



The University of
Nottingham

UNITED KINGDOM · CHINA · MALAYSIA

School of Biosciences

Plant Science

Qualifying Year Course Handbook

2015-2016

Please note that all of the information given in this Student Course Handbook was correct at the time of going to press; Schools reserve the right to amend course structures or information and amend, substitute or withdraw modules detailed in this publication.

Comments or feedback on the contents of this handbook are welcome, and will be used in the revised edition for 2016-2017. Any comments concerning this publication should be addressed to Kathy Wilson (Learning and Teaching Manager) at the Sutton Bonington Campus or e-mail Kathy.Wilson@Nottingham.ac.uk.

This handbook is available in alternative formats. Please contact Kathy Wilson by emailing Kathy.Wilson@Nottingham.ac.uk or telephone 0115 951 6002 to request an alternative format.

CONTENTS

1	Dates for Your Diary	2
2	Course Handbook	3
3	The School of Biosciences	3
4	Advice	3
5	Student Commitment.....	5
6	Your School and Your Studies	5
7	Staff Roles.....	6
8	Academic Staff and Locations.....	9
9	Course Structure, Organisation and Choosing Your Modules.....	12
10	Course Structure	14
11	Table of Modules	16
12	Timetable Information	19
13	Teaching Methods	20
14	Assessment, Progression, Compensation and Reassessment	22
15	Extenuating Circumstances.....	25
16	Plagiarism and Paraphrasing	27
17	Personal Academic Development	33
18	Academic Tutoring	34
19	Attendance Monitoring	36
20	Complaints and Appeals Procedures.....	37
21	Year Out	39
	21.1 Year Out & Erasmus	39
	21.2 Studying Outside of the UK	41
	21.3 Industry Placements	41
22	Channels of Communication	42
23	Student/Staff Consultation	43
24	Office Hours	43
25	Quality Assurance	44
26	Coursework and Examination Feedback.....	45
27	Student Services/Departments.....	47
	27.1 Student Services Centre	47
	27.2 School Office	47
	27.3 Libraries	48
	27.4 IT Facilities	49
	27.5 Academic and Disability Support.....	51
	27.6 Careers and Employability Service	53
28	Health, Safety and Security	54
29	Modules (including from Other Schools)	55
30	Appendices:	71

1 Dates for Your Diary

Term dates

Autumn Term

Monday 21 September 2015 – Friday 11 December 2015

Spring Term

Monday 11 January 2016 – Friday 18 March 2016

Summer Term

Monday 18 April 2016 – Friday 17 June 2016

Semester dates

Autumn Semester

Monday 21 September 2015 – Saturday 23 January 2016

Spring Semester

Monday 25 January 2016 – Friday 17 June 2016

Exam dates

Autumn semester

Monday 11 January 2016 to Saturday 23 January 2016 – including Saturday 16 January 2016

Spring semester

Monday 16 May 2016 to Saturday 04 June 2016 – including Saturday 21 May and 28 May 2016

Late summer resits

Monday 15 August 2016 to Wednesday 24 August 2016 – excluding Saturday 20 August 2016

2 Course Handbook

This Manual is designed to give you all the information you need to allow you to progress your studies at Nottingham. It describes the various procedures and practices that are in place which are designed to help you achieve your goals. From time to time these have to be changed to meet new requirements put upon us by the University and changes are also made based on student opinion. Therefore at any time if you have a positive suggestion, which can bring about some improvement in what we do, please bring these to the attention of the Student Guild who are represented on a number of School Committees.

3 The School of Biosciences

The School of Biosciences is part of the Faculty of Science and is based mainly on the Sutton Bonington campus; the BSc/MSci Environmental Science and BSc Environmental Biology degrees are located at the University Park campus.

The School of Biosciences has over 80 academic members of staff, 895 undergraduate students and about 550 research and taught postgraduate students. Academic staff are allotted to one of 5 Divisions which reflect specific areas of teaching and research; Agricultural and Environmental Sciences, Animal Sciences, Food Sciences, Nutritional Sciences and Plant and Crop Sciences.

You can find full and detailed information about the School and its staff on our Website – www.nottingham.ac.uk/Biosciences.

4 Advice

One of the first people you will meet is your Personal Tutor. Your Personal Tutor will be a member of academic staff with whom you have regular meetings, sometimes as part of a group. Your Tutor is there to give you help and support in person as well as guidance in academic matters. You should make every effort to establish a good relationship. Your Tutor will provide you with advice and details of your exam performance so it is essential that you discuss your progress, in confidence, with him/her at regular intervals.

Here are a few pieces of free advice; they come from fellow undergraduate students and from academic staff who helped us prepare this document.

- Most lecturers teach at a faster pace than you may be used to from school or college.
- Develop good note taking skills early in your university career.
- Lectures are progressive, i.e. each one builds on the last. Missing lectures is therefore dangerous, as is ignoring things that you didn't fully understand at the time.
- Module Conveners may issue a book list. Check with academic staff and 2nd and 3rd year students which are the most valuable to buy. You may not be able to afford them all. Books on your reading lists can be borrowed from the Libraries.
- You should expect to work outside of class time. This may include reading, rewriting your notes, doing coursework, writing reports, etc.
- Don't be afraid of asking questions in lectures. Lecturers like to know that students are following what they are saying. The question you ask may be exactly what

other students were wondering but were afraid to ask. Most lecturers will provide opportunities for questions. You can also ask for help outside of lecture time.

