, 5 for fourth day), unless the penalty reduces the student's mark to below 40% (UG) or 50% (PG), in which case the mark is capped at 40% (UG) and 50% (PG)

8.	Friday submission <u>before</u> midday, student has no approved extension and there has been no contact from student communicating unforeseen exceptional circumstances	25 percentage point penalty (10 for first day, 5 for second day, 5 for third day, 5 for fourth day), applied to original mark, unless the penalty reduces the student's mark to below 40% (UG) or 50% (PG), in which case the mark is capped at 40% (UG) and 50% (PG)
9.	Friday submission <u>after</u> midday, student has no approved extension and there has been no contact from student communicating unforeseen exceptional circumstances	A mark of zero will be applied to the work.

6. EXTENSIONS

Students can request an extension to their coursework submission deadline when they feel they have circumstances which are impacting their ability to meet the submission date. The length of an extension will be decided by delegated staff, however, extensions to the submission deadline will normally be limited to the date by which feedback on the assessment is returned to students. Coursework accepted following the approval of an extension will be assessed in the normal way. Students must submit their request for an extension as early as possible, and in line with the Policy on Extensions to the Submission of Coursework¹, this must normally be before the coursework deadline. Students must be made aware that ongoing, longer term mitigating circumstances impacting their studies in general must be logged on PEGASUS in line with the Personal Circumstances and Academic Appeals Procedure.

7. ROLES AND RESPONSIBILITIES

Staff are responsible for:

- Ensuring this policy is implemented consistently across courses; and
- Using records of late submission to identify students who may require support.

Students are responsible for:

- Understanding the requirements of individual assessments, and actively engaging with assessment tasks by devoting appropriate time and effort;
- Finding out where, how and when work is provided;
- Communicating to staff any personal circumstances that are negatively impacting their studies via the processes outlined in the Personal Circumstances and Academic Appeals Procedure; and
- Requesting extensions to the deadline for coursework submission in line with the Policy on Extensions to the Submission of Coursework.

TIMETABLES

The Timetabling and Room Booking team is part of Estates Management – this team are responsible for the publication of the University teaching timetables. Please note that all timetables are provisional and subject to constant change – therefore, please check daily.

All timetables are electronic and you will find your timetable on the following web-link:

<https://www.strath.ac.uk/timetables/>

The following print screens will help you to find your timetable.

Step 1

Home > Professional Services > Estates Services > Timetables

Timetables

The Timetabling and Room Booking team is part of Estates Services. The team is responsible for the coordination and publication of the University teaching timetable in accordance with University policy.

The link to the PROVISIONAL timetables for 2018-2019 is below.

Students should go to their Departments as the first point of contact with queries regarding their Timetables.

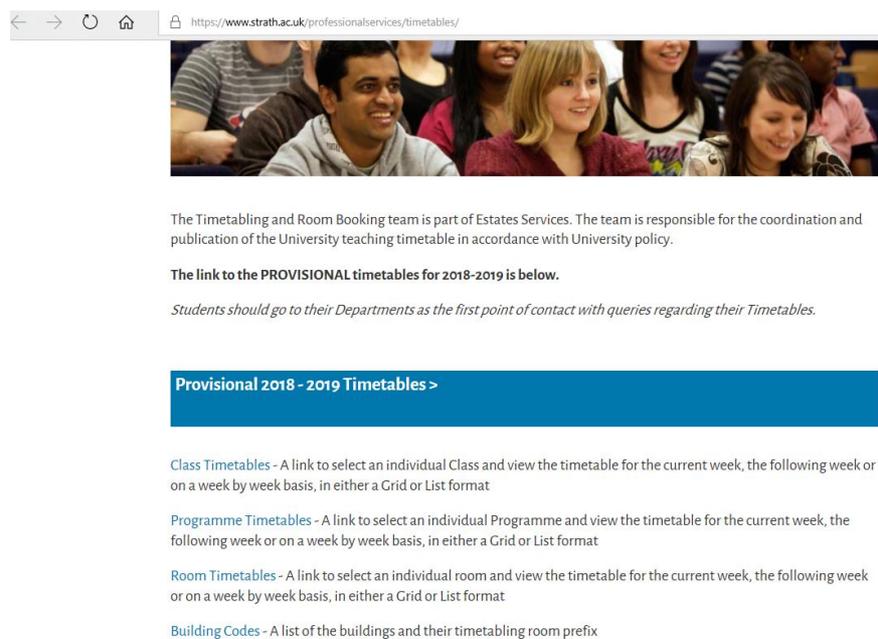
- [Provisional 2018 - 2019 Timetables >](#)
- [Information for Timetablers >](#)
- [Coordinated Timetabling Project >](#)
- [Room Bookings >](#)
- [Contacts >](#)

Administration
Energy and Environmental Management
Print Services
Project Management
Security Services
Space Management And Planning
Works Management
Staff Focus Group
Sustainable Strathclyde
Access Information - Disabled Go
CCTV Code of Practice
Procedures Manual
Asbestos
Drinking Water Advice
Training Requests
Maps
Room Booking
Timetables
Contacts
Contacts

Timetabling SharePoint site
Enterprise Login (restricted access)

Step 2

Choose Timetables and the following screen will appear:



The Timetabling and Room Booking team is part of Estates Services. The team is responsible for the coordination and publication of the University teaching timetable in accordance with University policy.

The link to the **PROVISIONAL timetables for 2018-2019** is below.

Students should go to their Departments as the first point of contact with queries regarding their Timetables.

Provisional 2018 - 2019 Timetables >

Class Timetables - A link to select an individual Class and view the timetable for the current week, the following week or on a week by week basis, in either a Grid or List format

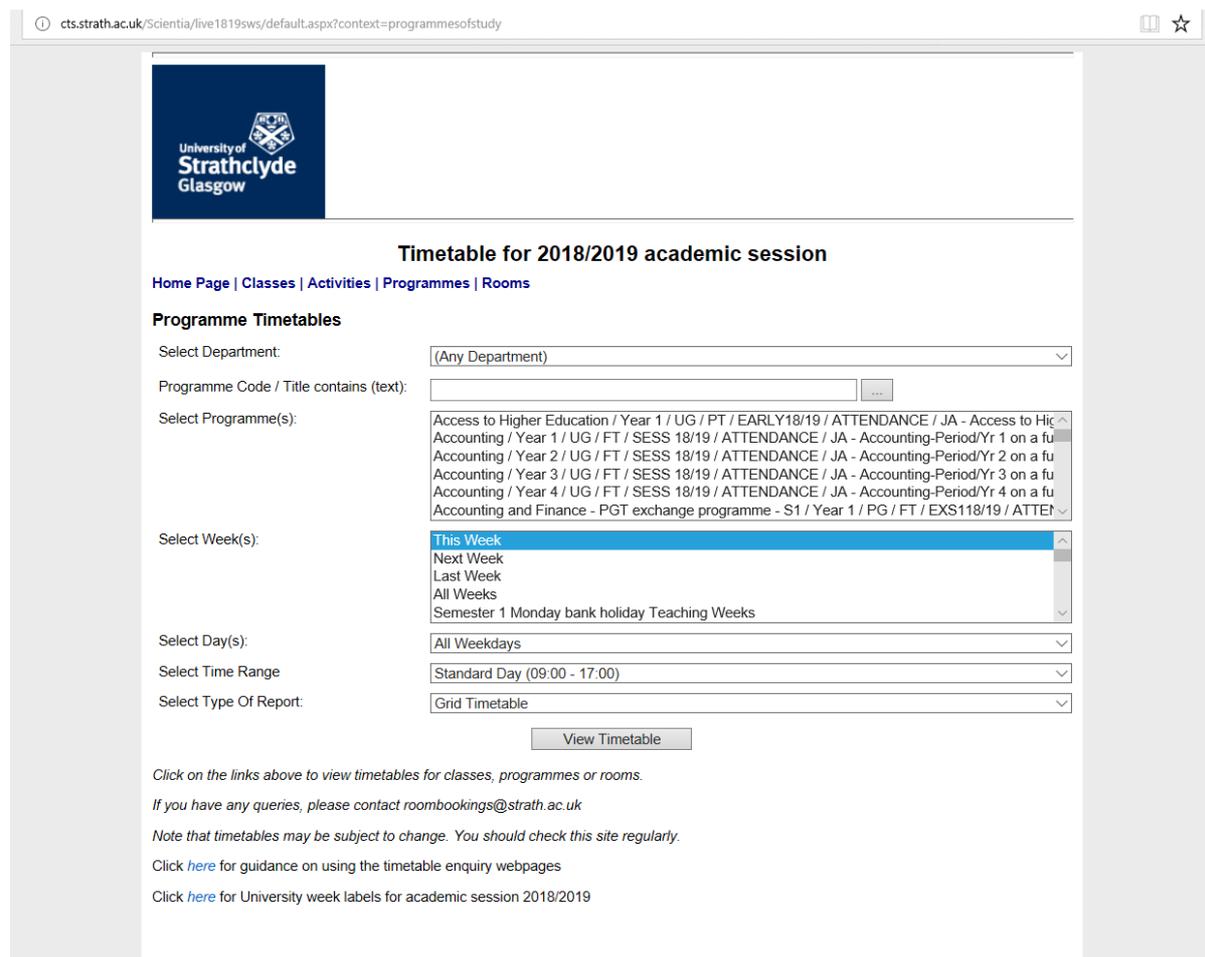
Programme Timetables - A link to select an individual Programme and view the timetable for the current week, the following week or on a week by week basis, in either a Grid or List format

Room Timetables - A link to select an individual room and view the timetable for the current week, the following week or on a week by week basis, in either a Grid or List format

Building Codes - A list of the buildings and their timetabling room prefix

Step 3

Choose 'Programme Timetables' – the following screen will appear



cts.strath.ac.uk/Scientia/live/1819sws/default.aspx?context=programmesofstudy

University of Strathclyde Glasgow

Timetable for 2018/2019 academic session

[Home Page](#) | [Classes](#) | [Activities](#) | [Programmes](#) | [Rooms](#)

Programme Timetables

Select Department: (Any Department) ▾

Programme Code / Title contains (text):

Select Programme(s):
Access to Higher Education / Year 1 / UG / PT / EARLY18/19 / ATTENDANCE / JA - Access to Hig
Accounting / Year 1 / UG / FT / SESS 18/19 / ATTENDANCE / JA - Accounting-Period/Yr 1 on a fu
Accounting / Year 2 / UG / FT / SESS 18/19 / ATTENDANCE / JA - Accounting-Period/Yr 2 on a fu
Accounting / Year 3 / UG / FT / SESS 18/19 / ATTENDANCE / JA - Accounting-Period/Yr 3 on a fu
Accounting / Year 4 / UG / FT / SESS 18/19 / ATTENDANCE / JA - Accounting-Period/Yr 4 on a fu
Accounting and Finance - PGT exchange programme - S1 / Year 1 / PG / FT / EXS118/19 / ATTE

Select Week(s):
This Week
Next Week
Last Week
All Weeks
Semester 1 Monday bank holiday Teaching Weeks

Select Day(s): All Weekdays ▾

Select Time Range: Standard Day (09:00 - 17:00) ▾

Select Type Of Report: Grid Timetable ▾

Click on the links above to view timetables for classes, programmes or rooms.

If you have any queries, please contact roombookings@strath.ac.uk

Note that timetables may be subject to change. You should check this site regularly.

Click [here](#) for guidance on using the timetable enquiry webpages

Click [here](#) for University week labels for academic session 2018/2019

Step 4

- Select Department = choose 'Strathclyde Institute of Pharmacy and Biomedical Sciences';
- Programme Code = you do not need to enter (leave blank);
- Select Programme = you choose your own programme and year of study – I have selected, as an example, BSc Hons Biochemistry and Immunology/Year 1;
- Select Weeks = I have selected week 8, w/c 17 September 2018
- Select Days = I have selected 'all weekdays';
- Select Time Range = I have selected 'Standard Day (0900-1700)';
- Select Type of Report = I have selected 'Grid Timetable';
- Then press 'View Timetable'

cts.strath.ac.uk/Scientia/live1819sws/default.aspx?context=programmesofstudy



Timetable for 2018/2019 academic session

[Home Page](#) | [Classes](#) | [Activities](#) | [Programmes](#) | [Rooms](#)

Programme Timetables

Select Department:

Programme Code / Title contains (text):

Select Programme(s):

Select Week(s):

Select Day(s):

Select Time Range:

Select Type Of Report:

Click on the links above to view timetables for classes, programmes or rooms.

If you have any queries, please contact roombookings@strath.ac.uk

Note that timetables may be subject to change. You should check this site regularly.

Click [here](#) for guidance on using the timetable enquiry webpages

Click [here](#) for University week labels for academic session 2018/2019

Step 5

Once you have pressed 'View Timetable' the following timetable will appear:

cts.strath.ac.uk/Scintia/live1819sws/showtimetable.aspx

Programme: **BSC-HONS Biochemistry and Immunology / Year 1 / UG / FT / SESS 18/19 / ATTENDANCE / JA** Weeks: 8 (17 Sep 2018-23 Sep 2018)

	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	
Mon	BM110-1-1/Comp/A/02 <8, 10, 12, 14, 16, 18> LT / 501 Wks: 8, 10, 12, 14, 16, 18			Computer Lab		BM110-1-1/Comp/A/01 LT / 501 Wks: 8, 10, 12, 14, 16, 18, 25, 27, 29			
Tue									
Wed									
Thu	BM110-1-1/Lec/A/01 JA / 317 Wks: 8-18			Lecture		BM110-1-1/Comp/B/01 JW / 411 Wks: 8-18		Computer Lab	
Fri						BM110-1-1/Comp/B/02 JW / 411 Wks: 8-18		Computer Lab	
						BM109-1-1/Lec/A/01 AB / 101 Wks: 8, 10, 13-14, 17			

[Previous Week](#) [Timetable page explained](#) [Next Week](#)
[Back To Selection](#) Wed Aug 01 2018 10:51:24 GMT+0100 (GMT Daylight Time)

There are several 'help' pages listed on the timetable – click 'Timetable page explained' for further information:

cts.strath.ac.uk/Scintia/live1819sws/help-ttview.pdf

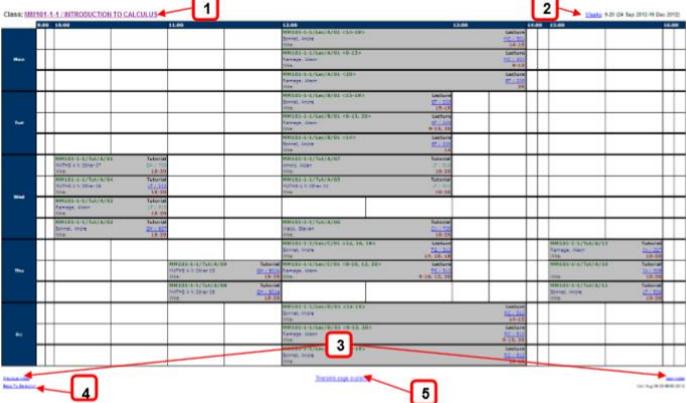


PROFESSIONAL SERVICES **ESTATES SERVICES**

Grid Timetable View

The grid timetable view is shown below:

1. Class Link – takes the user to the Class catalogue or a Room description link
2. Weeks – Takes the user to the week pattern document
3. Previous Week / Next Week- link takes the user to the previous week or following week's timetable
4. Back to selection – returns the user to the selection screen
5. Information on how to view the timetable.



MISCELLANEOUS INFORMATION

UNIVERSITY OPENING HOURS

Most University buildings are open between 0800 and 1800 hours, Monday to Friday.

JURY DUTY

If for any reason you are selected to either attend court or are picked for jury duty during term time, you should **contact immediately** Mrs Jacqui Miller (jacqui.miller@strath.ac.uk) / 0141 548 5792. The Department will write a letter to the Sheriff of the Court requesting that you are exempt, once you submit a copy of the citation. In order for the Department to produce the letter, we require your university matriculation number, year of study, the date you have been selected for jury, citation number and the address of the Sheriff Court.

Please note that the Department cannot make any guarantees that you will be exempt from Jury Duty.

LIBRARY

As a new Strathclyde student, you are automatically a member of the Library. Your student ID card is also your library card, allowing access to the premises and services. <https://www.strath.ac.uk/library/>

Our focus is on independent study at Strathclyde, so we offer various facilities and resources to help you organise your studies and we will stock the recommended textbooks, journals and periodicals you will need.

There are more than 2,000 reader places and 450 computers offered across the two libraries, laptop areas for wireless access, 1 million printed resources, 10,000 digital resources such as e-journals and online databases and a wide range of foreign language newspapers and journals.

Curran Building Library Opening Hours (John Anderson Campus)

0800 – 2200	-	Monday to Friday
0900 – 2100	-	Saturday
1100 – 2100	-	Sunday

These times vary during examination and vacation time. The Library is often open on bank holidays and at other times when the University is closed.