- Don't be afraid to approach staff for help. Their offices are accessible to you and they have telephones and email. They are busy people but a large part of their work involves dealing with students. Please see "office hours" section for further details of how to make appointments with academic staff.
- Make use of their time, advice, experience and expertise.
- Remember that activities continue after the exams and that you are required to remain at the University until the end of each semester.
- Never hesitate to see the lecturer if you are having difficulty with his / her module or don't understand why you were given a particular mark
- Handing in coursework late means losing marks. 5% will be lost for every working day late.
- The School has an undergraduate Learning Community Forum with staff and student representatives from each year. Use this system to make constructive comments about your course.
- If you become ill and have to miss more than a couple of days, or a coursework deadline, or if your performance in an exam is affected, go to see your tutor and complete an Extenuating Circumstances Form (forms available from outside the School Office at Sutton Bonington) and on the website:
www.nottingham.ac.uk/academicservices/qualitymanual/assessment/extenuating-circumstances-policy-and-procedures.aspx
- Missing an exam for any reason is extremely serious and should be avoided if at all possible. Let your Tutor know IMMEDIATELY and complete an extenuating circumstances form available as above.
- Check your email daily and Moodle updates; otherwise you may miss vital information.

5 Student Commitment

Students are expected to access their e-mail accounts regularly as this is the main means of communication. Please do not use any other personal email account which you may have for communication within the University. If you do, you risk losing out on important information

You are required to:

- **Read** this handbook and other documents referred to so that you are clear about the structure of your degree course and what is expected of you.
- **Abide** by University Ordinances, Regulations and other codes of practice (e.g. Computing, Safety etc.).
- Read **notices** placed on official notice boards, these provide an important primary channel of general communication and may advertise such information as re-arrangements to the teaching timetable.

It is wise to carry a diary in which to note appointments with tutors, module conveners, course managers, etc.

6 Your School and Your Studies

Teaching Staff - Lecturers are responsible for teaching components of modules and for setting and marking assignments and examinations.

Each module has a **Convener** who is responsible for its organisation. At the start of the module, the Convener will issue to each student a document describing its aims, content, objectives, transferable skills, methods of assessment, dates for submission and return of coursework and penalties for late submission. Students will be given coursework turnaround details. S/he will also conduct a feedback exercise at the end of the module to gauge student opinion.

Each course has a **Course Manager**, responsible for overseeing its structure and smooth running. The Course Manager ensures balance between modules and liaises regularly with other staff to ensure that appropriate teaching and learning are provided. The **Course Managers** are directly responsible to the **Director of Teaching and Learning** for ensuring that all levels of the teaching management structure operate efficiently. They should be notified of any significant problems. **Heads of Division** are ultimately responsible for the services provided by their staff.

The **Director of Teaching** oversees the organisation and management of teaching across the School.

The **Semester 1 Tutor** is responsible for maintaining a balance of work between the core Semester 1 modules. S/he appoints student representatives and holds meetings at which any matters which students may wish to raise can be discussed. Don't be afraid to make your views known!

A list of the staff who hold these positions are included in this handbook (see Staff Roles section). Students should feel able to approach any of them with concerns they may have about aspects of their education. Your Personal Tutor can advise you and make the appropriate contacts.

7 Staff Roles

Role In School	Staff Member	Location <i>See key at end of table</i>	Tel	Email @nottingham.ac.uk
Head of School	Prof Neil Crout	GB	16253	neil.crout
Director of Administration	Dr Sarah Johnson	MB	16000	sarah.johnson
PA to Professor Neil Crout – Head of School and Dr Sarah Johnson – Director of Administration	Ms Susan Blencowe	MB	16010	susan.blencowe
Learning and Teaching Manager	Ms K J Wilson	MB	16002	kathy.wilson
Student Recruitment Manager	Miss Helen Wells	MB	16015	helen.wells
Student Experience and Support Officer	TBC	MB	16003	
Marketing Manager	Ms Helen Rotherforth	MB	16607	helen.rotherforth
Courses and Modules Administrator	Mrs Gill Fox	MB	16007	gillian.fox
IT Support Officer	Mr Dave Walters	JCG	16511	Dave.walters
Undergraduate IT Advisor	Mr Jim Craigon	SL	16252	jim.craigon
Undergraduate Recruitment Administrator	Mrs E Staves	SO	16005	elena.staves
Erasmus Co-ordinator (European Cert.)	Mrs E Staves	SO	16005	elena.staves
Exams & Prizes	Mrs L Eaves	SO	16001	linda.eaves

Building Locations

GB = Gateway Building
 MB – Main Building
 SL = South Lab Building
 SO = School Office, Main Building
 JCG = James Cameron Gifford Library

Heads of Division	Name	Building <i>See key at end of table</i>	Tel	Email @nottingham.ac.uk
Animal Sciences	Prof P Garnsworthy	SL	16065	phil.garnsworthy
Agricultural and Environmental Sciences	Prof S Mooney	GB	16257	Sacha.mooney
Food Sciences	Prof Tim Foster	FS	16246	Tim.foster
Nutritional Sciences	Prof S Langley-Evans	NL	16139	simon.langley-evans
Plant and Crop Sciences	Prof M Holdsworth	PCS	16323	mike.holdsworth

Key Roles	Name	Building	Tel	Email @nottingham.ac.uk
Warden Bonington Hall	Dr I Hardy	SL	16052	ian.hardy
Senior Tutors	Prof M R Luck Dr L Bailey	SL	16309 16255	martin.luck liz.bailey
Semester 1 Tutor	Dr K Pyke	PCS	13216	kevin.pyke
Exam. Officer	Dr M Elmes	NL	16183	matthew.j.elmes
Study Abroad Co-ordinator	Dr Marcus Alcocer	NL	16103	Marcus.alcocer
4-Year Degree Tutor (Euro. Cert.)	Dr Z Gonzalez-Carranza	NL	16374	Zinnia.Gonzalez-carranza
Director of Teaching and Learning	Prof M Dickinson	NL	13236	matthew.dickinson
U21 Co-ordinator	Dr Z Gonzalez-Carranza	NL	16374	Zinnia.Gonzalez-carranza
Malaysia School Coordinator	Dr Marcus Alcocer	PCS	16013	Marcus.alcocer
Industrial Placement Officer & School Placement Officer	Dr J Wayte Rachel Jessop	BioB	16171 14380	judith.wayte Rachel.jessop

Building Locations

BioB = Bioenergy Building

FS = Food Sciences

GB = Gateway Building

NL = North Lab

PCS= Plant and Crop Sciences

SL = South Lab Building

Course Managers	Name	Building <i>See key at end of table</i>	Tel	Email @nottingham.ac.uk
Agriculture Agricultural and Crop Science Agricultural and Environmental Science Agricultural and Livestock	Prof P Wilson	SL	16075	paul.wilson
Animal Science	Dr D Sweetman	SL	16019	Dylan.sweetman
Applied Biology & Biotechnology	Dr Nagamani Bora (Mani)	PCS	TBC	Nagamani.Bora
Environmental Biology	Dr Ruth Blunt	Gateway Building, SB, or B47, Life Sciences, UP	16288	Ruth.blunt
Environmental Science	Dr Ruth Blunt	Gateway Building, SB, or B47, Life Sciences, UP	16288	Ruth.blunt
Food Science & Nutrition and Food Science	Dr D Gray	FS	16147	david.gray
Microbiology	Dr J Hobman	FS	16166	Jon.hobman
Master of Nutrition and Dietetics	Dr F McCullough	NL	16118	fiona.mccullough
Nutrition	Dr J Majewicz	NL	16106	jon.majewicz
Plant Science	Dr Kevin Pyke	PCS	13216	Kevin.pyke

Building Locations

FS= Food Sciences Building
 GB = Gateway Building
 NL = North Lab Building
 PCS= Plant and Crop Sciences
 SL = South Lab Building

8 Academic Staff and Locations

Name	Room	Telephone Number	Divisions*
Dr R Alberio	B223, South Laboratory Building	0115 951 6304	AS
Dr M Alcocer	49E, 2nd Floor, North Laboratory Bldg	0115 951 6103	NS
Dr P Alderson	B213, South Laboratory Building	0115 951 6056	PCS
Dr R Anand-Ivell	B216, South Laboratory Building	0115 951 6298	AS
Mrs A Avery	49D, North Laboratory Building	0115 951 6238	NS
Dr E Bailey	C21, The Gateway Building	0115 951 6255	AES
Dr L Band	C32, Plant Sciences Building	0115 951 6108	PCS
Prof M J Bennett	C06, Plant Sciences Building	0115 951 3255	PCS
Dr A Bishopp	A15, Plant Sciences Building	0115 951 6108	PCS
Dr R Blunt	B47, Life Sciences Building or C18 Gateway Building	0115 951 3238	AES
Dr N Bora	B06 Bioenergy and Brewing Science Bldg	0115 951 6011	PCS
Dr J Brameld	43, 1st Floor, North Laboratory Bldg	0115 951 6133	NS
Prof M Broadley	A05, Plant Sciences Building	0115 951 6382	PCS
Dr K Brown	B30a, Food Science Building	0115 951 6509	FS
Dr N Chapman	306, South Laboratory Building	0115 951 6082	PCS
Dr L Coneyworth	58, 2nd Floor, North Laboratory Bldg	0115 951 6124	NS
Prof I F Connerton	B28, Food Sciences Building	0115 951 6119	FS
Dr D Cook	C04, Bioenergy and Brewing Science Bldg	0115 951 6245	FS
Prof N Crout	C19, The Gateway Building	0115 951 6253	AES
Prof M J Dickinson	A04, Plant Sciences Building	0115 951 3236	PCS
Prof C E R Dodd	B30, Food Science Building	0115 951 6163	FS
Dr M Elmes	53, 2nd Floor, North Laboratory Bldg	0115 951 6183	NS
Dr I Fisk	A28, FS Building	0115 951 6037	FS
Prof T Foster	B29, FS Building	0115 951 6246	FS
Dr M J Foulkes	312, South Laboratory Building	0115 951 6024	PCS
Dr R G Fray	C33, Plant Sciences Building	0115 951 6371	PCS
Dr A P French	C08a, Plant Sciences Building	0115 951 6108	PCS
Prof P C Garnsworthy	B203, South Laboratory Building	0115 951 6065	AS
Dr Z Gonzalez-Carranza	C11, Plant Sciences Building	0115 951 6335	PCS
Dr N Graham	C30, Plant Sciences Building	0115 951 6681	PCS
Dr D Gray	A29, FS Building	0115 951 6147	FS
Prof S E Harding	A15, The Limes	0115 951 6148	FS
Dr I Hardy	C26, The Gateway Building	0115 951 6052	AES
Dr J Harris	C18, Vet School	0115 951 6316	AS
Dr K Harris-Adams	C311, South Laboratory Building	0115 951 6066	AES
Dr L Hewson	C03, Bioenergy and Brewing Science Bldg	0115 9516685	FS
Dr P J Hill	B21, FS Building	0115 951 6169	FS
Dr J L Hobman	B22, FS Building	0115 951 6166	FS
Prof T C Hodgman	C30, The Gateway Building	0115 951 6290	AES
Prof M J Holdsworth	301B, South Laboratory Building	0115 951 6046	PCS