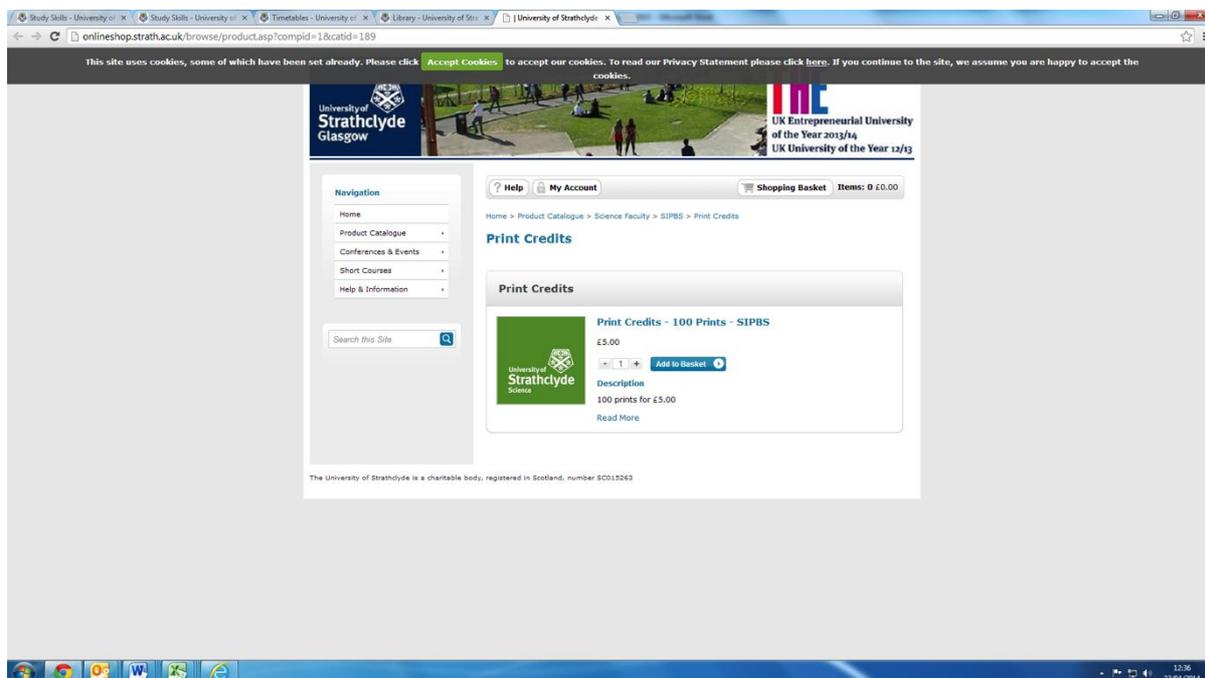
PRINT CREDITS

Each student is allocated Print Credits each year at University to assist with printing essential material (i.e. your class/course assignments). If you experience any problems, please contact SIPBS IT, who will be able to assist you (email = michael.mcglone@strath.ac.uk / telephone 0141 548 4032).

Additional print credits can be purchased (at an additional cost to you = £5 per 100 credits) via the online shop using the following link –

<https://onlineshop.strath.ac.uk/browse/product.asp?compid=1&catid=189>

Credits will be added to your account, normally within 2 working days of making payment.



STUDENT CARDS

During the enrolment process you will be given a student ID Card which will be valid for your duration of studies. You will have to produce this card to verify that you are a fully enrolled student of the University and to enable you to gain access to the Library. You will also be required to present this card when sitting your examinations.

Lost Card? You can request a Replacement Student Card using the [Online Shop](#). A charge of £12 is made for any replacement Student ID card issued by Student Business.

Once you have made your payment you will receive a receipt by e-mail. Please print that receipt and take it to Student Business, Student Experience, McCance Building between 10.00 am and 4.00 pm Monday to Friday to collect your replacement card.

Please follow this link - <https://www.strath.ac.uk/studentlifecycle/replacementstudentcard/>

PROVISIONAL MARKS

Please note that all marks appearing on PEGASUS in January onwards, under your curriculum will have an asterisk against a mark – this implies that the marks are provisional and have not yet been approved by the Board of Examiners. The Board of Examiners will meet in June each year and will then confirm the marks and progress decision via PEGASUS. Students should not contact the Department until after the Exam Board has confirmed the marks and there is no asterisk against your mark.

TRANSCRIPTS

Prospective employers and other institutions may require students to provide a more detailed confirmation of their award than their degree parchment. Students can request transcripts via the Online Shop.

For further information, please follow the link: <https://www.strath.ac.uk/transcripts/>

GRADUATION

Awards Ceremonies (or Congregations) are held in June/July and October/November each year. All students hoping to graduate or be presented MUST enrol to graduate by completing a form and paying the appropriate fee (prices as at July 2015 – subject to change, please check web page link below) £35 to graduate in person; £20 to graduate “in absentia”).

Details of the ceremonies and enrolment forms are usually available from Student-Experience (Registry) in March each year. Further information and paperwork relating to Graduation can be obtained, by logging onto the following University web page – <https://www.strath.ac.uk/graduation/>

UNIVERSITY SPORTS CENTRE

Please follow this link for further information - <https://www.strath.ac.uk/sport/>

Telephone:

0141 548 2017 (Swimming Pool Booking & Enquiries)

0141 548 2446 (Centre for Sport & Recreation)

NEXT OF KIN

It is important that you inform the University of the details of who we should contact in the case of an emergency. New students are advised to complete Next of Kin details as soon as their computer account is set up. Continuing students need only amend details if they have changed from the previous year. Please log into PEGASUS to access/update.

STUDENT SUPPORT

<i>University Student Support Services</i>	
Contact	Information
<p>Accommodation Office (Residence Services) Tel: 0141 548 3453 Village Office www.strath.ac.uk/accommodation/</p>	<p>University flats, halls of residence on and off campus. Information on tenancy agreements and the private rented sector.</p>
<p>Careers Service Tel: 0141 548 4320 Level 5, Livingstone Tower www.strath.ac.uk/careers Anna Selwood is the Careers Adviser to the Faculty of Science. You will get to know her through Careers talks during the year in the Department and through events, and activities, in the Careers Service that we encourage you to attend from 1st year. Anna has a Facebook page (sciencecareersanna) where she shares information, and opportunities, of relevance to students and graduates of the Faculty of Science.</p>	<p>Advice and info on: career choice and job search techniques Part-time and vacation work Career options with your degree Further study and funding Graduate employers – vacancies CVs and applications Interview technique</p>
<p>Centre for Sport and Recreation Tel: 0141 548 2446 www.strath.ac.uk/sport</p>	<p>Sports Hall, well equipped fitness suite, free weights room, squash courts, swimming pool, sport fields, fitness classes, sports coaching, health information, fitness testing, lifestyle consultations.</p>
<p>Chaplaincy 0141 548 4144 Level 2 of the Graham Hills 50 George Street. https://www.strath.ac.uk/chaplaincy/</p>	<p>Meeting place for people of all faiths and none. Space to study, eat at the café, relax and worship.</p>
<p>Disability Service Level 4, Graham Hills Building Tel: 0141 548 3402 Minicom: 0141 548 4739 disabilityservice@strath.ac.uk https://www.strath.ac.uk/disabilityservice/</p>	<p>Advice and support for students with disabilities – temporary or permanent; appropriate technology, special exam arrangements, needs assessments and associated funding.</p>
<p>International and Graduate Office Graham Hills Building, 40/50 George Street Tel: 0141 548 5875 international@strath.ac.uk https://www.strath.ac.uk/hr/recruitingatstrathclyde/internationalrecruitment/</p>	<p>Advice and support to international students including student visa extensions, immigration advice, advice on working in the UK, general welfare issues</p>
<p>Libraries Tel: 0141 548 3701 http://www.strath.ac.uk/library/</p>	<p>Lending and reference, electronic info sources, software packages, audio visual, photocopying, braille facilities, discussion space. Wheelchair access.</p>
<p>Mature Students' Association www.strathstudents.com/msa</p>	<p>The Students' Association also has a Mature Students' Association, based in the St. Paul's Annexe (opposite the Union building on John Street).</p>

Contact	Information
Student Business 0141 548 3165 McCance Building studentbusiness-science@strath.ac.uk https://www.strath.ac.uk/sees/	Student Business deals with admissions, registration, student records, exams and graduation. They provide academic regulations relating to exams and progress. Student Business is central to student administration. Pegasus is a Web based information system at: www.pegasus.strath.ac.uk
Student Counselling Service 0141 548 3510 Level 4, Graham Hills Building r.sacs@mis.strath.ac.uk student-counselling@strath.ac.uk https://www.strath.ac.uk/studentcounselling	Confidential service offering individual counselling, on personal, academic and welfare matters. Personal Development and Group Sessions are also offered, e.g. stress/relaxation
Student Finance Office Room 2.28C McCance Building 0141 548 2753 s.finance@mis.strath.ac.uk https://www.strath.ac.uk/studentfinancialsupport/	UK students: funding problems, Hardship Funds/Mature Students Bursary Fund, hardship loans, emergency loans, other funding sources, money advice and welfare benefits.
Students' Association (also known as USSA or the Union) 90 John Street GLASGOW, G1 1JH 0141 567 5000 https://www.strathstudents.com	Advice and support available in Ask4 Service, level 4 of the Union building. Student development and volunteering opportunities available in various departments. Clubs, sports and entertainment.
Student Complaints https://www.strath.ac.uk/student/index	Advice and support to students who may have encountered problems.

EQUALITY AND DIVERSITY

The University of Strathclyde is committed to achieving and promoting equality of opportunity in the learning, teaching, research and working environments.

We value the diversity of our students and support the development of mutual respect and positive relations between people.

The University has in place an [Equality Policy](#), [Disability Policy](#) and [Equality Outcomes](#) which meet the requirements the Equality Act 2010.

You are advised to familiarise yourself with the University approach to equality and diversity and relevant developments and information by visiting the website:

www.strath.ac.uk/equalitydiversity/equalityinformationforstudents/

It is important that you understand your rights and responsibilities. Any discriminatory practice, including cyber bullying, on your part may lead to the University initiating disciplinary action.

If you have any queries please bring these to the attention of staff or the University's Equality and Diversity office.

Email: equalopportunities@strath.ac.uk

Telephone: 0141 548 2811

www.strath.ac.uk/equalitydiversity/

Athena SWAN

The University currently holds a Bronze [Athena SWAN](#) award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

The Athena SWAN Charter has been developed by the Equality Challenge Unit to encourage and recognise commitment to combating the under-representation of women in STEMM research and academia.

If you would like any additional information, please contact the Equality and Diversity office.

Students with disabilities

The University is committed to providing an inclusive learning and working environment for disabled people.

If you have, or think you have, a disability we encourage you to disclose it as soon as possible. Declaring your disability will enable you to access any additional support that you may need and help to ensure you become a successful student. The information you provide will be treated as confidential and will not be shared with other staff without your consent.

The University has a dedicated Disability Service that offers specific advice, information and assistance to disabled students, including information on the Disabled Students Allowance (DSA). Further information is available from the website: www.strath.ac.uk/disabilityservice/

In addition, each academic Department/ School (for HaSS) has at least one Departmental Disability Contact (DDC), who act as a first point of contact for disabled students. The Departmental Disability Contact list is available on the website at: www.strath.ac.uk/disabilityservice/ddc/

Please inform your course tutor, the DDC and a member of the Disability Service of your needs as soon as possible. The Disability Service will then formally communicate your needs to your Department/ School.

Email: disabilityservice@strath.ac.uk

Telephone: 0141 548 3402

www.strath.ac.uk/disabilityservice

Issues with Physical Access on campus

If you experience an issue with physical access anywhere on campus, please email: physicalaccess@strath.ac.uk where a member of Estates staff will be able to help.

Classroom Protocol

At the University we are committed to providing a safe learning environment where dignity is respected and discrimination or harassment, including cyber bullying does not occur on the basis of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex, sexual orientation and socio-economic background. No student should intentionally be made to feel threatened or excluded from class participation.

You are reminded of your responsibility to show respect to fellow classmates and staff by remembering the following protocol for the duration of your studies:

- Attend all scheduled lectures/ seminars and/ or practical sessions such as labs, including any additional learning and teaching sessions.
- Arrive on time and remain in class until the end of the session. If you need to leave early for any reason, please notify the tutor at the beginning or prior to the class.
- Do not disrupt the class by habitually coming in late or coming and going from the classroom during the session. Students arriving late, without justified reasons, may be refused entry.
- Refrain from consistently interrupting another speaker and listen to the ideas of others with respect. Do not be rude or make personal attacks on individuals during group discussions.
- Inform and establish consent of the tutor if you wish to record the lecture. The recording must be used only for personal study.
- Do not bring food into the classroom, other than for medical reasons, e.g. diabetes. Beverages may be permissible at the tutor's discretion if the room utilisation rules allow.
- Inform tutors of specific requirements for example the need to perform prayers for practising students of diverse faiths.
- Seek consent of students and staff before taking any photos, audio or visual recordings in the classroom. These must not be shared on any social network sites without permission.

- At any course related external visit you are acting as ambassadors of the University and are reminded to act as such.
- Refrain from smoking on premises as this is prohibited in all University buildings.
- Follow emergency instructions and health and safety procedures.
- Should you have any concerns please bring them to the attention of your tutor and/ or appropriate University staff.

The Institute contact for all issues relating to Equality and Diversity is Professor Sue Pyne, details listed below:

Telephone Number: 0141 548 2012
Email Address: susan.pyne@strath.ac.uk

RACE EQUALITY POLICY

The University of Strathclyde believes strongly in the principle of equal treatment between persons, irrespective of racial or ethnic origin and values and recognises that a diverse staff and student group contributes to its continued achievement of excellence in teaching and research.

Discrimination on grounds of race is unacceptable, and everyone who has the ability and the desire to pursue education should have the chance to do so regardless of their race.

The University's Race Equality Policy forms part of the University's policy on equal opportunities for staff and students, and sets out our aims to tackle racial discrimination and take active steps to promote equality of opportunity and good race relations among its staff and students and members of the public who come in contact with the institution.

The Race Equality Policy is available on the University's web-site at

<https://www.strath.ac.uk/staff/equalitydiversity/>

DATA PROTECTION LEGISLATION

Personal data on students held by the University will be processed on institutional machinery, including WWW tools and other Internet software according to Data Protection Principles. Personal data collected, held and processed in structured manual files held within the University are subject to Data Protection Principles.

Further details (including the Data Protection Principles) can be found at University Regulation 6.9, published in the University Calendar or log on to <https://www.strath.ac.uk/dataprotection/>

If you have any queries about your subject access rights or about any aspects of Data Protection, please contact your Faculty Section in Student Business (Registry).

DIGNITY AND RESPECT POLICY

1 Policy Statement

The University of Strathclyde is a community within which all staff, students and visitors are valued for their contribution. It is the University's expectation that all staff, students and visitors participate in the life of the University in a manner which ensures that everyone that they encounter as a member of this community is treated with dignity and respect. In particular members of the University community are expected to uphold the core values of respect for others and equality of opportunity, openness, integrity and honesty.

2 Purpose of Policy

The purpose of this policy is to:

- Confirm the University's commitment to providing an environment within which all staff, students and visitors are treated with dignity and respect at all times.
- Confirm the University's commitment to providing an environment which is based on a sense of community and which is free from discrimination, harassment, bullying and victimisation (for definitions of these terms please see Appendix A.)
- Ensure that the University complies with its legal requirements as defined under the Equality Act 2010
- Outline the informal and formal mechanisms and support which are available to staff and students if they perceive that they have been harassed, bullied or victimised.

3 Scope

This policy covers all members of the University community including:

- All members of staff holding a contract of employment, honorary staff and staff from other organisations on placement or visiting the University.
- All students, including visiting and placement students.
- Visitors, including external persons or agencies using the University's premises.
- Contractors working at the University.
- Individuals working or acting on the University's behalf including suppliers of goods and services.

4 Roles and Responsibilities

4.1 University Responsibilities

To ensure successful implementation of this policy, the University commits to:

- Take action to ensure that all staff, students and others are aware of this policy through appropriate communication means such as the University website and other publications, as well as the provision of training, where appropriate.
- Promote a culture of community in which every member is treated with courtesy and respect, underpinned by the "One Strathclyde" approach and irrespective of protected characteristics of age, disability, gender reassignment, marriage and civil partnership status, pregnancy and maternity, race, religion or belief, sex and sexual orientation or any other irrelevant factor.
- Ensure that complaints of harassment, bullying or victimisation are treated seriously and with sensitivity.
- Monitor complaints by protected characteristics and report these annually.

4.2 Individual Responsibilities

To ensure successful implementation of this policy, all individuals must: University of Strathclyde Dignity and Respect: Policy

- Make themselves familiar with this policy and their responsibilities under it.
- Participate in training which supports the implementation of this policy.
- Behave in a positive manner at all times to ensure the University is a community within which all members are treated with courtesy and respect.
- Not participate in, or condone, any acts that could be perceived to constitute discrimination, harassment, bullying or victimisation.
- Modify behaviour should they become aware that they have behaved unacceptably in relation to this policy.
- Managers have a responsibility to address any incidents of bullying, harassment or victimisation that they observe or witness even though no complaint may have been made by the subject.

5 Support and Advice

5.1 Support for Staff

Staff who feel that they have been bullied, harassed or victimised or have been accused of bullying, harassing and victimising others can seek support and advice from the following contacts and services:

- Human Resources
- Dignity and Respect Advisers (see Appendix B for more information)
- Employee Counselling Service
- Trade Union Representatives
- Equality and Diversity Manager
- Health and Safety Executive
- Equality and Human Rights Commission

5.2 Support for Students

Students who feel that they have been bullied, harassed or victimised or have been accused of bullying, harassing and victimising others can seek support and advice from the following contacts and services:

- Student Counselling
- ASK at the Students Association
- Dignity and Respect Advisers (see Appendix B for more information)
- The University Chaplaincy
- Adviser of Studies or Academic Counsellor
- Equality and Diversity Manager
- Equality and Human Rights Commission

6 Seeking Resolution

6.1 The University will treat all records concerned with allegations or complaints made under this policy as confidential and complaints will be investigated impartially and as timeously as possible. The University commits itself to treat all parties involved with fairness and sensitivity.

It should be noted that proven instances of bullying, harassment or victimisation will be treated very seriously and may result in formal action, including the issuing of disciplinary sanctions, being taken under the relevant staff or student procedures.