Prof J Hort	C10, Bioenergy and Brewing Science Bldg	0115 951 6222	FS
Dr P Jethwa	55, North Laboratory Building	0115 951 6604	NS
Miss J Kearns	30, 1st floor, North Laboratory Bldg	0115 951 6756	NS
Dr S Kelly	C23, Vet School	0115 951 6130	AS
Prof I P King	C21, Plant Sciences Building	0115 951 6372	PCS
Dr J King	C26, Plant Sciences Building	0115 951 3205	PCS
Prof S Langley-Evans	57, 2nd Floor, North Laboratory Bldg	0115 951 6139	NS
Dr B Lomax	C24, The Gateway Building	0115 951 6258	AES
Dr C L Lu	C23, The Gateway Building	0115 951 6293	AES
Prof M R Luck	B207, South Laboratory Building	0115 951 6309	AS
Dr G W Lycett	C10, Plant Sciences Building	0115 951 6340	PCS
Dr S Lydon	C08, Plant Sciences Building	0115 951 6289	PCS
Dr J Majewicz	37, 1st floor, North Laboratory Building	0115 951 6106	NS
Dr G Mann	B208, South Laboratory Building	0115 951 6326	AS
Prof S T May	NASC	0115 951 3306	PCS
Dr S Mayes	301C, South Laboratory Building	0115 951 6234	PCS
Dr F S W McCulloch	26, 1st Floor, North Laboratory Building	0115 951 6118	NS
Dr K Mellits	B26, FS Building	0115 951 6172	FS
Dr K M Millar	B67, Vet School	0115 951 6303	AS
Dr D Mellor	28, 1st Floor, North Laboratory Bldg	0115 951 6098	NS
Prof S Mooney	C31, The Gateway Building	0115 951 6257	AES
Dr E H Murchie	301C, South Laboratory Building	0115 951 6082	PCS
Dr A Murton	49H, 2nd Floor, North Laboratory Building	0115 823 6592	NS
Dr T Parr	53A, 2nd Floor, North Laboratory Bldg	0115 951 6128	NS
Miss J Pearce	49G, 2nd Floor, North Laboratory Bldg	0115 951 6105	NS
Dr C Powell	C02, Bioenergy and Brewing Science Bldg	0115 951 6191	FS
Dr K Pyke	C09, Plant Sciences Building	0115 951 3216	PCS
Dr S Ramsden	308, South Laboratory Building	0115 951 6078	AES
Dr R Ray	303, South Laboratory Building	0115 951 6094	PCS
Dr C E D Rees	B23, FS Building	0115 951 6167	FS
Dr T P Robbins	C27, Plant Sciences Building	0115 951 6329	PCS
Prof J A Roberts	A06, Plant Sciences Building	0115 951 6339	PCS
Prof A M Salter	32A, 1st Floor, North Laboratory Bldg	0115 951 6120	NS
Dr D Scott	B19, FS Building	0115 951 6221	FS
Prof G B Seymour	A03, Plant Sciences Building	0115 951 6323	PCS
Prof G Shaw	C29, The Gateway Building	0115 951 3206	AES
Prof K D Sinclair	B210, South Laboratory Building	0115 951 6053	AS
Dr M S Sjoergersten	C27, The Gateway Building	0115 951 6239	AES
Dr D L Sparkes	330, South Laboratory Building	0115 951 6074	PCS
Dr D Stekel	C20, The Gateway Building	0115 951 6294	AES
Dr C Stevenson	A57, Vet School	0115 951 6055	AS
Dr R Stoger	B232, South Laboratory Building	0115 951 6232	AS
Miss R Stow	40, 1st floor, North Laboratory Bldg	0115 951 6170	NS
Dr A Swali	A20, Ground Floor, FS Bldg	0115 951 6578	FS
Dr R Swarup	C31, Plant Sciences Building	0115 951 6284	PCS

Dr D Sweetman	B234, South Laboratory Building	0115 951 6019	AS
Dr J A Swift	57a, Second Floor, North Lab	0115 951 6178	NS
Dr M Taylor	52, 2nd Floor, North Laboratory Bldg	0115 95 16104	NS
Prof G A Tucker	09, Floor C, Bioenergy and Brewing Science Bldg	0115 951 6126	NS
Dr A Waterfall	B224, South Laboratory Building	0115 951 6307	AS
Dr S Welham	24, North Laboratory Building	0115 951 6129	NS
Dr D Wells	C07, Plant Sciences Building	0115 951 6108	PCS
Dr H West	C28, The Gateway Building	0115 951 6268	AES
Mrs E Weston	A22, FS Building	0115 951 6146	FS
Dr G White	B227, South Laboratory Building	0115 951 6068	AS
Dr K Whitehead	28A, 1st Floor, North Laboratory Bldg	0115 951 6136	NS
Prof P Wilson	332, South Laboratory Building	0115 951 6075	AES
Prof Z A Wilson	A03, Plant Sciences Building	0115 951 3235	PCS
Prof J Wiseman	B205, South Laboratory Building	0115 951 6054	AS
Dr B Wolf	A27, Ground Floor, FS Bldg	0115 951 6134	FS
Dr S Young	C25, The Gateway Building	0115 951 6256	AES

***Divisional codes**

AES Agricultural & Environmental Sciences
AS Animal Sciences
FS Food Sciences
NS Nutritional Science
PCS Plant and Crop Sciences

9 Course Structure, Organisation and Choosing Your Modules

The Academic Year

The academic year at Nottingham is based on 2 semesters (autumn and spring) spread over three terms.

The following definitions might be helpful to you:

- **Credits** indicate a quantity of assessed learning. They contribute to a cumulative indication of modules which a student has completed. One credit equates to approximately 10 hours of study.
- A **Module** is a specified programme of study which is self-contained and attracts a specified number of credits. Examinations are held at the end of most modules. A ten credit module accounts for approximately 100 hours of your time, of which usually no more than 40 hours will be spent in the lecture room or laboratory
- A **Course of Study** is a set of modules satisfying the requirements for a particular degree and attracting 320 credits for an Ordinary Bachelor degree and 360 credits for an Honours degree.
- The levels in a course of study leading to an Honours degree are as follows
 - Year 1 (120 credits) Level 1
 - Year 2 (120 credits) Level 2
 - Year 3 (120 credits) Level 3

And for a Master of Nutrition and Dietetics or MSci degree

- Year 4 (120 credits) Level 4

Credits achieved in Year 1 are for progression purposes only and will not contribute to the final degree classification.

- A **semester** is a division of the academic year. It consists of twelve weeks of teaching, coursework and revision, plus two (Autumn Semester) or four (Spring Semester) weeks of assessment and consultation.
Note: Although each academic year is divided for teaching purposes into two semesters, there is still a three-term pattern of attendance, with breaks at Christmas, Easter and during the summer.
- A **year** is period of study consisting of an Autumn Semester followed by a Spring Semester. **Assessment** may be by means of written examination papers, oral examinations or coursework. Progression and/or degree classification are based on the outcome of the assessment.
- A **mark** module a numerical indication of the quality of the assessed work completed by a student in each. Marks awarded are subject to the approval of the Board of Examiners and are ratified by an External Examiner.

Choosing optional modules*

At module advisory days you will be asked to complete a module registration form that details your chosen optional modules for ALL PERIODS, i.e. for modules totalling 120 credits. All entries must include the module code. **All optional choices must be approved and signed by your Course Manager.** You will have an opportunity at the beginning of the Autumn/Spring Semesters (the "Two week change of mind period") to make adjustments to your choices for that semester; you will also need to check that there are no timetable clashes.

Your choice of modules must normally total 60 credits per semester, and in any event not less than **50 credits** or more than **70 credits** per semester. To determine how a Full Year module contributes to the number of credits in a given semester, check the semester credit split for that module in the Module Catalogue modulecatalogue.nottingham.ac.uk/Nottingham.

IT IS YOUR RESPONSIBILITY to see that your combination of modules accords with the Regulations for your course and teaching timetable. **Failure to do so could prevent you from progressing to the next year of the course or from graduating.** Once you have chosen your optional modules and they have been approved, IT IS YOUR **RESPONSIBILITY** to ensure that you read the Declaration, sign the form and hand it to School Office staff. After that date changes to Full Year and Autumn Semester choices will not be allowed. **Failure to hand in the form by the date displayed may lead to incorrect examination entries and records.**

**There are some courses in Year 1 where there are no optional modules; however this information is useful for Years 2 and 3.*

Modules outside Biosciences

If you wish to register for an optional module from outside the School of Biosciences, you should write the module details on your Module Entry Form and obtain a signature in the "Agreed" box from the School that offers the module, as confirmation that the offering School accepts your registration (or email provide email confirmation).

A complete list of modules within the University can be found in the Catalogue of Modules at modulecatalogue.nottingham.ac.uk/Nottingham.

10 Plant Science Course Structure

Course Manager: Dr Kevin Pyke

Contact details: e: kevin.pyke@nottingham.ac.uk or t 0115 951 3216

Semester 1

Core modules (60 credits)

The Ecology of Natural and Managed Ecosystems	D211E5	20
Genes and Cells: 1	D211P1	10
The Biosciences and Global Food Security	D211F3	10
Foundation Science (10 credit Full Year module)	D21BF2	5/10
Biochemistry – The Building Blocks of Life (20 credit Full Year module)	D21BN2	10/20
Bioscience Tutorials (academic development) (10 credit Full Year module)	D21BP1	5/10

Semester 2

Core modules (60 credits)

Plant Science	C112P1	10
Grassland Management	D212A1	10
Genes and Cells: 2	D212P3	10
Plant Science Research Tutorials	D212P5	10
Foundation Science (10 credit Full Year module)	D21BF2	5/10
Biochemistry –The Building Blocks of Life (20 credit Full Year module)	D21BN2	10/20
Bioscience Tutorials (academic development) (10 credit Full Year module)	D21BP1	5/10

Semester 3

Core modules (20 credits)

Applied plant physiology: from cell to crop	D223P9	20
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and 40 credits normally chosen from:

Soil Science	C123E3	10
Ecosystem Processes	D223E4	10
Economic Analysis for Agricultural and Environmental Sciences	D223A6	10
Molecular Biology and the Dynamic Cell	D223P0	20

Semester 4

Core Modules (40 credits)

Professional Skills for Bioscientists	D224G1	20
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and 40 credits normally chosen from:

Molecular Techniques in Biosciences	D224P6	10
Biological Photography and Imaging 1	C12458	10
Crop Management Challenge	D224A4	10
Computer Modelling in Science: Introduction	D224E4	10
Plant Pests and Diseases	D224P7	20
Molecular Pharming and Biotechnology	D224P8	20

Semester 5

Core Module (Year-long Research Project; 40 credits in total)

Undergraduate Research Project	D23PRO	20/40
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and 40 credits normally chosen from:

Fundamental and Applied Aspects of Plant Genetic Manipulation	C13569	10
Plant and The Light Environment	D235P6	10
Plant Cell Signalling	D235P2	10
Molecular Plant Pathology	C135P2	10
Biology in Space and the Evolution of the Biosphere	D235P7	10
Biomolecular Data and Networks	D235B1	10
Basic Introduction to Omic Technologies	C135P3	10
Genetic Improvement of Crop Plants (20 credit Full Year module)	D23BA7	10/20

Semester 6

Core Module (Year-long Research Project; 40 credits in total)

Undergraduate Research Project	D23PRO	20/40
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and 40 credits normally chosen from:

Current Issues in Crop Science	D236A3	10
Sex, Flowers and Biotechnology	D236P4	10
Plant Disease Control	D236P3	10
Plants and the Soil Environment	D236P7	10
Soil and Water Pollution and Reclamation	C136E1	10
Genetic Improvement of Crop Plants (20 credit Full Year module)	D23BA7	10/20
Field Crops Cereals	D236A8	10