6.1.1 Personal Action

If you feel that you have been or are being harassed, bullied or victimised you are encouraged to make it as clear as you can to the person(s) causing the offence that this is the case. If you ask the person causing offence to stop this behaviour at an early stage this may be sufficient to end the behaviour. In some cases it may be that the individual is not aware that the behaviour is inappropriate or it may be the case that the individual's behaviour is being misinterpreted.

Examples of personal action that may be considered include:

- A conversation with, or written correspondence to, the other person which explains what it is you consider to be unacceptable about their behaviour and requests that he/she stop behaving in this way.
- A request that bullying and harassment issues and/or the University's Dignity and Respect Policy is discussed at a team meeting to ensure that all staff within the team understand the standards of behaviour expected and their responsibilities under the policy.

Before taking personal action you may wish to seek advice or support from:

- A designated Dignity and Respect Adviser
- A colleague or friend
- An HR Manager or Adviser
- Your line manager or Head of Department/School/Directorate
- A trade union representative
- Another of the support mechanisms listed in section 5 above

6.1.2 Mediation

The University has a network of trained mediators who can be engaged at an early stage to assist with issues of conflict, including issues that would be considered under this policy. Mediation is a voluntary process where an impartial third party enables two or more people to work through issues of conflict or disagreement with the aim of improving the working relationship. The focus within mediation is on moving forward rather than attribution of blame. As mediation is a voluntary process, individuals have a choice as to whether they wish to participate. Where individuals agree to mediation, they should engage in the process in a positive and constructive manner with a view to achieving resolution.

Members of staff who are interested in exploring mediation should contact Human Resources in the first instance. Students who are interested in exploring mediation should contact USSA or the Head of Department/School in the first instance.

6.2. Complaints against Staff Members

6.2.1 Informal Complaint

If you do not want to take personal action, or you have done so but the behaviour has continued, you may wish to make an informal complaint. Normally an informal complaint would be made orally however you may wish to make an informal complaint in writing. In doing so you should clearly indicate that you wish the complaint to be progressed through the informal process.

Informal complaints should be made to your line manager in the first instance (or your line manager's manager where more appropriate) who will then be responsible for dealing with the complaint. If a student is making a complaint against a staff member they should address the complaint to the member of staff's Head of Department/School/Director who may delegate the matter to the relevant line manager. The steps which the line manager or equivalent should follow are:

- An initial assessment should be carried out by the line manager or equivalent to ensure that the complaint falls within the scope of this policy as opposed to an alternative policy or procedure. In exceptional circumstances, where the behaviour described is considered to be an extreme breach of this policy (for example, use of violence or threats of violence or unwanted sexual

advances) the complaint should be dealt with under the formal complaint procedure immediately. The complainant should be advised of this.

- If the complaint does fall within the scope of this policy the line manager or equivalent should discuss with the complainant the nature and circumstances of the complaint. The line manager should also, either in the presence of the complainant or not, advise the person or persons about whom the complaint has been made that this is the case and explore the nature and circumstances of the complaint with them.
- The line manager or equivalent should form a view as to whether the complaint merits further action. If the line manager or equivalent feels there are issues which need to be resolved they should explore with one or both parties (as appropriate) reasonable measures for addressing the concerns raised. This may include the provision of further training on bullying and harassment issues, the engagement of a trained mediator or other support such as counselling and mentoring. Notes should be taken of meetings with both individuals and stored according to relevant data protection principles.
- If parties are in agreement these measures should be put in place within a reasonable timescale.
- The issues can hopefully be resolved at this stage however if the complaint is not resolved and the behaviour complained about continues, the complainant should discuss the situation again with the line manager or equivalent. In these circumstances the complainant may decide to make a formal complaint.
- At all stages of the informal process the line manager or equivalent can engage with HR for advice and guidance.

6.2.2 Formal Complaint

Stage 1 Formal complaints made under this policy should be made in writing to the appropriate person, as detailed in the relevant section below. Following the receipt of a formal, written complaint the University will take all reasonable steps to investigate and resolve the complaint as soon as practicable.

A formal complaint of bullying, harassment or victimisation against a member of staff should be made in writing to the alleged perpetrator's Head of Department/School/Director in the first instance. If the alleged perpetrator is the Head of Department/School/Director then the complaint should be made to the Dean/Chief Financial Officer/Chief Operating Officer.

Following the receipt of a formal complaint, an Investigatory Officer will be appointed by the person to whom the complaint is made. The Investigatory Officer will be supported throughout the investigatory process by a member of the HR team.

An outline of the standard process for dealing with formal complaints under this policy is detailed below:

- The person or persons against whom the complaint has been raised (the respondent(s)) will be advised of the complaint and will be provided with a copy of it and this policy.
- Investigatory meetings will be held with the complainant and the respondent. Both parties may be accompanied by a trade union representative, work colleague or dignity and respect adviser if they are members of staff. If the complainant is a student they may be accompanied by a student union representative, friend or dignity and respect adviser.
- Where the respondent(s) denies that they have behaved in a manner which would constitute bullying, harassment or victimisation it may also be necessary to interview individuals who are alleged to have witnessed the behaviour complained of to establish whether there is any supporting evidence to substantiate the complaint.
- The investigating officer will advise both parties of the outcome of the investigation in writing clearly stating whether the allegation of bullying, harassment or victimisation has been upheld and/or whether any further action is recommended.
- If the complainant(s) is dissatisfied with the outcome of the investigation or considers that the matter is not resolved they may instigate Stage 2 of the formal procedure.

Stage 2 Complainant(s) may instigate Stage 2 of the formal procedure by writing to the Director of Human Resources within 14 calendar days of receiving the outcome from Stage 1. The complainant(s) should outline why they are dissatisfied with the outcome of Stage 1 or why they consider the matter to be unresolved.

The Director of Human Resources (or their nominee), along with another appropriate senior member of staff, will convene a meeting with the complainant(s) to consider the matter further. The purpose of this meeting will be to discuss the complainant(s)'s concerns further and establish what has been done to date to resolve the complaint. There may also be a requirement to carry out further investigations and/or meet with other relevant parties.

Following the meeting and further investigations (where required) a written response to the complainant will be prepared which sets out the decision taken and any further action required.

Following Stage 2 of the formal process, the issue will be considered dealt with and there will be no further internal recourse.

6.3 Complaints against Students

6.3.1 Informal Complaint

If you do not want to take personal action or you have done so but the behaviour has continued you may wish to make an informal complaint. Normally an informal complaint would be made orally however you may wish to make an informal complaint in writing. If doing so you must clearly indicate that you wish the complaint to be progressed through the informal process.

Informal complaints should be made to the alleged perpetrators' Head of Department in the first instance. The Head of Department may deal with the complaint themselves or may appoint an appropriate nominee to deal with the complaint. The steps which the Head of Department or nominee should follow are:

- An initial assessment should be carried out by the Head of Department or equivalent to ensure that the complaint falls within the scope of this policy as opposed to an alternative policy or procedure. In exceptional circumstances, where the behaviour described is considered to be an extreme breach of this policy (for example, use of violence or threats of violence or unwanted sexual advances) the complaint should be dealt with under the formal complaint procedure immediately. The complainant should be advised of this.
- If the complaint does fall within the scope of this policy the Head of Department or equivalent should discuss with the complainant the nature and circumstances of the complaint. The Head of Department should also, either in the presence of the complainant or not, advise the person or persons about whom the complaint has been made that this is the case and explore the nature and circumstances of the complaint with them.
- The Head of Department or equivalent should form a view as to whether the complaint merits further action. If the line manager or equivalent feels there are issues which need to be resolved they should explore with one or both parties (as appropriate) reasonable measures for addressing the concerns raised. This may include the provision of further training on bullying and harassment issues, the engagement of a trained mediator or other support such as counselling and mentoring. Notes should be taken of meetings with both individuals and stored according to relevant data protection principles.
- If parties are in agreement these measures should be put in place within a reasonable timescale.

The issues can hopefully be resolved at this stage however if the complaint is not resolved and the behaviour complained about continues, the complainant should discuss the situation again with the Head of Department. In these circumstances the complainant may decide to make a formal complaint.

6.3.2 Formal Complaint

Stage 1 Formal complaints made under this policy should be made in writing to the appropriate person, as detailed in the relevant section below. Following the receipt of a formal, written complaint the University will take all reasonable steps to investigate and resolve the complaint as soon as practicable.

A formal complaint of bullying, harassment or victimisation against a student should be made in writing to the alleged perpetrator's Head of Department in the first instance.

Following the receipt of a formal complaint, an Investigatory Officer will be appointed by the person to whom the complaint is made. The Investigatory Officer will be supported throughout the investigatory process by a member of the Faculty team.

An outline of the standard process for dealing with formal complaints under this policy is detailed below:

- The person or persons against whom the complaint has been raised (the respondent(s)) will be advised of the complaint and will normally be provided with a copy of it and this policy.

Investigatory meetings will be held with the complainant and the respondent. Both parties may be accompanied by a student union representative, friend or dignity and respect adviser. If the complainant is a staff member they may be accompanied by a colleague or trade union representative.

- Where the respondent(s) denies that they have behaved in a manner which would constitute bullying, harassment or victimisation it may also be necessary to interview individuals who are alleged to have witnessed the behaviour complained of to establish whether there is any supporting evidence to substantiate the complaint.
- The Investigating Officer will advise both parties of the outcome of the investigation in writing clearly stating whether the allegation of bullying, harassment or victimisation has been upheld and/or whether any further action is recommended. If formal action is recommended this will be referred to the Chief Operating Officer.

Stage 2 Complainant(s) may instigate Stage 2 of the formal procedure by writing to the Chief Operating Officer within 14 calendar days of receiving the outcome from Stage 1. The complainant(s) should outline why they are dissatisfied with the outcome of Stage 1 or why they consider the matter to be unresolved.

The Chief Operating Officer (or their nominee), along with another appropriate member of staff from the Education Strategy Team, will convene a meeting with the complainant(s) to consider the matter further. The purpose of this meeting will be to discuss the complainant(s)'s concerns further and establish what has been done to date to resolve the complaint. There may also be a requirement to carry out further investigations and/or meet with other relevant parties.

Following the meeting and further investigations (where required) a written response to the complainant will be prepared which sets out the decision taken and any further action required.

Following Stage 2 of the formal process, the issue will be considered dealt with and there will be no further internal recourse.

6.4 Complaints against External Parties

Complaints against external parties such as contractors, consultants and visitors should be made to a member of staff's line manager or equivalent or, in the case of student, their Head of Department. The line manager or Head of Department should seek to establish from the member of staff or student the nature and circumstances of the complaint before engaging with the external party. The external party should be provided with a copy of the complaint and asked to respond to this. The line manager or Head of Department will form a view as to what further action may be required including whether any further investigation is necessary.

In the case of external contractors, Estates Services hold a central record of which contractors the University is engaging for works within the estate. Where the person to whom the complaint has been reported is unsure as to who within the University is the main liaison for the external contractor, the line manager and Head of Department should contact Estates Services to establish this.

6.5 False Complaints

Any proven instances of complaints being orchestrated with malicious intent or vexatious will be viewed seriously with the likely outcome of disciplinary action being taken against the complainant.

Appendix A: Definitions

This Appendix provides definitions of the terms “harassment”, “bullying” and “victimisation” for the purposes of enabling staff and students to make informed judgements about whether particular behaviours may fall under the scope of this policy.

Harassment

Harassment is deemed to have occurred when a person engages in unwanted conduct, potentially related to a protected characteristic of another person as defined by the Equality Act 2010, which has either the purpose or effect of violating another person’s dignity or creating an intimidating, hostile, degrading, humiliating or offensive environment for the person. Harassment may include conduct of a sexual nature.

It is important to note that harassment may be deemed to have occurred even where there has been no intent. Members of the University community must therefore be aware that the perception of the complainant is very important and what may be deemed to be acceptable behaviour by one person may not necessarily be acceptable to another.

In defining the types of behaviour that may be judged to constitute harassment the key issue is whether the behaviour could reasonably be considered as having the effect defined above, even if others feel they would not be offended by the behaviour. The perception of the complainant does not automatically mean that the complaint will be upheld however as those responsible for managing or investigating the complaint must make an objective assessment as to whether the behaviour complained of can reasonably be regarded as harassment.

In some circumstances, such as where physical or extreme verbal violence has occurred, isolated incidents of unwanted behaviour may be deemed to be harassment. In other circumstances, behaviour may be deemed to be harassment where it is repeated or sustained.

In addition to the potential consequences for employment and study of breaching this policy, types of harassment may also be unlawful under the Equality Act 2010 and may even constitute a criminal offence. Individual staff members who have been deemed to have harassed others may be personally named in legal complaints and may be liable to personally pay compensation to a successful claimant.

The harassment may be related to a particular protected characteristic as defined by the Equality Act 2010. The protected characteristics which are relevant are:

- Age
- Disability
- Gender Reassignment
- Race
- Religion or Belief
- Sex
- Sexual Orientation

It is possible for the harassment to occur in a targeted manner towards an individual or group on the grounds of:

- Someone’s actual characteristics (e.g. a person may be harassed because they are disabled.)
- Someone’s perceived characteristics (e.g. a person may be harassed because it is considered that they are disabled.)
- Someone’s link to one of the personal characteristics via someone else (e.g. a person may be harassed because they have a partner or family member who is disabled.)

It is possible however that harassment is not targeted at a particular individual or group of individuals but rather that within a particular team or group a culture exists which permits offensive or stereotypical jokes. In these circumstances an individual may make a complaint on the basis that this culture creates an intimidating, hostile, degrading, humiliating or offensive environment even if no-one within the team or groups holds the particular characteristic(s) in question.

Harassment may take place face to face, by writing or in written or electronic communications including via social media such as Facebook or Twitter. Examples of the types of behaviour that may amount to harassment include:

- Racist language or jokes or derogatory comments about national origin.
- Unwelcome sexual advances which may include touching, invasion of personal space, requests for sexual favours.
- Comments which imply that gender impairs a person's ability.
- Excluding people from conversations, meetings or social events on the basis of sexual orientation.
- Jokes about a person's disability.
- Insensitivity to religious beliefs such as the use of sectarian language.
- Homophobic jokes.

Bullying

Bullying is deemed to have occurred when a person engages in offensive, intimidating, malicious or insulting behaviour which intentionally or unintentionally undermines, humiliates, denigrates or injures the recipient of the behaviour. As with harassment, it is important to note that bullying may be deemed to have occurred even where there has been no intent.

Bullying is normally characterised by a pattern of behaviour. One off minor issues of impatience, pre-occupation or lack of courtesy do not constitute bullying. In some circumstances, such as where physical or extreme verbal violence has occurred, isolated incidents of unwanted behaviour may be deemed to constitute bullying.

Bullying should be differentiated from the legitimate exercise of management or supervisory responsibility. See Appendix C for more information.

In addition to the potential consequences for employment and study of breaching this policy, types of bullying may also be unlawful and may even constitute a criminal offence. Individual staff members who have been deemed to have bullied others may be personally named in legal complaints and may be liable to personally pay compensation to a successful claimant.

Bullying may take place face to face, by writing or in written or electronic communications.

Examples of the type of behaviour that may amount to bullying include:

- Picking on people and unreasonably criticising their performance.
- Unreasonable withdrawal of authority and responsibility.
- Imposing unrealistic objectives and deadlines or changing objectives without reasonable justification.
- Isolation or non co-operation at work or in class; exclusions from meetings, seminars or work-related social events etc.
- Aggressive behaviour or conduct, physical or verbal.
- Reacting to a minor issue with the same vehemence as a major one.

Victimisation

Under the scope of this policy, victimisation involves treating someone less favourably than another because:

- An individual has made a claim of harassment or bullying under this policy or a claim of discrimination under another policy.
- An individual has complained that they may have been discriminated against, harassed or bullied or that the University's equal opportunities policies have been breached in some way.
- An individual has assisted another who is making such a claim, through providing evidence or some other form of support for the person.

Victimisation is entirely unacceptable behaviour that can have a detrimental effect on a work and study environment and may lead to reluctance to report acts of harassment or discrimination.

In addition to the potential consequences for employment and study of breaching this policy, types of victimisation may also be unlawful and may even constitute a criminal offence. Individual staff members who have been deemed to have victimised others may be personally named in legal complaints and may be liable to personally pay compensation to a successful claimant.

Victimisation may take place face to face, by writing or in written or electronic communications. Examples of the type of behaviour that may amount to victimisation are similar to those contained under the bullying and harassment sections above.

Appendix B: Role of Dignity and Respect Advisers

Dignity and Respect Advisers are members of University staff who are appropriately trained to help staff and students who have, or perceive that they have been, impacted by the issues raised under this policy. Dignity and Respect Advisers can provide advice on informal and formal mechanisms for addressing issues of bullying and harassment. They may also support the complainant or respondent through informal or formal proceedings.

A list of current trained [Dignity and Respect Advisers](#) is available on the website.

Appendix C: Acceptable Management Practice

"Bullying", "harassment" and "victimisation" as defined in Appendix A should be differentiated from an acceptably assertive management style. It is legitimate for a manager to provide clear feedback and take action in relation to a member of staff's conduct or performance provided that this is done in a fair, consistent and reasonable way which is in line with existing University policies. In this case any action taken by a manager to address performance or conduct concerns will not be considered as breaching this policy.

There may also be times where a manager makes a decision or issues an instruction which the member of staff does not agree with or considers unreasonable. This may not necessarily fall into the definition of "bullying", "harassment" or "victimisation" and may best be dealt with under alternative dispute resolution procedures. In such circumstances members of staff should be aware that even if they do not agree with the decision made or action taken it may be considered to be in the University's best interests and therefore this needs to be balanced with any individual concerns.

Appendix D: Guidance on Investigating Complaints

General principles

- All matters under investigations will be treated with due confidentiality and sensitivity
- Investigations should be conducted in a consistent and equitable manner, albeit that there may be variations in process resulting from specific factors of the complaint

The complaint should be recorded in writing and include the following:

- Clear, specific allegations against named people.
- Dates, times and witnesses (if appropriate).
- Factual descriptions of events rather than assumptions or opinions.
- Direct quotes if they are remembered or relevant.
- A brief description of the context of the incident(s).
- An indication of how each incident made the complainant feel.
- An explanation why he or she considers that the complaint amounts to bullying, harassment or victimisation if this is not clear.
- Details of how the complainant has shown the harassment to be unwelcome.
- Any other documentary evidence.

Interviewing the Complainant

- Be sensitive to the feelings of the complainant and recognise their feelings even if you personally do not think they are justified. The complainant will probably find it difficult to talk about the incident to a third party.
- Avoid questions that might imply that the complainant may have consciously or unconsciously have invited the harassment.
- Avoid pre-judging until you have heard from both parties.
- Repeating the facts may be embarrassing for the complainant so it may be advisable to get a written statement of events which would enable you to refrain from repeating questions.
- It can be useful for the complainant to have someone with them to provide support during the interview. This could be a Dignity and Respect Adviser, colleague, fellow student or trade union representative.

Interviewing the Respondent

- The respondent should be provided with the full details of the complaint when a full statement from the complainant has been obtained.
- Avoid pre-judging until you have given the respondent an opportunity to present their side of the story.
- Avoid any suggestion that you condone the behaviour complained of or that the complainant was being over sensitive.
- It can be useful for the respondent to have someone with them to provide support during the interview. This could be a Dignity and Respect Adviser, colleague, fellow student or trade union representative.

BUILDING PREFIX

Each building has an alphabetic code, the first digit tells you the floor of the building and then the final two digits are unique to the room (e.g. if your class is in JW309, you need to go to Level 3 of the James Weir Building).

Building Prefix	Building Name
AR	Architecture Building
CL	Collins Building
CV	Colville Building
CU	Curran Building
CW	<i>(Strathclyde Business School)</i> Cathedral Wing
GH	Graham Hills Building
HD	Henry Dyer Building
HW	Hamnett Wing, SIPBS Building
JW	James Weir Building
JA	John Anderson Building
ZZ	John Anderson Campus
AB (RW)	John Arbuthnott Building - Robertson Wing <i>(Departmental Office)</i>
HW	SIPBS, Andrew Hamnett Wing <i>(SIPBS Main Reception & Cal-Lab)</i>
LT	Livingstone Tower
MC	McCance Building
RC	Royal College Building
WD	Sir William Duncan Building
SB	Strathclyde Business School
SW	<i>(Strathclyde Business School)</i> Stenhouse Wing
TG	Thomas Graham Building
UC	University Centre
WC	Wolfson Centre

CLASS DESCRIPTORS

Class code: 23101

Session: 2018-2019

Class title: Pharmaceutical Science and Drug Development

Credits: 10

Level: 1 **Year:** 1 **Semester:** 1 & 2

Class coordinator: Dr Trevor Bushell

Staff Involved: Dr Gazala Akram, Dr Trevor Bushell, Dr Robert Drummond, Prof Gavin Halbert, Dr Alan McCrudden, Dr Ann Simpson

Class aims, objectives and rationale:

This class aims to give students within the Faculty of Science an introduction to modern drug development. To achieve this, the steps involved in taking a candidate compound to clinical use will be discussed, covering issues such as selection of compound, animal and human testing, formulation, clinical testing and the licensing process. In addition an introduction to drug discovery will be provided beginning with a historical perspective covering a range of natural products and continuing to modern day design of synthetic substitutes. The mechanism of action of a number of commonly used drugs will also be discussed in order to explain how drugs produce their biological effect.

Learning outcomes

None specified

Key Skills

None specified

Method of Delivery (hours)

None specified

Assessment Methods:

Assessment is by multiple choice examination.

Assessment

Main diet May 1 hr

Resit diet Aug 1 hr

Class Content:

The class is entirely lecture-based with all lecture slides being posted on the 23101 Myplace page which can be found at <http://classes.myplace.strath.ac.uk> .

Recommended Reading:

None specified

Compulsory for degrees: None
Optional for degrees: None
Available to other courses: No
Assessment scale (0-100,0-20 etc.): *Not specified*
Contact hours: *Not specified*
Pre-requisites: Higher Science Subject
Co-requisites: *None specified*
Unacceptable combinations: *None specified*
Maximum number of students: *Not specified*
Is the class taught entirely by on department? Yes
Department: SIPBS

Class code: 57102	Session: 2018-2019
Class title: Herbal Medicines, Past, Present & Future	Credits: 10
Level: 1 Year: 1	Semester: 2
Class coordinator:	Dr Ann Simpson
Staff Involved:	Dr Veronique Seidel Dr Ann Simpson

Description and rationale:

This introductory elective class is suitable for students from any Faculty who have an interest worldwide uses of traditional, herbal and complementary medicine. Traditional medicine used worldwide by different cultures will be explored, leading to an introduction to modern phytotherapy and psychotropic drug use and abuse. Other plant based complimentary medicine such as homeopathy and aromatherapy will be described. Particular attention will be given to the safety of herbal medicines and the class will be illustrated with selected herbal remedies. How plants containing toxins have been lead compounds in the development of therapeutic agents will be discussed. On completion, the student should be able to appreciate the complexity, rationale, and safety concerns of herbal medicine.

Learning outcomes

On completion of this class, students should:

- Have a basic knowledge of traditional and herbal medicines used in different cultures worldwide;
- Understand the rational approach to therapy using plant medicines (phytotherapy) and be able to cite examples;
- Understand how the 'quality' of herbal medicines can be controlled;
- Understand that natural herbal remedies are not always safe remedies;
- Understand how far the efficacy of herbal medicines and some food supplements of plant origin can be supported by scientific evidence;
- Understand aspects of the placebo effect and the use and abuse of psychotropic agents around the world;
- Have an insight into other plant based complimentary medicines such as homeopathy and aromatherapy.

Key Skills

This module is an elective module, which aims to stimulate an interest in the wide topic of herbal medicines to students from any Faculty.

Method of Delivery (hours)

This class is presented utilizing lectures, audiovisual material and guided reading.

Lectures	CAL labs	Practical labs	Tutorials	Workshops	Private Study	Total
16					84	100

Assessment Methods:

Lecture content and guided reading are examinable in the final MCQ exam (1 hour).

Recommended Reading:

There are no required textbooks for this course. Required guided reading (texts, journal and web references) will be given during lectures and posted on Myplace.

General Information:

Compulsory for degrees:	None
Optional for degrees:	Any (subject to timetable)
Available to other courses:	Yes
Assessment scale (0-100,0-20 etc.):	<i>Not specified</i>
Contact hours:	16
Pre-requisites:	None – open to students of all disciplines
Co-requisites:	<i>None specified</i>
Unacceptable combinations:	<i>Elective class: possible timetable clashes should be checked before choosing the course.</i>
Maximum number of students:	<i>Not specified</i>
Is the class taught entirely by one department?	Yes
Department:	SIPBS

UNIVERSITY OF STRATHCLYDE

Faculty of Science

Strathclyde Institute of Pharmacy and Biomedical Sciences

Class Descriptor Form

Class Code: 59101

Level: 1

Credit Points: 10

Class Title: Use and Abuse of Drugs in Society

Learning Hours: 22 hours of lectures

Rationale

This is a first year elective class that is intended to give an introduction to the therapeutic use of drugs to treat a number of clinically important medical conditions. Additionally, the abuse of drugs (both recreational and those with therapeutic properties) will also be discussed.

Learning Outcomes

Upon the completion the student will:

- 1 Know examples of drugs that are used to treat a number of clinically important conditions (including cardiovascular disease, inflammatory disease, peptic ulcer, pain, and cancer).
- 2 Know examples of complimentary, herbal and traditional medicines.
- 3 Know examples of drugs that are effective in population control.
- 4 Know examples of drugs that are used during surgical anaesthesia.
- 5 Be able describe the health risks associated with the abuse of a number of drugs (including tobacco, alcohol, heroin, cocaine, hallucinogenic drugs).
- 6 Know the controversies associated with drug testing in animals and humans
- 7 Know examples of drugs that are used illegally by sportsmen.

Key Skills

This module is particularly suitable for addressing:

Academic skills: Knowledge, Comprehension

Outline

This class aims to give students an introduction to the study of Pharmacology. To achieve this, a number of common medical conditions have been selected and the drugs currently used to treat these conditions will be discussed. Particular emphasis will be given to the mechanism by which these drugs produce their beneficial effect. In addition, a number of drugs that are commonly abused or pose a serious risk to an individual's health will also be discussed, highlighting the health risks associated with each of these drugs.

Methods of Presentation

The class is entirely lecture-based. All lectures use PowerPoint presentations. The presentations are made available to students in advance of each lecture through the class Myplace webpage. Some lecturers also make supplementary material available to the students via the class webpage on Myplace.

Assessment

Assessment is based on a one-hour degree examination paper. The examination paper comprises 50 - 60 multiple choice type questions relating to the material covered in the lectures.

Bibliography

There are no set texts for this class. For students interested in supplementary reading a recommended text is:

Rang, H. P., Dale, M. M., Ritter, J. M., Flower, R. J. and Henderson, G. (2011) Rang and Dale's Pharmacology, 7th Edition, Churchill Livingston.

Copies of this text are available in the short-loan collection in the University library.

Additional Information Required for Records:

Compulsory for courses (please state which)	None
Optional for courses (please state which)	
Available to other courses	Elective
Assessment Scale	Undergraduate
Teaching Hours	22
Timetable	Two lectures per week in Semester 2
Pre-requisites	None
Co-requisites	None
Unacceptable combinations	None
Size (state any constraint on maximum number of students)	None

Class Coordinator

Name Chris Prior **Staff Number:**
Department: Strathclyde Institute of Pharmacy and Biomedical Sciences

Department

Is the class taught entirely by one department? Yes

If YES, say which Strathclyde Institute of Pharmacy and Biomedical Sciences

If NO, show the percentage to be allocated to each department.

Departments Involved	%

BM108 Foundation Biomolecular Sciences: Organisms and Diseases
Class descriptor

Class Details	
Year	1
Level	SCQF 7
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Robert Drummond Teaching staff: Dr Chris Carter, Dr Paul Coats, Dr Robert Drummond, Dr Alan McCrudden Dr Ben Pickard, Dr Eddie Rowan, Dr Shuzo Sakata	
Class objectives	
1. To provide foundation level knowledge relating to basic evolution, species diversity, development, homeostasis, and infectious disease 2. To set out principles of biological action and function that will be encountered through all four years 3. To understand and demonstrate an understanding of the basic suite of teaching, learning and assessment paradigms used throughout their degree with particular focus on oral communication and presentation.	
Summary of content	
<p>Overview: A Foundation level introduction to the intrinsic principles and external factors that generate and regulate the organism from birth to death. Grand-scale topics such as evolution, development, homeostasis and infection are covered in a holistic fashion to give the students an appreciation of these major forces that act on life. These subjects are often only mentioned in passing as students specialise in later years, and yet act as underlying principles at all levels of biology - and this will be stressed.</p> <p>Syllabus breakdown:</p> 1. The principles of chemistry and evolution are set out to describe the origin and diversity of life. Our modern knowledge of these processes has enabled humans to control the evolution of useful species and food plants. 2. The principles of pattern-formation and the large-scale reorganisation of cells that occurs during development are discussed here. Specific developmental systems such as the brain and vasculature are provided to link into disease processes encountered later. 3. The third section is an outline of the microbial species that are the source of much human infectious disease. How do they invade? How do we react? And how does modern medical knowledge try to curb their threat. 4. Organisms interact passively and actively with their environment. The mechanisms by which this occurs are discussed in mammalian and, principally, microbial systems. How they respond to changes in their environment will also be described. 5. Mammalian organs and physiology are complex systems of divided labour. Their regulation and potential for dysfunction in disease are described.	
Reading list	
Biology (4 th Edition). Robert Brooker, Eric Widmaier, Linda Graham, Peter Stiling. McGraw-Hill Education.	
MyPlace page	
https://classes.myplace.strath.ac.uk/course/view.php?id=21674	

Assessment

Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate

Summative: MCQ Exam (70%), MCQ Class Test (30%)

Resit: MCQ Exam (100%)

BM109 Foundation Biomolecular Sciences: Cells and their Molecules
Class descriptor

Class Details	
Year	1
Level	SCQF 7
Credits	20
Semester	1
Class staff	
Class coordinator: Dr Val Ferro	
Teaching staff: Dr Val Ferro, Dr Annette Sorensen, Dr Martin Wiese, Prof John McCarron, Dr Susan Chalmers, Dr Ben Pickard, Prof Luke Chamberlain, Dr Alan McCrudden, Prof Sue Pyne, Prof Nigel Pyne, Dr Marie Boyd, Prof Alex Mullen	
Class objectives	
<ol style="list-style-type: none"> 1. To provide foundation level knowledge relating to basic functions of cells. 2. To set out principles of biological action and function that will be encountered through all four years 3. To understand and demonstrate an understanding of the basic suite of teaching, learning and assessment paradigms used throughout their degree with particular focus on presentation skills. 	
Summary of content	
<p>Overview: Cells are the basic unit of life. Students will cover the basic structure and function of the cell while also being exposed to specialised cells. The internal constituents of the cell are responsible for the cell's dynamic range of activities – and dysfunction. These will be described from the level of DNA to protein regulation. An appreciation of the integration of these molecules into subcellular systems will be emphasised.</p> <p>Syllabus breakdown:</p> <ol style="list-style-type: none"> 1. An overview of the structure and function of generic and specific cell-types. 2. A basic understanding of the energy generation and distribution mechanisms of the cell and organism. 3. DNA coding information and protein regulation are instrumental in health and disease. 4. The control of cell division is a critical process in stem cell and cancer biology. 5. Common cellular signalling processes from membrane to nuclear response – cells responding to external stimuli. 	
Class teaching hours & methods	
Contact hours: Lecture - 18 h Workshop – 8.5 h Tutorial – 3.5 h Independent / directed study – 165 h	
Reading List	
Brooker Biology, 4 th Edition	
Assessment	
Formative:	Including: workshop performance – peer assessment; online quizzes and computer simulations will also be used as appropriate
Summative:	Exam (70%), Class Test (30%)
Resit:	Exam (100%)

BM110 Being a Biomolecular Scientist 1 Class descriptor

Class Details	
Year	1
Level	SCQF 7
Credits	40
Semester	1 and 2
Class staff	
Class coordinator: Dr Alan McCrudden	
Teaching staff: All staff	
Class objectives	
<ol style="list-style-type: none"> 1. To develop the foundation biological chemistry practical skills 2. To develop the foundation biomedical science practical skills 3. To develop the foundation data presentation and analytical skills 4. To develop the fundamental skills in presentation and teamwork 	
Summary of content	
<p>The class will have the following sections:</p> <ol style="list-style-type: none"> 1. Laboratories: Biological Chemistry, 'Death on the Clyde, Tissues and organs, Exercise physiology - with competency testing to ensure students have the required expertise in a particular method 2. Student led Workshop and presentations: Science and the media, Science and technology, Science and Society 3. Staff led workshops: Statistics, Experimental design, ethics 	
Class teaching hours & methods	
Contact hours:	
Practical Laboratory experience : 36 hrs	
Tutorials/workshops: 48 hrs	
Independent / directed study: 316 hrs	
Reading List	
Core Maths for the Biosciences. REED. Oxford ISBN978-0-19-921634-5	
Practical Skills in Biomolecular Sciences. REED, HOLMES, WEYERS, JONES. Pearson. ISBN 978-1-292-10073-9	
Biomedical Science Practice. GLENCROSS, AHMED, WANG. Oxford. ISBN 978-0-19-953329-9	
Assessment	
Formative	
Including: workshop performance – peer assessment can be used; use of PRS in lectures and workshops; online quizzes.	
Summative	
Coursework: 60%. Integrated report and specific tests (for practical skills competency)	
Coursework: 40%. Presentation and team work	
Resit	
Students will have the chance to retake practical competency testing. Students will have the opportunity to submit reworked integrated lab assessments.	

CH112 Bio-Organic Chemistry
Class descriptor

Class Details
Year: 1 Level: SCQF 7 Credits: 20 Semester: 2
Class staff
Class coordinator: Dr Mark Dufton Teaching staff: Dr Mark Dufton, Dr Colin Gibson,
Class Objectives
<ol style="list-style-type: none"> 1. To understand nucleotide/nucleic acid molecular structure, stereochemistry and conformation as the foundation of nucleic acid chemical and biological potential. 2. To understand amino acid/protein molecular structure, stereochemistry and conformation as the foundation of protein chemical and biological potential. 3. To understand monosaccharide/polysaccharide molecular structure, stereochemistry and conformation as the foundation of carbohydrate chemical and biological potential. 4. To understand the chemistry, stereochemistry and biological roles of polyketide/polyisoprene natural products and their biosynthetic origins.