11 Table of Modules

Title	Code	Agric (Production)	Agric (Systems)	Agric (Business)	Ag & C	Ag & ES	Ag & LS	Ani Sci	Biotech	Dietetics	Env Biol	Env Sci	Food Sci	Microbio	Nutrition	Nutri and Food Sci	Plant Sci
Bioscience Tutorials (academic development)	D21BP1	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10			5 of 10	5 of 10	5 of 10	5 of 10	5 of 10
Foundation Science	D21BF2	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10				5 of 10	5 of 10	5 of 10	5 of 10	5 of 10
The Biosciences and Global Food Security	D211F3	10	10	10	10	10	10	10	10	10			10	10	10	10	10
Biochemistry – The Building Blocks of Life	D21BN2	10 of 20			10 of 20		10 of 20	10 of 20	10 of 20	10 of 20			10 of 20	10 of 20	10 of 20	10 of 20	10 of 20
Genes and Cells 1	D211P1	10	10		10	10	10	10	10	10				10	10		
Animal Biology	D211A2	10	10	10			10	10	10								
Introduction to Nutrition	D21BN1						10 of 20	10 of 20		10 of 20			10		10 of 20	10 of 20	
Agricultural Business in the Global Economy	D211A3		20	20													
Microbes and You	D21BF3								10 of 20					10 of 20			
Introduction to Dietetics	D21BN5									5 of 10							
Food Commodities and Primary Processing	D211F4												10			10	
Food Materials and Ingredients	D21BF1												10 of 20		10 of 20	10 of 20	
The Ecology of Natural and Managed Ecosystems	D211E5	20	20	20	20	20						20					20
Introduction to Health Behaviours	D21BN4									10 of 20					10 of 20		
Global Environmental Processes (UP)	C111E1					10					10	10		10			
Environmental Geoscience	C111E5											10					
Dissertation in Environmental Science (UP)	C11BE1										10 of 20	10 of 20					
Experimental Design and Analysis	C11111										10	10					
Genetics, Ecology and Evolution	C11120										10						
Animal Kingdom	C11119										10						
Microbiology	C41105										10						

NB Modules in semesters 2 - 6 may have pre-requisite modules. It is your responsibility to ensure you are taking the appropriate pre-requisites for later modules. Module choices are subject to timetabling constraints. It is therefore important to check the timetable and pre-requisites when making your module choices.

Black sections: core Grey Sections: recommended options (UP) = Module based at University Park

	Module No	Agric (Production)	Agric (Systems)	Agric (Business)	Ag & C	Ag & ES	Ag & LS	Ani Sci	Biotech	Dietetics	Env Biol	Env Sci	Food Sci	Microbiol	Nutrition	Nutri & Food Sci	Plant Sci
General																	
Bioscience Tutorials (academic development)	D21BP1	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10			5 of 10	5 of 10	5 of 10	5 of 10	5 of 10
Foundation Science	D21BF2	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10	5 of 10				5 of 10	5 of 10	5 of 10	5 of 10	5 of 10
Biochemistry – The Building Blocks of Life	D21BN2	10 of 20			10 of 20		10 of 20	10 of 20	10 of 20	10 of 20			10 of 20	10 of 20	10 of 20	10 of 20	10 of 20
Genes and Cells 2	D212P3						10	10	10					10			10
Introduction to Nutrition	D21BN1						10 of 20	10		10 of 20			10 of 20		10 of 20	10 of 20	
Microbes and You	D21BF3								10 of 20					10 of 20			
Physiology for Food Scientists	D212F9																
Food Materials and Ingredients	D21BF1												10 of 20		10 of 20	10 of 20	
Contemporary Agricultural Systems	D212A2	10	10	10	10	10	10	10			10	10	10			10	
Introduction to Dietetics	D21BN5									5 of 10							
Plant Science Research Tutorials	D212P5				10												10
Introduction to Health Behaviours	D21BN4									10 of 20					10 of 20		
Grassland Management	D212A1	10	10	10	10	10	10	10			10	10					10
Microbial Physiology	D212F7								10				10	10			
Physiology for Food Scientists	D212F9															10	
Introductory Physiology	D212Z5							20	20	20					20		
Dissertation in Environmental Science (UP)	C11BE1										10 of 20	10 of 20					
Integrated Agri-Food Markets and Marketing	D212A3		20	20													
Managing Tourism & the Environment: Conflict or Consensus (UP)	N12122											10					
Environmental Science and Society	D212E4				20						20	20					
The Anthropology of Human Ecology (UP)	AA1017										10	10					
Microorganisms and Disease (UP)	C51201										10	10		10			
Plant Science (UP)	C112P1	10	10	10	10	10	10	10	10		10	10					10

NB Modules in semesters 2 - 6 may have pre-requisite modules. It is your responsibility to ensure you are taking the appropriate pre-requisites for later mc Module choices are subject to timetabling constraints. It is therefore important to check the timetable and pre-requisites when making your module choices.