Summary of content
<p>Overview: To strengthen the awareness of nucleic acids, proteins, carbohydrates and natural products at the molecular level, with special emphasis on demonstrating how fundamentals of organic chemistry lead to a precise understanding of the origins of biomolecular shapes, interactivity and mechanism. By the end of the course it is intended that, for example, students will be able to associate names of amino acids with their molecular structures, functional group chemistry and stereochemical impact on protein shape.</p> <p>Syllabus breakdown: This class is divided into four equal lecture blocks – nucleotides and nucleic acids, amino acids and proteins, monosaccharides and polysaccharides, and natural products in this running order. Each block follows a logical sequence of first introducing the structural chemistry and reactivity of the biopolymer monomers, then showing how the biopolymer is formed and defining the drivers for the adoption of the final conformations or assembly. Thereafter, the association between molecular shape/reactivity and the ability to perform biological functions is established.</p>
Class teaching hours & methods
Contact hours: 24 (4 x5 hours lectures, 4 hours tutorials)
Reading List
<p>MAHAFFY: Chemistry: Human Activity, Chemical Reactivity</p> <p>BRUICE: Essential Organic Chemistry</p> <p>AVERILL and ELDREDGE: Chemistry – Principles, Patterns and Applications</p>
Assessment
<p>Summative: Exam (100%)</p> <p>Resit: Exam (100%)</p>

BM210 Introduction to Biochemistry
Class descriptor

Class Details	
Year	2
Level	SCQF 8
Credits	20
Semester	1
Class staff	
Class coordinator: Professor John McCarron Teaching staff: Dr Luke Chamberlain, Dr Andrew Paul, Dr Benjamin Pickard, Prof Susan Pyne, Dr Shuzo Sakata, Dr Martin Wiese	
Class objectives	
<ol style="list-style-type: none"> 1. To understand gene structure and function and the regulation of gene expression. 2. To understand how human genetic variation arises and its uses in medicine and forensics. 3. To understand the basic structure and function of proteins, lipids and carbohydrates. 4. To appreciate the key metabolic pathways in the absorptive and post-absorptive states. 5. To understand the pathways involved in cell growth and cell death. 	
Summary of content	
<p>Overview: To introduce students to key fundamental concepts of biochemistry. The course will cover genes, proteins, lipids and carbohydrates and their regulation, and will introduce cellular pathways involved in cell growth and cell death.</p> <p>Syllabus breakdown: This class is divided into five blocks – gene expression and function; human inheritance, genetic variation and forensics; proteins, lipids and carbohydrates; metabolic pathways; and cell biology. Each block is then subdivided to cover a variety of topics relevant to that block including the physiological regulation of gene expression, how human genetic variation is used to inform medicine and forensics, the human genome project and its main findings, the function of proteins as enzymes and their regulation by post-translational modifications, hormonal control of metabolism, how cell growth and death pathways are affected in diseases such as cancer, and the uses of stem cells in research and medicine.</p>	
Class teaching hours & methods	
Contact hours: Lecture - 20 hrs Tutorial – 5 hrs Independent / directed study – 175 hrs	
Reading List	
Molecular Biology of the Cell, Alberts (6 th edition) Biochemistry, Stryer (6-8th edition)	
Assessment	
<p>Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate</p> <p>Summative: The Degree exam will consist of 40 MCQs and 5 Short Answer Questions. This exam will make up (80%) of your final mark. In addition to the Degree exam there will be an in class coursework assessment which will account for 20% of your final mark</p> <p>Resit: The resit exam will be MCQ and Short Answer Questions Exam and will account for 100% of your mark.</p>	
Coursework assessment	
<p>The course work assessment (20%) consists of a series of short answer questions on the Genetics of Lactose Intolerance. Each question will have various marks which will be indicated on the paper.</p> <p>Your assignment should be submitted via the Assessment link in the Assessment section on the BM210 web page on Myplace.</p>	

BM211 Introduction to Microbiology
Class descriptor

Class Details	
Year	2
Level	SCQF 8
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Nicholas Tucker	
Teaching staff: Dr Paul Herron, Dr Paul Hoskisson, Dr Nicholas Tucker	
Class objectives	
<ol style="list-style-type: none"> 1. Understand the fundamental taxonomic grouping and evolutionary relationships of microbes 2. Appreciate physiological, structural and molecular differences between different microorganisms 3. Understand the role and control of microorganisms in disease 4. Learn how organisms adapt to hostile environments and appreciate the biotechnological exploitation of extremophiles 	
Summary of content	
<p>Overview: To introduce students to the full diversity of microbial life and the fundamental differences between the physiology, metabolism, molecular biology and epidemiology of different microbes. The class structure is based upon the microbial tree of life.</p> <p>Syllabus breakdown: This class is divided into five blocks – general microbiology, bacteria, fungi & protozoa, viruses and archaea. Each block is then subdivided to cover a variety of topics relevant to that block including physiology, molecular biology, cell biology, environmental microbiology and pathogenicity of the relevant organisms. This class will also include sections on the microbial impacts on global biogeochemical cycles and the biotechnological exploitation of microorganisms such as extremophiles.</p>	
Class teaching hours & methods	
Contact hours: Lecture - 15 hrs	
Tutorial – 10 hrs	
Independent / directed study – 175 hrs	
MyPlace page	
TBA	
Assessment	
<p>Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate</p> <p>Summative: MCQ Exam (80%), Problem solving workshops (20%)</p> <p>Resit: MCQ Exam (100%)</p>	

Additional Recommended Reading for BM211 includes, but is not limited to:

- Brock Biology of Microorganisms 14th Edition, Madigan, Martinko, Bender, Buckley & Stahl. Pearson
 - Brock Chapter 1
 - Brock Chapter 2
 - Brock Chapter 4
 - Brock Chapter 6
 - Brock Chapter 10
 - Brock Chapter 13

- Brock Chapter 14
- Brock Chapter 15
- Brock Chapter 16
- Brock Chapter 17
- Brock Chapter 22
- Brock Chapter 32

Kavanagh, Kevin (2011). Fungi: Biology and Application. 2nd edition. Wiley-Blackwell, London. ISBN-10: 0470977094

https://books.google.co.uk/books?id=vtHlMwuZiLAC&printsec=frontcover&dq=Fungi:+Biology+and+Applications&hl=en&sa=X&redir_esc=y#v=onepage&q=Fungi%3A%20Biology%20and%20Applications&f=false

**BM212 Introduction to Immunology
Class Descriptor**

Class Details	
Year	2
Level	SCQF 8
Credits	20
Semester	1
Class staff	
Class coordinator: Dr Catherine Lawrence	
Teaching staff: Dr Catherine Lawrence, Dr Chris Carter, Dr Dino Rotondo, Prof Craig Roberts, Dr Alan McCrudden, Dr Val Ferro, Prof Billy Harnett	
Class objectives	
<ol style="list-style-type: none"> 1. To understand how immune cells recognise antigens 2. To understand the key concepts in induction of acquired immunity 3. To understand the effector mechanisms of the immune system. 4. To appreciate the key helpful immune responses. 5. To understand the key harmful immune responses 	
Summary of content	
<p>Overview: To introduce students to key fundamental concepts of immunology. The course will cover recognition of antigen, innate and acquired immune responses and their role in protective and pathological immune responses.</p> <p>Syllabus breakdown, the class will teach the following:</p> <p>Recognition of antigen</p> <ul style="list-style-type: none"> • Basic concepts in immunology • Pattern recognition receptors and innate activation • T cell receptor • B cell receptor <p>Induction of acquired Immunity</p> <ul style="list-style-type: none"> • Anatomy of the immune system • Role of antigen presenting cells and T cells • Role of antibody and B cells • Co-stimulation and tolerance <p>Effector responses</p> <ul style="list-style-type: none"> • Innate immune cells and their products • Complement • Cell-mediated immune responses • Antibody mediated immune responses <p>Helpful immune responses</p> <ul style="list-style-type: none"> • Immunity to intracellular pathogens: bacteria, parasites and viruses • Immunity to extracellular pathogens: bacteria, parasites and fungi • Immunity to cancer • Activating immunity through vaccination <p>Harmful Immune responses</p> <ul style="list-style-type: none"> • Autoimmunity • Immunodeficiencies • Allergies • Inflammation 	

Class teaching hours & methods
Contact hours: Lecture - 20 hrs Tutorial – 10 hrs Independent / directed study – 170 hrs
Reading List
Janeway's Immunobiology, 9 th Edition. Kenneth Murphy and Casey Weaver. Garland Science, New York and London. ISBN-10: 0815345054 Kuby Immunology: 7th Edition. Judy Owen, Jenni Punt and Sharon Stranford. W. H. Freeman, New York. ISBN-10: 1464137846
Assessment
Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate Summative: MCQ Exam (70%), Coursework (30%) Resit: MCQ Exam (100%)

BM213 Introduction to Pharmacology
Class descriptor

Class Details	
Year	2
Level	SCQF 8
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Edward Rowan	
Teaching staff: Dr Edward Rowan, Prof Sue Pyne, Dr Charles Kennedy, Prof Robin Plevin, Dr Paul Coats	
Class objectives	
<ol style="list-style-type: none"> 1. To develop understanding of systems biology 2. To develop understanding of the somatic, autonomic and central nervous systems 3. To develop understanding of the cardiovascular and respiratory systems 4. To develop understanding of the hepatic and renal systems. 5. To develop understanding of the endocrine and reproductive systems 	
Summary of content	
<p>Overview: This class is a mixture of lectures and tutorials and aims to develop their knowledge and skills that underpin the subsequent deeper learning of physiology and pharmacology, particularly in the pharmacology degrees, including scientific writing skills and analysis and interpretation of experimental data.</p> <p>Syllabus breakdown, the class will cover the following:</p> <p>Introduction to pharmacology and cell signalling Basic pharmacological principles The membrane potential and action potentials Cell signalling mechanisms Drugs affecting homeostasis and membrane potentials</p> <p>The somatic, autonomic and central nervous systems The autonomic and somatic nervous systems Receptors activated by noradrenaline and acetylcholine Anatomy of the brain, blood-brain barrier, cerebrospinal fluid CNS neurotransmitters and neurotransmission Sensory receptors and pathways and how the CNS registers pain Consciousness, learning, memory Control of voluntary movement</p> <p>Cardiovascular and respiratory systems Anatomy of the heart, arteries and veins The cardiac conduction system and mechanical cardiac cycle Control of blood flow, blood pressure, capillary exchange, heart rate and cardiac output. Anatomy of the lungs, gaseous exchange in the alveoli, how breathing is regulated Haemoglobin. Effects of drugs active on the heart and respiratory systems</p> <p>Hepatic and renal systems Anatomy of the kidney, glomerular filtration and reabsorption Water regulation and salt balance Anatomy of the liver and accessory organs, digestion Effects of drugs active on the renal and hepatic systems</p> <p>Endocrine and reproductive systems Pituitary hormones, growth hormone and thyroid hormones</p>	

Hormones that affect water balance, calcium/phosphate, metabolism, glucose levels and stress.

The male reproductive system, male hormones

The female reproductive system, ovarian cycle, how female hormones affect ovarian and uterine changes, and the physiology underlying coitus

Hormonal changes during pregnancy, birth and lactation

Effects of drugs active on the endocrine and reproductive systems

Reading List:

Vander's Human Physiology

Eric P. Widmaier, Hershel Raff, Kevin Strange

Rang & Dale's Pharmacology

H. P. Rang, J. M. Ritter, R. J. Flower, G. Henderson

Further reading available <http://www.guidetopharmacology.org/>

Class teaching hours & methods

Contact hours: Lecture - 20 hrs

Tutorial – 10 hrs

Independent / directed study – 170 hrs

MyPlace page

TBA

Assessment

Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate

Summative: MCQ Exam (80%), Coursework (20%)

Resit: MCQ Exam (100%)

BM214 Being a Biomolecular Scientist 2 Class descriptor

Class Details	
Year	2
Level	SCQF 8
Credits	40
Semester	1 and 2
Class staff	
Class coordinator: Dr Alan McCrudden	
Teaching staff: All staff	
Class objectives	
<ol style="list-style-type: none"> 1. To develop the fundamental practical skills required for a biochemist 2. To develop the fundamental practical skills required for an immunologist 3. To develop the fundamental practical skills required for a microbiologist 4. To develop the fundamental practical skills required for a pharmacologist 5. To develop the fundamental skills in presentation and teamwork 	
Summary of content	
<p>The class will have the following sections:</p> <ol style="list-style-type: none"> 1. Laboratories: Biochemistry, Biomedical Science, Immunology, Microbiology, Pharmacology - with competency testing to ensure students have the required expertise in a particular method 2. Student led Workshop and presentations: Science and the media, Science and technology, Science and Society 3. Staff led workshops: Statistics, ethics, presentation skills 	
Class teaching hours & methods	
<p>Contact hours: Practical Laboratory experience : 36 hrs Tutorials/workshops: 72 hrs Independent / directed study: 292 hrs</p>	
Reading List	
<p>Core Maths for the Biosciences. REED. Oxford ISBN978-0-19-921634-5</p> <p>Practical Skills in Biomolecular Sciences. REED, HOLMES, WEYERS, JONES. Pearson. ISBN 978-1-292-10073-9</p> <p>Biomedical Science Practice. GLENCROSS, AHMED, WANG. Oxford. ISBN 978-0-19-953329-9</p> <p>Research papers and review articles as directed</p>	
Assessment	
<p>Formative Including: workshop performance – peer assessment can be used; use of PRS in lectures and workshops; online quizzes.</p> <p>Summative Coursework: 80%. Integrated report and specific tests (for practical skills competency Coursework: 20%. Presentation and team work</p> <p>Resit Students will have the chance to retake practical competency testing. Students will have the opportunity to submit reworked integrated lab assessments.</p>	

BM321 Biomedical Biochemistry
Class descriptor

Class Details	
Year	3
Level	SCQF 9
Credits	20
Semester	1
Class staff	
Class coordinator: Prof Susan Pyne	
Teaching staff: Dr Luke Chamberlain, Dr Andrew Paul, Dr Benjamin Pickard, Prof Susan Pyne, Dr Edward Rowan.	
Class objectives	
<ol style="list-style-type: none"> 1. To understand aspects of the dynamics and regulatory processes involving proteins and lipids. 2. To understand and appreciate the key features of cellular signalling and associated molecular mechanisms that regulates gene transcription. 3. To understand the key features of membrane and organelle trafficking. 4. To understand the basis of molecular and cellular toxicity underlying tissue/organ dysfunction and organism pathologies. 5. To understand the genomic basis of eukaryotic/human disorders and disease. 	
Summary of content	
<p>Overview: To introduce students to the role of fundamental biochemical concepts affecting molecular and cellular function that are relevant to a number of pathophysiologyes.</p> <p>Syllabus breakdown: This class is divided into five blocks to introduce students to – protein and lipid function and dynamics; cell signalling; membrane and organelle trafficking; molecular and cellular toxicity; and genomic instability that underlie disease and associated diagnosis. Each block is then subdivided to cover a variety of topics relevant to that block including protein interactions with proteins, lipids, carbohydrates, DNA and the function of lipids, the molecular basis to second messenger-mediated regulation of gene transcription, cellular secretory pathways reliant on exo/endocytosis and sub-cellular targeting, cellular responses to stress and toxic challenge, and features of simple and complex genetic disorders, disease diagnosis and the use of supporting bioinformatics analyses.</p>	
Class teaching hours & methods	
Contact hours: Lecture - 20 hrs	
Tutorial – 10 hrs	
Independent / directed study – 170 hrs	
Reading List	
Molecular Biology of The Cell. Alberts, Johnson, Lewis, Morgan, Raff, Roberts, Walter (sixth edition)	
Clinical Biochemistry. AHMED. Oxford. ISBN: 978-0-19-953393-0	
Research papers and review articles as directed	
Assessment	
Formative:	Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate
Summative:	Exam (80%), Coursework (20%)
Resit:	Exam (100%)

BM322 Biomedical Pharmacology
Class Descriptor

Class Details	
Year	3
Level	SCQF 9
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Chris Prior	
Teaching staff: Dr Paul Coats, Dr Susan Currie, Prof Nigel Pyne, Prof Robin Plevin, Prof John McCarron	
Class objectives	
<ol style="list-style-type: none"> 1. To develop understanding of cardiovascular pathophysiology 2. To develop understanding of respiratory disease 3. To develop understanding of chronic inflammatory diseases 4. To develop understanding of liver and kidney dysfunction 5. To develop understanding of haematopoietic-linked diseases 	
Summary of content	
<p>Overview: This class reviews certain aspects of a number of major human disease conditions and their treatment with established and novel medicines with application of recent concepts that may lead to novel drug therapy, enable students to critically evaluate original research papers and enhance communication skills.</p> <p>Syllabus breakdown, the class will cover the following topics:</p> <p>Cardiovascular pathophysiology The development of atherosclerosis, hypertension, angina, myocardial infarction and cardiac failure The autonomic nervous system and control of cardiovascular function Drugs acting on adrenoceptors, nitrate vasodilators and calcium channel antagonists in the treatment of hypertension and angina Drugs that act as positive inotropes and their use in the treatment of cardiac failure Drugs used to treat cardiac arrhythmias and their clinical uses and contraindications</p> <p>Respiratory disease Treatment of respiratory disease and accessing and interpreting evidence based therapeutic strategies Pathogenesis of asthma, COPD, idiopathic pulmonary fibrosis and cystic fibrosis and genetic basis of disease Medicines and new drugs used to treat respiratory disease</p> <p>Chronic inflammatory diseases Cellular pathophysiology of chronic inflammatory diseases with a focus on rheumatoid arthritis The mechanism of action of non-steroidal anti-inflammatory drugs (NSAIDs), Steroids/glucocorticoids, the DMARDs and the Biologics in treating RA Immunopathology of other chronic inflammatory conditions and variations in drug use across these different conditions</p> <p>Liver and kidney dysfunction Diseases linked to liver and kidney dysfunction, including, but is not limited to; hypercholesterolemia and high dietary cholesterol intake linked to atherosclerosis</p>	

The rennin-angiotensin system and conditions linked to high blood pressure as result of kidney pathology
Medicines such as the statins, loop diuretics, rennin-angiotensin inhibitors and angiotensin receptor blockers will be developed

Haematopoietic-linked diseases

Haematopoietic linked diseases and drugs used for their treatment, including primary anaemias such as macrolytic anaemia, and secondary anaemias due to kidney dysfunction and as a consequence of cancer chemotherapy
Haematopoietic subsets cells in coagulation, wound healing and tissue repair and their link to atherosclerosis

Class teaching hours & methods

Contact hours: Lecture - 15 hrs
Tutorial – 10 hrs
Independent / directed study – 175 hrs

Myplace page

BM322 Biochemical Pharmacology

Assessment

Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate
Summative: Exam (70%), Coursework (30%)
Resit: Exam (100%)

Reading List

Ritter, J. M., Flower, R. J. and Henderson, G. (2015) Rang and Dale's Pharmacology, 8th Edition, Churchill Livingstone.

BM323 Biomedical Immunology
Class descriptor

Class Details	
Year	3
Level	SCQF 9
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Dino Rotondo	
Teaching staff: Prof Craig Roberts, Dr Dino Rotondo, Dr Catherine Lawrence	
Class objectives	
<ol style="list-style-type: none"> 1. Demonstrate an understanding of Immunodiagnostics: Principles of immunoassays: homogeneous and heterogeneous immunoassays 2. Demonstrate an understanding of the basis and use of clinical immunoassays 3. Be aware of the interactions in Modulation of the Immune system in pregnancy 4. Demonstrate an understanding of mucosal immunology 5. Understand the principles and drug targets in immunopharmacological modulation. 	
Summary of content	
<p>Overview: The class will cover various aspects related to clinical immunology.</p> <p>Syllabus breakdown:</p> <p>Topic 1: Immunodiagnostics: Principles of immunoassays: homogeneous and heterogeneous immunoassays</p> <p>Topic 2: Clinical immunoassays</p> <p>Topic 3: The Immune System in pregnancy</p> <p>Topic 4: Mucosal Immunity</p> <p>Topic 5: Immunopharmacology</p>	
Class teaching hours & methods	
Contact hours: Lecture - 20 hrs	
Tutorial - 10 hrs	
Independent / directed study – 170 hrs	
MyPlace page	
http://classes.myplace.strath.ac.uk/course/view.php?id=21678&notifyeditingon=1	
Assessment	
Formative: Including: workshop performance, use of PRS in lectures and workshops;	
Summative: Exam (70%), Coursework (30%) – MCQ exam	
Resit: Exam (100%)	

BM324 Biomedical Immunology
Class descriptor

Class Details	
Year	3
Level	SCQF 9
Credits	20
Semester	1
Class staff	
Class coordinator: Dr Charles Kennedy	
Teaching staff: Dr Eddie Rowan, Prof Nigel Pyne, Dr Charles Kennedy, Dr Margaret Cunningham, Dr Chris Prior	
Class objectives	
<ol style="list-style-type: none"> 1. To develop understanding of how drugs act at receptors and how these actions can be quantified. 2. To develop understanding of the major cell signaling mechanisms in cells. 3. To develop understanding of the properties and distribution of adrenoceptors and therapeutic uses of related drugs. 4. To develop understanding of the properties and functions of eicosanoids and autacoids and therapeutic uses of related drugs. 5. To develop understanding of the properties and distribution of GABA and glutamate receptors and therapeutic uses of related drugs. 	
Summary of content	
<p>Overview: This class is a mixture of lectures and tutorials and aims to develop skills that will form core learning for both pharmacology and experimental research in the subsequent years of the pharmacology degrees, including scientific writing skills and analysis and interpretation of experimental data.</p> <p>Syllabus breakdown, the class will cover the following:</p> <p>Pharmacological and molecular basis of receptor signalling</p> <ul style="list-style-type: none"> • know that drugs bind to orthostatic and allosteric binding sites on receptors. • know the meaning of the terms agonist, partial agonist, inverse agonist. • know the meaning of the terms competitive (surmountable), non-competitive (non-surmountable) uncompetitive antagonism. • know that drugs have intrinsic activity/efficacy. • know how the law of mass action relates to how drugs interact/compete with receptors. • know how to plot concentration-response curves and how they are affected by competitive and non-competitive antagonists. • know how antagonistic activity is quantified by affinity constant and pA₂ values. • understand what is meant by specific and non-specific drug actions. • understand the major receptor signalling mechanisms in cells, including G-protein coupled receptors, interleukin receptors, receptor tyrosine kinase and TNF receptors. • demonstrate the pharmacological and therapeutic applications of targeting G-protein coupled receptor signalling in disease. • understand the principles governing the flow of Na⁺, K⁺, Ca²⁺ and Cl⁻ through ion channels in excitable cell membranes and know the effects and therapeutic uses of drugs that act on these channels. 	

Adrenoceptors

- be familiar with the developments leading up to the currently accepted classification of adrenoceptors and their sub-types.
- know the general molecular structure of adrenoceptors and the intracellular components and mechanisms which link receptor activation to tissue responses.
- know the distribution and location of alpha and beta-adrenoceptors throughout the body and to know the effects mediated by their stimulation.
- be familiar with agonists and antagonists that act at the different receptor sub-types and know their therapeutic uses.

Pharmacological mediators, old and new

- understand the generation of prostaglandins, thromboxanes and leukotrienes, their pharmacology and function in pathophysiology including inflammation.
- link COX enzymes to the discovery and clinical use of aspirin, paracetamol and ibuprofen.
- understand the pharmacology of histamine and its role in disease. Link this understanding to the development of antihistamines and anti-ulcer agents.
- appreciate the diversity of local mediators and receptors which can be therapeutically targeted, including receptors activated by serine proteases (PARs) and free fatty acids.
- research the pharmacology, function and therapeutic targeting of recently discovered mediators.

Central synaptic pharmacology

- have a general knowledge of the methods used to study centrally active drugs.
- know how GABA agonists and antagonists interact with the GABA receptor to modulate the processes of pre- and post-synaptic inhibition.
- know the properties of GABAA and GABAB receptors and drugs that selectively act at these receptors and at the GABAA receptor-associated chloride ion channel.
- know about the terms agonist, inverse agonist and antagonist in relation to the mechanism of action of drugs that act at benzodiazepine binding sites.
- know the properties of subtypes of excitatory amino acid receptors and how these are defined.
- have an understanding of the potential therapeutic applications of NMDA antagonists.

Reading List:

Recommended text book: Rang and Dale's Pharmacology, 7th or 8th edition: Rang, Dale, Ritter, Fowler & Henderson. Elsevier

Class teaching hours & methods

Contact hours: 30 hours (lectures & tutorials/workshops)

Independent / directed study – 170 hrs

MyPlace page

TBA

Assessment

Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate

Summative: Exam (70%), Coursework (30%)

Resit: Exam (100%)

BM325 Fundamental Immunology — Class descriptor

Class Details	
Year	3
Level	SCQF 9
Credits	20
Semester	1
Class staff	
Class coordinator: Dr Dino Rotondo	
Teaching staff: Prof Billy Harnett, Dr Dino Rotondo, Dr Chris Carter, Dr Catherine Lawrence,	
Class objectives	
<ol style="list-style-type: none"> 1. Demonstrate an understanding of how pathogens are recognised. 2. Know the principles underlying how immune cells are activated. 3. Demonstrate an understanding of the cytotoxic mechanisms used by immune cells. 4. Understand how the immune system is regulated. 5. Understand the principles of immunological memory. 	
Summary of content	
<p>Overview: The class will cover spectrum of immune cell responses and detailed mechanisms utilised by immune cells in the recognition, response and regulation (3Rs of immunity) of immune cell activity.</p> <p>Syllabus breakdown, the class will cover the following 5 topics:</p> <p>Pathogen recognition Pathogen recognition receptors Role of different antibody classes Role of T cells and MHC restriction Importance of site of infection: immunoprivileged sites</p> <p>Immune activation Antigen presentation and T cells: signalling responses TCR complex and activation Cell signalling mechanisms- intracellular B cell receptor and activation</p> <p>Cell killing mechanisms NK cells and cytotoxicity Cytotoxic T cells Innate cells: macrophages, neutrophils, granulocytes</p> <p>Regulation of Immune cells T cell subsets Regulatory T cells Cytokine networks</p> <p>Immunological memory What are memory cells? Methods of identifying memory cells Vaccination</p>	
Class teaching hours & methods	
Contact hours: Lecture - 20 hrs	
Tutorial – 10 hrs	
Independent / directed study – 170 hrs	
Reading List	
Janeway's Immunobiology, 9 th Edition. Kenneth Murphy and Casey Weaver. Garland Science, New York and London. ISBN-10: 0815345054	

Kuby Immunology: 7th Edition. Judy Owen, Jenni Punt and Sharon Stranford. W. H. Freeman, New York. ISBN-10: 1464137846

Research papers and review articles as directed

Assessment

Formative:

Summative: Exam (70%), Coursework (30%)

Resit: Exam (100%)

BM326 Fundamental Biochemistry
Class descriptor

Class details	
Year	3
Level	SCQF 9
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Martin Wiese	
Teaching staff: Dr Luke Chamberlain, Dr Andrew Paul, Dr Benjamin Pickard, Dr Arnaud Javelle, Dr Martin Wiese.	
Class objectives	
<ol style="list-style-type: none"> 1. Demonstrate an appreciation of the key features of protein structure, properties and interactions. 2. Know the principles underlying successful protein purification. 3. Demonstrate an appreciation of the key principles of enzymology. 4. Understand protein structure-function relationship. 5. Understand the properties, function and localization of the major cellular macromolecules. 	
Summary of content	
<p>Overview: To introduce students to the major macromolecules of living cells with particular emphasis on protein structure, function, activity, modification, localisation and purification. Syllabus breakdown: This class is divided into five blocks – Exploring Proteins and Proteomes; Protein structure; Enzyme catalysis and kinetics; Structure and function of proteins; and Biochemistry in Drug Discovery. Each block is then subdivided to cover a variety of topics relevant to that block including protein purification, detection and proteomics analysis in block 1; protein folding, modification, interaction and turnover in block 2; enzyme catalysis, regulation and pathways in block 3; examples of protein structure-function relation in block 4; as well as biochemical approaches towards drug discovery including case studies in block 5. This class will also include sections on protein structure display and enzyme activity calculations.</p>	
Reading list	
<p>Biochemistry, Berg, Tymoczko, Stryer, WH Freeman Palgrave Macmillan, 7th edition Molecular Biology of the Cell, Alberts, Johnson, Lewis, Morgan, Raff, Roberts, Walter, Garland Science, 6th edition Current reviews and original research articles</p>	
Class teaching hours & methods	
<p>Contact hours: Lecture - 20 hrs Tutorial/Workshop – 5 hrs Independent / directed study – 175 hrs</p>	
MyPlace page	
TBA	
Assessment	
Formative:	Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate
Summative:	Exam (70%), Coursework (30%)
Resit:	Exam (100%)

BM327 Being a Biomolecular Scientist 3
Class Descriptor

Class Details	
Year	3
Level	SCQF 9
Credits	40
Semester	1 and 2
Class staff	
Class coordinator:	Dr Chris Prior
Teaching staff:	All staff
Class objectives	
<ol style="list-style-type: none"> 5. To consolidate the generic practical skills in biomolecular science 6. To further develop students practical skills in specific discipline (A) that align with the class choices of the degree program 7. To further develop students practical skills in specific discipline (B) that align with the class choices of the degree program 8. To further develop report writing and analytical skills 9. To further develop the fundamental skills in presentation and teamwork 	
Summary of content	
<ol style="list-style-type: none"> 1. Laboratories: The class will have different laboratories and students will take those that align with their degree stream: Biochemistry, Biomedical Science, Immunology, Microbiology and Pharmacology. Each laboratory is associated with competency testing to ensure students have the required expertise in a particular method and students will have to pass competency tests on particular laboratory skills. 2. Staff led workshops/tutorials: These will either (i) align with particular laboratory sessions and ensure that students are well prepared for the particular lab or (ii) cover key topics that tie in will all lab sessions e.g. ethics, statistical analysis of data. 3. Student led workshops: These will cover published research papers that utilise the type of methods covered in lab sessions. 	
Class teaching hours & methods	
Contact hours:	
Practical Laboratory experience:	60 hrs
Tutorials / workshops:	45 hrs
Independent / directed study:	295 hrs
MyPlace page	
BM327 Being a Biomolecular Scientist 3, BM327 Biochemistry, BM327 Biomedical Science, BM327 Immunology, BM327 Microbiology, BM327 Pharmacology.	
Assessment	

Formative

Performance in laboratory and CAL sessions.

Summative

The class is assessed 100% by coursework components. Students will complete four integrated assessments (two in each semester) that will align with their degree disciplines. The four assessments will comprise a mix of formats, that may include: writing laboratory reports, delivering presentations, writing abstract reports, completing in-session MCQ tests, and performing a practical laboratory examination. In addition, student competency will be tested in key practical skills selected for Biomedical Scientists.

Resit

Students will have the chance to retake practical skill competency testing. Students will have the opportunity to be reassessed in reworked assessment components.

Reading list

The reading lists for the core science underpinning the laboratory sessions are those specified within the associated knowledge-based classes for each discipline.

In addition, the class is supported by bespoke safety instructions and laboratory guidance manuals which are compulsory reading for the class.

BM328 Fundamental Biomedical Science: Haematology and Immunodiagnostics
Class descriptor

Class Details	
Year	3
Level	SCQF 9
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Dino Rotondo	
Teaching staff: Prof Craig Roberts, NHS staff (Gartnavel Hospital and Glasgow Royal Infirmary)	
Class objectives	
<ol style="list-style-type: none"> 1. Demonstrate an understanding of Immunodiagnostics: Principles of immunoassays: homogeneous and heterogeneous immunoassays, Examples of clinical immunoassays 2. Understand Immunohaematology and Transfusion science 3. Demonstrate an understanding of Haematology 4. Understand the the regulatory framework that governs the collection, storage and therapeutic use of blood and blood products 	
Summary of content	
<p>Overview: To introduce haematology and immunohaematology and aspects of clinical laboratory practice</p> <p>Syllabus breakdown:</p> <p>Principles and applications of immunodiagnostics Principles of antibody assays, flow cytometry and fluorescence microscopy Assays for monitoring the progression of HIV infection Immunodiagnostics for pregnancy and allergy</p> <p>Immunohaematology and transfusion science Blood groups: ABO, Rh Selection, preparation, storage and use of blood components Transfusion microbiology Quality control and regulatory requirements in transfusion science</p> <p>Haematology Role, structure and function of bone marrow, red and white cells Nature and diagnosis of anaemias, haemoglobinopathies and thalassaemias Haematological malignancy Haemostasis and thrombosis</p>	
Class teaching hours & methods	
Contact hours: Lecture - 20 hrs Tutorial– 10 hrs Independent / directed study – 170 hrs	
Reading List	
Transfusion and Transplantation Science. KNIGHT: Oxford. ISBN978-0-19-953328-2 Haematology. Moore, Knight and Blann: Oxford University Press. ISBN-10: 0199668868 Janeway's Immunobiology, 9 th Edition. Kenneth Murphy and Casey Weaver. Garland Science, New York and London. ISBN-10: 0815345054 Kuby Immunology: 7th Edition. Judy Owen, Jenni Punt and Sharon Stranford. W. H. Freeman, New York. ISBN-10: 1464137846	

Research papers and review articles as directed

Assessment

Formative: Including: workshop performance

Summative: Exam (70%), Coursework — an in-class MCQ exam (30%)

Resit: Exam (100%)

Special Requirements

As this is a critical accredited class, a minimum attendance rate of $\geq 75\%$ is required, which if not achieved could result in NQ (not qualified) for this class. Thus, the student may not be permitted to sit the degree exam.

BM329 Biomedical Microbiology
Class descriptor

Class Details	
Year	3
Level	SCQF 9
Credits	20
Semester	2
Class staff	
Class coordinator: TBA	
Teaching staff: Dr Paul Herron, Dr Paul Hoskisson, Dr Nick Tucker, Dr Martin Wiese	
Class objectives	
<ol style="list-style-type: none"> 1. Understand the difference between taxonomic and phylogenetic classification of microorganisms. 2. Understand the principles that underpin bacterial, fungal and viral identification. 3. Understand the structure, function and growth characteristics of bacteria, viruses, fungi and protozoa. Apply that knowledge to their role in disease development. 4. Describe the distinguishing features, pathogenic properties, epidemiology, treatment and control of medically important bacteria, viruses, fungi and protozoa. 	
Summary of content	
<p>Overview: To promote an understanding of the mechanisms of infectious disease and the means by which their causative agents can be identified</p> <p>Syllabus breakdown: Following an introduction to the means by which microorganism are classified and identified, during this class, students will gain an understanding of the principles of infectious disease through the grouping of diseases on the basis of their site of infection (Respiratory tract; circulatory system & skin; intestinal tract & urinary tract). In each case representative bacterial, fungal and viral diseases with respect to their identification and mechanisms of pathogenicity will be examined.</p> <p>Reading list:</p> <p>Patrick Murray Ken Rosenthal Michael Pfaller. 2015. Medical Microbiology. 8th Edition. Elsevier, UK. Paperback ISBN: 9780323299565</p> <p>Michael T. Madigan (Author), John M. Martinko (Author), Kelly S. Bender (Author), Daniel H. Buckley (Author), David A. Stahl (Author). 2011. Brock Biology of Microorganisms. 13th edition. Pearson Education, UK). ISBN-13: 978-0321735515</p>	
Class teaching hours & methods	
Contact hours: Lecture - 15 hrs	
Tutorial - 10 hrs	
Independent / directed study - 175 hrs	
MyPlace page	
TBA	
Assessment	
<p>Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate</p> <p>Summative: Exam (80%), Assessment (20%)</p> <p>Resit: Exam (100%)</p>	

BM330 Fundamental Microbiology
Class descriptor

Class Details	
Year	3
Level	SCQF 9
Credits	20
Semester	1
Class staff	
Class coordinator: Dr Paul A Hoskisson	
Teaching staff: Dr Paul Herron, Dr Paul Hoskisson, Dr Nick Tucker, Dr Arnaud Javelle	
Class objectives	
<ol style="list-style-type: none"> 1. Understand the basis of gene regulation in microorganisms and how this influence bacterial physiology 2. Describe the key mechanisms that drive evolution of microorganisms 3. Demonstrate an understanding of the principles of mathematical modelling in predicting microbial growth and death. 4. Describe the basis of microbial form and function and how bioinformatics are fundamental to microbiology 	
Summary of content	
<p>Overview: This class will introduce the basics of microbial physiology, gene regulation and the plasticity of microbial metabolism and how this is underpinned by evolutionary biology.</p> <p>Syllabus breakdown: The module will enable students to understand how genes are regulated at the level of transcription, translation and post-translationally and how these mechanisms contribute to microorganisms sensing and responding to their environment. The module will also cover how mathematics, bioinformatics and computational biology can be used to describe and predict microbial growth and metabolism. Finally this module will cover the diversity of form and function in microorganisms and link how regulatory processes govern cell morphology.</p>	
Class teaching hours & methods	
Contact hours: Lecture - 15 hrs	
Tutorial – 10 hrs	
Independent / directed study – 175 hrs	
MyPlace page	
TBA	
Assessment	
<p>Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate</p> <p>Summative: Exam (70%), Assessment (30%) – 40 MCQs and 2 essays from 4</p> <p>Resit: Exam (100%)</p>	
Reading list	
<p>Text Books</p> <ul style="list-style-type: none"> • Medical Microbiology, Murray, Kobayashi, Pfaller, & Rosenthal. Mosby Publishing. • Biology of Microorganisms, Brock, Madigan, Martinko, and Parker. Prentice Hall Publishing. • Genes IX, Benjamin Lewin (earlier versions Genes V-IX will be fine too) • Prokaryotic Gene Expression, Simon Baumberg Oxford University Press • Stanbury, P. F., Whittiker, A., & Hall, S. J. (1995). Principles of Fermentation. Technology. Butterworth & Heinmann, London. 	