Black sections: core Grey Sections: recommended options (UP) = Module based at University Park

12 Timetable Information

Timetable week numbers and important key dates are listed below; timetables can be viewed on-line from mid-August 2015 at www.nottingham.ac.uk/timetable

Syllabus Plus Timetable Week	Teaching Week	Week Commencing	Comments
1	1	21/09/2015	<i>Autumn teaching START 28/09/15</i>
2	2	28/09/2015	Autumn Semester
3	3	05/10/2015	Autumn Semester
4	4	12/10/2015	Autumn Semester
5	5	19/10/2015	Autumn Semester
6	6	26/10/2015	Autumn Semester
7	7	02/11/2015	Autumn Semester
8	8	09/11/2015	Autumn Semester
9	9	16/11/2015	Autumn Semester
10	10	23/11/2015	Autumn Semester
11	11	30/11/2015	Autumn Semester
12	12	07/12/2015	<i>term finishes Friday 11/12/15</i>
13	Vacation	14/12/2015	Christmas
14	Vacation	21/12/2015	Christmas
15	Vacation	28/12/2015	Christmas
16	Vacation	04/01/2016	Christmas
17	Assessment	11/01/2016	Assessment
18	Assessment	18/01/2016	Assessment
19	1	25/01/2016	Spring Semester
20	2	01/02/2016	Spring Semester
21	3	08/02/2016	Spring Semester
22	4	15/02/2016	Spring Semester
23	5	22/02/2016	Spring Semester
24	6	29/02/2016	Spring Semester
25	7	07/03/2016	Spring Semester
26	8	14/03/2016	Spring Semester
27	Vacation	21/03/2016	Easter
28	Vacation	28/03/2016	Easter
29	Vacation	04/04/2016	Easter
30	Vacation	11/04/2016	Easter
31	9	18/04/2016	Spring Semester
32	10	25/04/2016	Spring Semester
33	11	02/05/2016	Spring Semester
34	12	09/05/2016	Revision/Assessment
35	Assessment	16/05/2016	Assessment
36	Assessment	23/05/2016	Assessment
37	Assessment	30/05/2016	Assessment
38	-	06/06/2016	-
39	-	13/06/2016	<i>term finishes Friday 17 June</i>
40		20/06/2016	
41		27/06/2016	
42		04/07/2016	
43		11/07/2016	
44		18/07/2016	
45		25/07/2016	
46		01/08/2016	
47		08/08/2016	
48	Assessment	15/08/2016	Re-sit Period
49	Assessment	22/08/2016	Re-sit Period
50	Assessment	29/08/2016	Re-sit Period
51	Assessment	05/09/2016	Re-sit Period
52		12/09/2016	
53		19/09/2016	

13 Teaching Methods

Lectures

Throughout your university career, you will find that lectures are the most common method of teaching. It is most important for you to ensure that you have a set of good clear notes based on the lectures **and** your own reading. As you progress through the second and third years of your degree, you will be expected to do increasing amounts of reading; it is therefore useful to develop your reading skills during your first year. Teaching of some modules is complemented by the use of teaching software.

Hints and tips for making the most effective use of the teaching and learning opportunities available to you are provided in *Study Skills Guide* given to all students at the beginning of their first year).

NB books which should be purchased will be identified at the start of teaching - you are advised not to buy any books prior to this unless otherwise indicated in the recommended reading lists at the end of each module synopses.

Practical Classes

Course requirements may require you to take practical classes. These may involve laboratory experiments or observations and analysis of data obtained during the sessions. Practical sessions provide an opportunity to learn and develop additional skills in techniques, observation and analysis. Practical classes also provide an opportunity to extend your knowledge of topics not covered in lectures. For each practical course you will receive a laboratory manual or collection of schedules which will expand on the learning experience of the course.

Some large first year classes are taught simultaneously in adjacent laboratories. Consult the class lists posted on the notice boards to identify the laboratory you will work in. For each practical class, at least one member of academic staff will always be in attendance. S/he will be accompanied by postgraduate students who work as demonstrators. In some cases, technicians may also be present to assist. The teaching team is present in the laboratory to aid your learning experience, so please seek their help as much as you need, and ensure you carry out your work safely, with no harm to yourself or other students. Practical classes provide a valuable opportunity for you to get to know the academic staff in a less formal way and for them to help you. These classes frequently provide an excellent opportunity for you to raise questions from the lecture course with the member of staff and deal with problems you may have.

For all practical classes, you **MUST WEAR** a suitable full-length laboratory coat, which must be buttoned at all times. You will be given a lab coat and safety glasses during Week 1 and advised about any other items you need to purchase. You **MUST** also **WEAR** safety glasses at all times unless advised to the contrary by an academic member of staff.

Safe working and good laboratory practices are essential in the laboratory environment and all laboratory exercises must be formally assessed under the regulations of COSSH. Details of these assessments are noted in the laboratory manual or schedule to draw your attention to specific hazards and the requirements of safe practice. During the introduction to a practical class, the member of staff in charge will give a verbal statement on safety issues.

Food and drink **MUST NOT** be taken into the laboratory.

Assessed Work

Many modules have an element of student-centred learning, especially in Parts I (Year 2) and II (Year 3) of your course. The work involved in these is assessed and forms part of the overall mark for the module. The proportion of the mark allotted to coursework is identified in each module description. Penalties are applied for late submission of coursework (5% per working day), unless there are extenuating circumstances and appropriate documentation is provided. In general, modules in the School of Bioscience use electronic submission of coursework through Moodle as the means of submission.

IT Training

IT is increasingly important as a basis of learning, communication and the preparation of your work e.g. dissertation, BSc project thesis and laboratory reports. It is important that you develop/improve your IT skills as you progress through your course.

Computer-aided Learning (CAL)

Several modules include computer-based teaching material, quizzes, exercises, simulations. In order to use these, you must be registered on the School of Biosciences Network. You may be assessed on some of these packages while using them or in the form of a conventional write-up. You should be prepared to take notes as you work through material on computers.

14 Assessment, Progression, Compensation and Reassessment

The University Undergraduate Course Regulations apply to all the School's BSc degrees.