- Pirt, S. J. (1975). Principles of Microbe and Cell Cultivation. Oxford: Blackwell Scientific Publications.

Papers and reviews relevant to this course

- Hoskisson, P. A. & Hobbs, G. (2005) Continuous culture - making a comeback? *Microbiology* 151, 3153–3159.
- Introduction to Genetic Analysis <http://www.ncbi.nlm.nih.gov/books/NBK21942/>
- Thomas, Christopher M., and Kaare M. Nielsen. (2005) Mechanisms of, and barriers to, horizontal gene transfer between bacteria. *Nature reviews microbiology* 3: 711-721.
- Ting, C. S., Rocap, G., King, J. & Chisholm, S. W. (2002). Cyanobacterial photosynthesis in the oceans: the origins and significance of divergent light-harvesting strategies. *Trends Microbiol* 10, 134–142.
- Whitford, M. F., Teather, R. M. & Forster, R. J. (2001). Phylogenetic analysis of methanogens from the bovine rumen. *BMC Microbiol* 1, 5.
- Browning, D. F. & Busby, S. J. W. The regulation of bacterial transcription initiation. *Nat Rev Micro* 2, 57–65 (2004).
- Harrison, F., Muruli, A., Higgins, S., & Diggle, S. P. (2014). Development of an *Ex Vivo* Porcine Lung Model for Studying Growth, Virulence, and Signaling of *Pseudomonas aeruginosa*. *Infection and Immunity*, 82(8), 3312–3323.
- Diggle, S. P. (2010). Microbial communication and virulence: lessons from evolutionary theory. *Microbiology* 156: 3503-3512
- Morris, J. J., Lenski, R. E. & Zinser, E. R. (2012). The Black Queen Hypothesis: evolution of dependencies through adaptive gene loss. *MBio* 3.
- Brockhurst, M. A. et al. (2014). Running with the Red Queen: the role of biotic conflicts in evolution. *Proceedings of the Royal Society B: Biological Sciences* 281, 20141382–20141382.

BM422 Advanced Biomedical Science: Molecular and Cellular Pathology
Class descriptor

Class Details	
Year	4
Level	SCQF 10
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Alan McCrudden	
Teaching staff: Dr Ben Pickard, Dr Marie Boyd, NHS staff	
Class objectives	
<ol style="list-style-type: none"> 1. Diagnose disease based on cell and molecular pathology techniques 2. Define the molecular basis of cell injury caused by toxic compounds and drugs 3. Describe the morphological changes associated with cell damage, and relate this to specific disease processes 4. Appreciate the role of the biomedical scientist in the histopathology lab 	
Summary of content	
<p>Overview: This class aims to provide a basis for the diagnosis of disease at the cellular level.</p> <p>Syllabus Breakdown</p> <p>Diagnosis disease based on cell and molecular pathology techniques Omic technologies&applications in systems biology and diagnostics; Molecular cytogenetics and genetics, technologies for genotyping for genetic diseases; Molecular diagnostics and cancer; case study workshop.</p> <p>Molecular basis of cell injury caused by toxic compounds and drugs Cell growth disturbances (hyperplasia and metaplasia); Neoplasia (types of tumour and classification); grading and stages of tumours, histological evaluation and metastasis; Cellular aging, replicative senescence; workshop in cancer diagnosis, case studies.</p> <p>Morphological changes associated with cell damage, and relate this to specific disease processes Different forms of cell damage, indicators and mechanisms; Morphology of cell injury: cellular swelling, fatty changes; degenerations, depositions and autophagy; Pathologic calcification and diagnosis based on cell morphology.</p> <p>Role of the biomedical scientist in the histopathology lab Understanding surgical histopathology & analysis; Understanding cervical screening programme, process & quality assurance; Forensic pathology and post-mortem specimens; breast screening pathology – The breast screening programme; Technical aspects in NHS labs and role of specialist biomedical scientist.</p>	
Class teaching hours & methods	
Contact hours: Lecture – 20 hrs	
Tutorial – 10 hrs	
Independent / directed study – 170 hrs	
Reading List	
Histopathology. ORCHARD. Oxford. ISBN 978-0199574346	

Cytopathology. SHAMBAYATI. Oxford. ISBN 978-0199533923

<http://www.mcns.scot.nhs.uk/types-of-network/national-networks-in-scotland/diagnostic-networks/>

<http://www.nsd.scot.nhs.uk/services/screening/cervicalscreening/index.html>

<https://www.ukas.com/services/accreditation-services/clinical-pathology-accreditation>

<http://www.cancerscreening.nhs.uk/cervical/quality-assurance.html>

<https://www.gov.uk/topic/population-screening-programmes/screening-quality-assurance>

Research papers and review articles as directed

Assessment

Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate

Summative: Exam (75%), Class test: Essay (20%)

Resit: This is a final year class and there is no resit opportunity in the resit diet. If a student fails and has mitigating circumstances they are permitted to resit in the next academic year.

BM423 Clinical Biochemistry
Class descriptor

Class Details	
Year	4
Level	SCQF 10
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Benjamin Pickard	
Teaching staff: NHS staff, Dr Benjamin Pickard	
Class objectives	
<ol style="list-style-type: none"> 1. Understand the key concepts and biochemical approaches that underpin protein crystallography and associated protein structure modelling as applied to basic research and drug discovery/development. 2. Understand the basics of commercial drug discovery and the application of biochemical techniques to recombinant production of drugs/therapeutics and genetically modified crops. 3. Understand and recognise the impact of biochemical approaches in the development and maintenance of genetically modified cell models for basic and applied medical research. 4. Understand and recognise the impact of biochemical approaches in the development and maintenance of genetically modified animal models for basic and applied medical research. 5. Understand and recognise the impact of genome editing and advanced tissue culture in basic research and regenerative medicine. 	
Summary of content	
<p>Overview: This class is specifically tailored towards the degree program accredited by the Institute of Biomedical Scientists – hence, a formal requirement for those on the Biomedical Science degree program. Clinical biochemistry combines the understanding of analytical devices, systems biology in health and disease, and an appreciation of how diagnoses can be practically applied in appropriate treatment decisions. The exposure to external clinical biochemist lecturers from Glasgow hospitals, together with the lab visit, provides a very clear description of the career path that may be taken by the students in the future. As such, it represents the culmination of the biomedical science degree strand as students prepare for careers after university. For those not pursuing that route, the content is also a fascinating examination of a wide range of human disease processes.</p> <p>Syllabus breakdown:</p> <p>Analytical and professional side of the subject area. The major diagnostic pieces of equipment in the context of tests used, and ‘a day in the life of a Clinical Biochemist’. The regulatory principles of quality control, standardisation, precision, and bias.</p> <p>Major organ/disease systems: pregnancy/infertility, calcium/bone, diabetes, liver, poisoned patient, kidney, lipids, thyroid, heart and cancer. Aspects of nutrition: vitamins/micronutrients, dietary advice in obesity, and the monitoring of enteral/parenteral feeding.</p> <p>Cancer diagnosis markers from science through to case studies are a particular focus e.g. use of prostate specific antigen (PSA).</p> <p>Toxicology, future point-of-care devices, and a simple demonstration of urine analysis.</p> <p>Trip to clinical biochemistry laboratories at the Glasgow Royal Infirmary as an opportunity to see the theory in action.</p>	
Class teaching hours & methods	
Contact hours: Lecture - 15 hrs	

Tutorial – 15 hrs
Independent / directed study – 170 hrs
Reading List
Clinical Biochemistry. AHMED. Oxford. ISBN: 978-0-19-953393-0 www.nsc.nhs.uk/pdfs/criteria.pdf Research articles and review papers as directed
Assessment
Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate Summative: Exam (70%), MCQ/Short answer Class test (30%). Resit: This is a final year class and there is no resit opportunity in the resit diet. If a student fails and has mitigating circumstances they are permitted to resit in the next academic year.

BM424 Clinical Microbiology
Class descriptor

Class Details	
Year	4
Level	SCQF 10
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Arnaud Javelle Teaching staff: Dr Katherine Duncan, Dr Paul Herron, Dr Paul Hoskisson, Dr Arnaud Javelle, Prof Yvonne Perrie, Prof Craig Roberts, Dr Nicholas Tucker,	
Class objectives	
<ol style="list-style-type: none">1. Understand the principles of epidemiology in infectious diseases2. Understand the diagnosis of microbial identification using genotyping and viable and non-viable approaches3. Understand the mechanisms of antimicrobial agents and antimicrobial resistance as well as the significance of biofilm in antimicrobial resistance.4. Understand the mechanisms and importance of infection control in the immune-compromised host.	
Summary of content	
<p>Overview: To promote an understanding of the principles of Clinical Microbiology from the perspective of Diagnosis, Treatment, Epidemiology and Control.</p> <p>Syllabus breakdown: This class is composed of five distinctive and interconnected blocks.</p> <ul style="list-style-type: none">- The first block addresses diagnosis, including identification of microbes using traditional culture methods and contemporary molecular biological (non-culture) methods, host immune responses. Importantly, advanced genotyping methods will be introduced.- The second block addresses treatment through mechanisms of antibiotic therapy and antibiotic resistance. The importance of biofilm in antibiotic resistance will also be included.- The third block investigates the concept of epidemiology, concerning pathogenic microbes' entry, exit and transmission and also the pathogenic consequences for the host. <p>The fourth block will address the issues of emerging diseases.</p> <ul style="list-style-type: none">- The last block addresses infectious diseases from epidemiological perspective on issues of vaccination, environmental considerations and compromised hosts. <p>Reading list:</p> <p><i>For General Microbiology</i> Brock Biology of Microorganisms, 15th Edition Michael T. Madigan, John M. Martinko, Kelly S. Bender, Daniel H. Buckley, David A. Stahl, Thomas Brock.</p> <p><i>For Medical Microbiology</i> Medical Microbiology, 8th edition Patrick R. Murray, Ken S. Rosenthal, Michael A. Pfaller.</p> <p><i>For Clinical Microbiology</i> Microbiology: A Clinical Approach 2nd Edition Anthony Strelkauskas, Angela Edwards , Beatrix Fahnert , Greg Pryor, Jennifer Strelkauskas</p>	

Class teaching hours & methods
Contact hours: Lectures - 15 hrs / Tutorials – 10 hrs Independent / directed study – 170 hrs
My Place page
TBA
Assessment
Formative: Including: workshop performance – peer assessment; use of quizzes in lectures. Summative: Exam (70%), data analysis, case studies and problem solving (30%) Resit: This is a final year class and there is no resit opportunity in the resit diet. If a student fails and has mitigating circumstances they are permitted to resit in the next academic year.

BM425 Advanced Microbiology
Class descriptor

Class Details	
Year	4
Level	SCQF 10
Credits	20
Semester	1
Class staff	
Class coordinator: Dr Paul Herron Teaching staff: Dr Paul Herron, Dr Paul Hoskisson, Dr Nick Tucker, Dr Kate Duncan, Dr Arnaud Javelle, Microbiology Teaching Fellow (TBA).	
Class objectives	
<ol style="list-style-type: none"> 1. Understand the means analyze and interpret the genomes of microorganisms. 2. Understand the mechanisms that permit bacteria to sense and interact with the environment 3. Understand of the mechanisms of bacterial growth and development. 4. Understanding microbial populations through genomic analysis 	
Summary of content	
<p>Overview: To promote an understanding of the genomic basis of bacterial structure, growth, development and community structure through the molecular control of gene expression and protein activity</p> <p>Syllabus breakdown: This class will address advanced aspects of molecular microbiology. Underpinning this will be the provision of an understanding of bioinformatic analysis of microbial genomes. This will provide the foundation with which students will learn the molecular mechanisms by which bacteria respond to a changing environment through modulating gene expression and protein activity. Finally students will gain an understanding of the population structure and interactions of microbial communities.</p>	
Class teaching hours & methods	
<p>Contact hours: Lecture - 15 hrs Tutorial – 10 hrs Independent / directed study – 175 hrs</p>	
Reading List	
Brock Biology of Microorganisms (2019). Madigan, M. T., Bender K. S., Buckley, D. H., Sattley, W. M. and Stahl, D. A. Fifteenth Edition. Pearson. ISBN 10: 1-292-23510-1	
Assessment	
<p>Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate</p> <p>Summative: Exam (70%), Critical Analysis and Presentation Skills (30%)</p> <p>Resit: This is a final year class and there is no resit opportunity in the resit diet. If a student fails and has mitigating circumstances they are permitted to resit in the next academic year.</p>	

BM426 Clinical Immunology
Class descriptor

Class Details	
Year	4
Level	SCQF 10
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Hui-Rong Jiang	
Teaching staff: Dr Alan McCrudden, Dr Hui-Rong Jiang, Dr Catherine Lawrence and Prof Billy Harnett	
Class objectives	
<ol style="list-style-type: none"> 1. To develop an understanding of immune responses associated with transplantation 2. To develop an understanding of immune responses associated with autoimmunity 3. To develop an understanding of immune responses associated with cancer 4. To develop an understanding of immune responses associated with allergy 5. To develop an understanding of immune responses associated with immunodeficiency 	
Summary of content	
<p>Overview: This module aims to give students an insight into the complex immune responses associated with clinical immunology using examples which are important immunological diseases or conditions.</p> <p>Syllabus Breakdown</p> <p>Immune responses associated with transplantation Xenografts specific cell populations Immunological problems associated with organ transplants Immunological problems associated with blood transfusion</p> <p>Immune responses associated with cancer Escape of cells from immune surveillance Immune mechanisms against cancer cells Cancer immunotherapy</p> <p>Immune responses associated with autoimmunity Central and peripheral tolerance Immunopathogenesis of autoimmune diseases Clinical autoimmune diseases</p> <p>Immune responses associated with allergy Immunological mechanisms involved in allergy Celiac disease Asthma and HDN</p> <p>Immune responses associated with immunodeficiency Primary immunodeficiency Treatment of immunodeficiency diseases</p>	
Class teaching hours & methods	
Contact hours: Lecture – 20 hrs	
Tutorial – 15 hrs	
Independent / directed study – 165 hrs	
Reading List	
Clinical Immunology. HALL, SCOTT and BUCKLAND. Oxford. ISBN 978-0199657650	
Janeway's Immunobiology, 9 th Edition. Kenneth Murphy and Casey Weaver. Garland Science, New York and London. ISBN-10: 0815345054	

Kuby Immunology: 7th Edition. Judy Owen, Jenni Punt and Sharon Stranford. W. H. Freeman, New York. ISBN-10: 1464137846

Research papers and review articles as directed

Assessment

Formative: workshop performance – peer assessment; online quizzes and computer simulations may also be used as appropriate

Summative: Exam (80%), Class test: problem solving(20%)

Resit: This is a final year class and there is no resit opportunity in the resit diet. If a student fails and has mitigating circumstances they are permitted to resit in the next academic year.

BM427 Advanced Immunology
Class descriptor

Class Details	
Year	4
Level	SCQF 10
Credits	20
Semester	2
Class staff	
Class coordinator: Professor William Harnett	
Teaching staff: Dr Chris Carter, Dr Dino Rotondo, Prof Craig Roberts, Prof William Harnett	
Class objectives	
<ol style="list-style-type: none"> 1. To develop understanding of immune responses that occur against viral infections 2. To develop understanding of immune responses that occurs against bacteria 3. To develop understanding of immune responses that occurs against protozoan parasites 4. To develop understanding of immune responses that occur against helminth parasites 5. To develop an understanding of immune responses induced by vaccination 	
Summary of content	
<p>Overview: The class will cover various aspects of protective and pathological immune responses to infections with different types of pathogens. It will also address strategies for vaccination against these pathogens.</p> <p>Syllabus Breakdown</p> <p>Viruses The type of immune responses that occur against viral infections Protective immunity to viruses Immune response to HIV infection Evasion of immune responses by viruses</p> <p>Bacteria Protective immune responses to bacteria (intra- and extracellular bacteria) Evasion of immune responses by bacteria Pathological responses to bacteria</p> <p>Parasites Immune responses to protozoan parasites (<i>Plasmodium</i>, <i>Cryptosporidia</i>, <i>Leishmania</i>, <i>Toxoplasma</i>) Immune responses to helminth infections Immunomodulation by parasitic helminths and therapeutic potential of helminth-derived immunomodulators</p> <p>Vaccination Immune responses induced by vaccination Vaccination by different routes, use of whole organisms Role of adjuvants in vaccination Role of molecular techniques in producing vaccines</p>	
Class teaching hours & methods	
Contact hours: Lecture/Workshop/Tutorial – 25 hrs <div style="text-align: right;">Independent / directed study – 175 hrs</div>	
MyPlace page	
TBA	
Reading List	
Janeway's Immunobiology, 9 th Edition. Kenneth Murphy and Casey Weaver. Garland Science, New York and London. ISBN-10: 0815345054	

Kuby Immunology: 7th Edition. Judy Owen, Jenni Punt and Sharon Stranford. W. H. Freeman, New York. ISBN-10: 1464137846

Research papers and review articles as directed

Assessment

Formative: workshop performance – peer assessment; online quizzes and computer simulations may be used as appropriate

Summative: Exam (70%), Class test: paper interpretation (30%)

Resit: This is a final year class and there is no resit opportunity in the resit diet. If a student fails and has mitigating circumstances they are permitted to take a deferred exam.

BM428 Applied Pharmacology
Class descriptor

Class Details	
Year	4
Level	SCQF 10
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Charles Kennedy	
Teaching staff: Dr Marie Boyd, Dr John Connolly, Dr Robert Drummond, Prof Nigel Pyne, Dr Susan Currie	
Class objectives	
<ol style="list-style-type: none"> 1. To develop understanding of adverse drug reactions 2. To develop understanding of cancer chemotherapy 3. To develop understanding of prevention and treatment of malaria 4. To develop understanding of bacterial and viral chemotherapy 5. To develop understanding of gastrointestinal disorders 	
Summary of content	
<p>Overview: The class aims to revise certain aspects of pathophysiology and pharmacology from previous levels, acquaint students with drugs that are currently being used and in early clinical development or recent concepts that may lead to novel drug therapy.</p> <p>Syllabus breakdown:</p> <p>Adverse drug reactions Main types and mechanisms of adverse drug reactions Clinically-relevant examples relating these to the major mechanisms involved in producing adverse drug reactions</p> <p>Cancer chemotherapy Pathophysiology relating to cancer and signalling of cell proliferation, the processes leading to the formation of metastases, the current ideas relating to immune modulation of cancer and the cell cycle in neoplastic tissue Mechanisms of action of examples from each of the major classes of drugs used in cancer (alkylating agents, antimetabolites, intercalating drugs, microtubule inhibitors, hormones) to the main toxic effects of some of the major anti-cancer drugs and the current theories of drug resistance Critical appreciation of the problems and potential of these new treatments</p> <p>Prevention and treatment of malaria Life cycle of the malarial parasite, and integrate this with the drugs that influence the parasite at different stages of its life cycle and relate this to the actions, uses and side-effects of the main drugs used Current developments in the search for new drugs for malarial treatment and prophylaxis and current approaches to development of anti-malarial vaccines</p> <p>Bacterial and viral chemotherapy Mechanisms underlying disease production by microorganisms Principles of antimicrobial chemotherapy, factors determining the choice of antimicrobial agent, the use and misuse of chemoprophylaxis and antimicrobial drugs Main pathophysiological features of infections of specific systems (respiratory, urinary tract, genital tract) and current best practice for their management Current treatment of AIDS and HIV infection</p> <p>Gastrointestinal disorders Mechanism of action of drugs that treat diarrhoea and constipation Aetiology of gastric ulceration and its treatment</p>	

Disorders of the gall bladder and pancreas and approaches to treatment
Inflammatory bowel disease
Central reflex mechanism of vomiting and how drugs induce or prevent emesis
Consequences of gastrointestinal disease on the absorptive function of the GI tract

Class teaching hours & methods

Contact hours: Lecture - 10 hrs
Tutorial – 20 hrs
Independent / directed study – 170 hrs

Reading List

TBC

MyPlace page

TBA

Assessment

Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate

Summative: Exam (70%), MCQ Class test (30%),

Resit: This is a final year class and there is no resit opportunity in the resit diet. If a student fails and has mitigating circumstances they are permitted to resit in the next academic year.

BM429 Advanced Pharmacology
Class descriptor

Class Details	
Year	4
Level	SCQF 10
Credits	20
Semester	1
Class staff	
Class coordinator: Professor Nigel Pyne	
Teaching staff: Dr Charles Kennedy, Dr Hilary Carswell, Dr Paul Coats, Dr Shuzo Sakata, Prof Nigel Pyne	
Class objectives	
1.	To develop understanding of P2X and P2Y receptors as novel therapeutic targets
2.	To develop understanding of models of stroke and therapeutic targets.
3.	To develop understanding of optogenetics
4.	To develop understanding of the roles of sphingosine 1-phosphate in cancer
5.	To develop understanding of the study of leukocytes in angioplasty
Summary of content	
<p>Overview: The class aims to revise certain aspects of pathophysiology and pharmacology from previous levels, acquaint students with novel drugs that are in late pre-clinical or early clinical development or recent concepts that may lead to novel drug therapy, enable students to critically evaluate original research papers and enhance oral communication skills.</p> <p>Syllabus breakdown: P2X and P2Y receptors as novel therapeutic targets Models of stroke and therapeutic targets Optogenetics Sphingosine 1-phosphate and cancer Leukocytes and angioplasty</p> <p>Each topic has one scientific primary paper and a review to provide background. Students are given a lecture on the topic and then 2 workshops where they attempt to answer set questions concerning the scientific paper. The URLs for the scientific papers and reviews are provided in the class notes.</p>	
Class teaching hours & methods	
Contact hours:	Lecture – 5 hrs Tutorial – 20 hrs
Independent / directed study – 175 hrs	
MyPlace page	
TBA	
Assessment	
<p>Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate</p> <p>Summative: Exam (70%), Paper Interpretation Class test (30%),</p> <p>Resit: Same format of exam</p>	

BM432 Being a Biomolecular Scientist 4 Class descriptor

Class Details	
Year	4
Level	SCQF 10
Credits	40
Semester	1 and 2
Class staff	
Class coordinator: Dr Charles Kennedy	
Teaching staff: All staff	
Class objectives	
10.To provide students with the skills to critically interpret data and develop conclusions or hypotheses based upon their findings	
11.To provide students with the skills to analyse and present their data	
12.To provide knowledge in a key area that is relevant to the career aspirations of the student	
13.To give students the opportunity to carry out original research	
Summary of content	
A variety of research project are available. These will include for example:	
Data-based analysis research	
Education research (not available to BSc (Hons) Biomedical Science students)	
Enterprise project (not available to BSc (Hons) Biomedical Science students)	
Laboratory-based experimental research (compulsory for BSc (Hons) Biomedical Science students). In vivo laboratory projects may be available, but only students with a Personal Home Office licence, which covers the techniques to be used, can do this type of project.	
Literature-based critical analysis project (not available to BSc (Hons) Biomedical Science students)	
There will be concurrent workshops on research methods and ethics, which will reinforce and develop learning in areas such as the ethics of scientific research, experimental design and statistical analysis, database searching and annotation, writing a thesis and presenting a seminar.	
In addition, students will choose from and attend a series of tutorials & workshops on supplementary skills topics that relate to the projects e.g. in vivo training The material will be delivered using staff/student led workshops.	
Reading List:	
There are no set texts for this class. Each student has the responsibility for identifying relevant literature, with guidance from their supervisor.	
Class teaching hours & methods	
Contact hours:	
Practical Laboratory experience : 180 hrs	
Tutorials/workshops: 40 hrs	
Independent / directed study: 180 hrs	

MyPlace page
TBA
Assessment
<p>Diagnostic N/A</p> <p>Formative Including: workshop performance – peer assessment can be used; use of PRS in lectures and workshops; online quizzes.</p> <p>Summative Coursework: 80%. Project thesis and performance during the project Presentation: 20%. Oral presentation on the rationale for carrying out the project, methods used, results, conclusions and areas for future studies</p> <p>Resit This is a final year class and there is no resit opportunity in the resit diet. If a student fails and has mitigating circumstances they are permitted to resit in the next academic year</p>

BM434 Clinical Pharmacology
Class descriptor

Class Details	
Year	4
Level	SCQF 10
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Margaret Cunningham Teaching staff: Dr Trevor Bushell, Dr Chris Prior, Dr John Connolly, Dr Shuzo Sukata, Dr Alan McCrudden, Dr Dino Rotondo.	
Class objectives	
<ol style="list-style-type: none"> To develop understanding of neurodegenerative disorders and the common themes of protein aggregation and inflammation in the brain To develop understanding of the pharmacological control of global activity within the nervous system: epilepsy, anaesthesia and analgesia, use of sedatives and hypnotics To develop understanding of psychiatric disorders To develop understanding of drug dependence To develop understanding of endocrine disease and oral contraceptives 	
Summary of content	
<p>Overview: The aim is to develop an integrative knowledge of the most common psychiatric and neurodegenerative which can afflict the human nervous system, the current pharmacological treatments, and their mechanisms of action. New potential therapeutic advances in immunopharmacology. Diseases of the endocrine and reproductive system.</p> <p>Syllabus breakdown</p> <p>III.A.1.1 Neurodegenerative disorders and the common themes of protein aggregation and inflammation in the brain.</p> <p>Neuropathology and psychopathology of psychiatric and neurodegenerative disorders</p> <p>Symptoms and pathophysiology of Alzheimer's disease and mechanism of action of prospective therapeutic agents</p> <p>Characteristic symptoms and biochemical neuropathology of Parkinson's disease</p> <p>The difference between symptomatic and idiopathic Parkinsonism</p> <p>Drugs used to treat Parkinson's disease, their side-effects and how these can be minimised</p> <p>Scientific principles that underlie the clinical, pharmaceutical and pharmacokinetic information provided by EMC datasheets for anti-parkinsonian agents</p> <p>Biochemical basis of prion diseases, their pathology and classification</p> <p>Drugs used experimentally for treatment of prion diseases</p> <p>Biochemical basis of multiple sclerosis, the resultant pathology, the physiological basis of the symptoms and drugs used for relief of symptoms</p> <p>III.A.2 Pharmacological control of global activity within the nervous system: epilepsy, anaesthesia and analgesia, use of sedatives and hypnotics</p> <p>Major forms of epilepsy, drugs used as anti-epileptic treatments, their mechanism of action and major side-effects</p> <p>Uses and side-effects of inhalation and intravenous anaesthetics</p> <p>Stages of anaesthesia and how they relate to anaesthetic action and use</p> <p>How the physico-chemical properties of anaesthetics relate to their mechanism of action, potency, absorption and elimination</p> <p>Main classes, uses and side-effects of adjuncts to general anaesthesia</p> <p>Main opioid receptors, agonists and antagonists and opioid peptides</p> <p>Uses, mechanisms of action and side-effects of opioid analgesics</p> <p>Main classes, uses, and side-effects of hypnotics and sedatives</p>	

Mechanisms of action of benzodiazepines as sedatives

III.A.3 Psychiatric disorders

Major forms of anxiety disorders

Mechanism of action and metabolic pathways of benzodiazepines and their clinical significance

Why benzodiazepines have taken over from barbiturates and meprobamate in treatment of anxiety

Problems and side-effects associated with benzodiazepine treatment

Mechanism of action of 5HT_{1A} agonists

Major forms of affective disorders

Biogenic amine hypothesis of affective disorders

Mechanisms of action of antidepressant drugs, their major side-effects and drug interactions

Symptoms and neuropathology of schizophrenia

Factors that predispose individuals to schizophrenia

Dopamine and glutamate hypotheses of schizophrenia

Benefits and disadvantages of antipsychotics

Scientific principles that underlie the clinical, pharmaceutical and pharmacokinetic information provided by EMC datasheets for antipsychotic drugs

III.A.4 Drug dependence

Tolerance and dependence and the factors that influence these phenomena

Cellular and molecular basis of drug dependence with particular emphasis on psychomotor stimulants, opioids, nicotine and ethanol

Psychopharmacological effects and mechanism(s) of action of drugs of abuse

Treatments for adverse effects, overdose and the management of withdrawal for each dependence producing drug

III.A.5 Endocrine disease and oral contraceptives

How endocrine function can become disturbed

Consequences and treatment of over- or under-activity of the thyroid, the adrenal cortex, the gonads and the islets of Langerhans

Mechanisms of action of oral contraceptives and their adverse effects

Actions, uses and mechanisms of action of glucocorticoids and their adverse effects

Class teaching hours & methods

Contact hours: Lecture - 24 hrs

Tutorial – 6 hrs

Independent / directed study – 170 hrs

MyPlace page

TBA

Reading List

TBC

Assessment

Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate

Summative: Exam (70%), Essay Class test (30%),

Resit: This is a final year class and there is no resit opportunity in the resit diet. If a student fails and has mitigating circumstances they are permitted to resit in the next academic year.

BM435 Applied Microbiology
Class descriptor

Class Details	
Year	4
Level	SCQF 10
Credits	20
Semester	2
Class staff	
Class coordinator: Dr Nick Tucker	
Teaching staff: Dr Paul Herron, Dr Paul Hoskisson, Dr Nick Tucker, Dr Ian Archer, Dr Arnaud Javelle, Dr Katherine Duncan,	
Class objectives	
<ol style="list-style-type: none"> 1. Understand the basics of fermentation technology and how microbes can be exploited for human benefit. 2. Understand the impact of modern molecular biology techniques on industrial biotechnology and how this can be employed in an industrial setting. 3. Understand the importance of bioprocess monitoring and downstream processing. 4. Understanding how microbial processes affect our environment in beneficial and deleterious ways 	
Summary of content	
<p>Overview: This class will discuss modern industrial biotechnology (IB), enabling students to understand microbial process development and how molecular biology is revolutionising the IB sector. The class also includes other aspects of applied microbiology including food microbiology, fermentation and waste water treatment.</p> <p>Syllabus breakdown: This class will address the key concepts of bioreactor and process design including the importance of downstream processing and process monitoring. This module will also introduce the importance of systems and synthetic biology in advanced IB and will also introduce the roles of microorganisms in wastewater treatment, bioremediation and biofouling.</p>	
Class teaching hours & methods	
Contact hours: Lecture - 15 hrs	
Tutorial – 10 hrs	
Independent / directed study – 170 hrs	
MyPlace page	
TBA	
Assessment	
<p>Formative: Including: workshop performance – peer assessment; use of PRS in lectures and workshops; online quizzes and computer simulations will also be used as appropriate</p> <p>Summative: Exam (70%), Group Assignment (30%)</p> <p>Resit: This is a final year class and there is no resit opportunity in the resit diet. If a student fails and has mitigating circumstances they are permitted to resit in the next academic year.</p>	

Additional recommended reading for BM435 includes, but is not limited to:

N.B. Most of the references below are discussed in class and have been used to prepare the lectures.

- **Biology of Microorganisms**, Brock, Madigan, Martinko, and Parker. Prentice Hall Publishing 11th Ed chapter 30.
- **Principles of fermentation Technology**, Stanbury and Whittiker. Chapman & Hall.
- http://www.ted.com/talks/lang/eng/craig_venter_is_on_the_verge_of_creating_synthetic_life.html

- http://www.ted.com/talks/lang/eng/craig_venter_unveils_synthetic_life.html
- <http://www.nature.com/nature/comics/syntheticbiologycomic/index.html>
- http://rsif.royalsocietypublishing.org/site/misc/syntheticbiology_focus.xhtml
- **Gibson, D. G., Benders, G. A., Andrews-Pfannkoch, C., Denisova, E. A., Baden-Tillson, H., Zaveri, J., Stockwell, T. B., Brownley, A., Thomas, D. W., et al. (2008).** Complete Chemical Synthesis, Assembly, and Cloning of a Mycoplasma genitalium Genome. *Science (New York, NY)* **319**, 1215-1220.
- **Lartigue, C., Glass, J. I., Alperovich, N., Pieper, R., Parmar, P. P., Hutchison, C. A., Smith, H. O. & Venter, J. C. (2007).** Genome transplantation in bacteria: changing one species to another *Science (New York, NY)* **317**, 632-638.
- **Khalil, A. S. & Collins, J. J. (2010).** Synthetic biology: applications come of age. *Nature reviews Genetics* **11**, 367-379.
- **Gibson, D. G., Glass, J. I., Lartigue, C., Noskov, V. N., Chuang, R., Algire, M. A., Benders, G. A., Montague, M. G., Ma, L., et al. (2010).** Creation of a bacterial cell controlled by a chemically synthesized genome *Science (New York, NY)* **329**, 52-56.
- **Neumann, H., Wang, K., Davis, L., Garcia-Alai, M. & Chin, J. W. (2010).** Encoding multiple unnatural amino acids via evolution of a quadruplet-decoding ribosome *Nature* **464**, 441-444.
- **Callura, J. M., Dwyer, D. J., Isaacs, F. J., Cantor, C. R. & Collins, J. J. (2010).** Tracking, tuning, and terminating microbial physiology using synthetic riboregulators. *Proceedings of the National Academy of Sciences* **107**, 15898–15903.
- Jose-Luis Adrio and Arnold L Demain. Recombinant organisms for production of industrial products. *Bioeng Bugs*. 2010 Mar-Apr; 1(2): 116–131.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3026452/pdf/bbug0102_0116.pdf
- Chubukov, V., Mukhopadhyay, A., Petzold, C. J., Keasling, J. D. & Martín, H. G. Synthetic and systems biology for microbial production of commodity chemicals. *Syst Biol Appl* 2, 253 (2016).
<https://www.nature.com/articles/npsba20169.pdf>
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