The regulations can be found at:

www.nottingham.ac.uk/academicsservices/qualitymanual/studyregulations/studyregulationsforundergraduatecourses.aspx

You should note that:

- The pass mark for a module is 40%.
- **Progression and Compensation (BSc):** You don't need to pass all modules in order to progress to the next stage of your course. Compensation of failed modules can be achieved in the following ways – if you have:
 - (a) passed modules worth at least 80* credits and have a weighted average for the stage of at least 40% with no module marks of less than 30%;
or
 - (b) passed modules worth at least 100* credits and have a weighted average for the stage of at least 50%.
or
 - (c) passed modules worth at least 90* credits, have marks of 30% or more in modules worth at least 110* credits, and have a weighted average for the stage of at least 45%.

* Subtract 20 credits for students on Ordinary Degree courses. The resulting number of credits is also used to determine whether a student may be allowed to transfer to the next stage of an Ordinary degree course after being unable to progress to the next stage of an Honours or Undergraduate Masters course. In these cases, the weighted average is calculated over the best 100 credits of marks received by the student and the requirement to have no marks below 30% in (a) and (c) above applies only to these 100 credits.

Progression and Compensation (MNutr): At the Part I, Part II and Part III stage, no core module can be compensated with the exception of optional modules for which university regulations apply. In addition, students must obtain at least 35% in both the examination and coursework components of these modules, although a mark between 35% and 39% in either the examination or coursework may be compensated by the other component of assessment.

Progression (MSci): At the end of Part I, students on the MSci degree must achieve an overall average of 55% at first sit in order to progress to Part II.

- **Reassessment:** If you do not reach the criteria for progression at the end of stage of study, you have a right to one re-assessment in each failed module. The form of reassessment is normally the same as for the first sit, with some exceptions (for example some MCQ papers are sometimes replaced with essay-style papers).
For modules which are assessed by both coursework and exam, the School of Biosciences requires that, if the module has been failed overall, then you must be reassessed in the examination element of that module, even if that component of assessment has been passed.

In addition, if you have failed the coursework overall (of a module which is assessed by both coursework and examination) you may elect to resubmit remedial coursework. However, if you have passed your coursework overall, you are not entitled to resubmit either the whole coursework or any failed component within your coursework assessments. If you wish to take up the option of remedial coursework, you must make contact with the appropriate module convener (or his/her representative) **within 7 days** of the date of the letter notifying you that you have failed to progress. The module convener will give you a title and submission date for the coursework. Any remedial coursework must be submitted before the start of the August examination period. However, individual module conveners have the right to set earlier deadlines at the time of setting the coursework. **Please note: for modules which have both an examination and coursework component, it is not possible for you to be reassessed by resubmitting coursework alone; you are required to retake the examination, even if this element of the module has been passed.**

This policy allows students to maximise their chances of passing the module after reassessment. In Part I (and Part II [Master of Nutrition]), the ORIGINAL marks are carried forward for degree classification purposes. However, reassessment marks may be considered by the examining boards if the candidate is on the borderline between degree classes.

- **Progression after reassessment:** For progression purposes, the higher or highest of the marks obtained in each module (at first attempt or upon re-assessment) are considered and the progression and compensation regulations applied accordingly.
- **Marking Schemes:** see appendices 1-5, 7
- **Progression Charts:** see appendix 6 and can be viewed at <http://goo.gl/N492mp>
- **BSc Degree Candidates**
Award of an Honours degree is dependent on completion and submission of a final year project.

When the overall Part I / Part II mark has been computed, it is rounded to provide a single overall integer mark before any degree classification is assigned. Subject to the exception of borderline candidates and those with extenuating circumstances, who may be awarded a higher degree classification, students shall be awarded the class of degree with their overall mark. The classes of honours degree are as follows:-

- First Class - average of 70%+
- Second Class (Division 1) - average of 60-69%.
- Second Class (Division II) - average of 50-59%.
- Third Class - average of 40-49%.

Weighting of BSc degrees is Part I (30%) and Part II (70%). Candidates are regarded as borderline and considered for promotion to a class higher than that of their weighted average if their weighted average mark is: 68 or 69; 59; 49; 39.

Borderline Profiling

The School of Biosciences operates a borderline profiling system for determining undergraduate degree class borderline outcomes. This document sets out how borderline profiling will be undertaken for students graduating in the academic session 2014/15 and beyond until otherwise notified. This system covers all undergraduate BSc and masters courses.

BSc Candidates:

Weighting of BSc degrees is Part I (30%) and Part II (70%). Candidates are regarded as borderline and considered for promotion to a class higher than that of their weighted average if their weighted average mark is: 68 or 69; 59; 49; 39.

Criteria and outcomes:

Candidates with a degree weighted average in the borderline range (39, 49, 59, 68 or 69) will be promoted to the next higher class of degree (III, II.ii, II.i, I respectively) if they have 140 credits' worth of marks in the higher degree class (or above) spread over Parts I and II, **OR** if they have 100 credits' worth of marks in the higher degree class (or above) solely in Part II. Candidates not meeting either of these criteria will not be promoted to the higher degree class.*

MSci and MNutr Candidates:

Weighting of MSci degrees is Part I (30%), Part II (30%), Part III (40%);
Weighting of the MNutr degree is Part I (20%), Part II (40%), Part III (40%).
Candidates are regarded as borderline and considered for promotion to a class higher than that of their weighted average if their weighted average mark is: 68 or 69; 59; 49; 39.

Criteria and outcomes:

Candidates with a degree weighted average in the borderline range (39, 49, 59, 68 or 69) will be promoted to the next higher class of degree (III, II.ii, II.i, I respectively) if they have 140 credits' worth of marks in the higher degree class (or above) spread over Parts II and III, **OR** if they have 100 credits' worth of marks in the higher degree class (or above) solely in Part III.

Candidates not meeting either of these criteria will not be promoted to the higher degree class.*

* No candidate whose weighted average does not fall within a borderline as defined above shall be considered for promotion, unless documented grounds have been supplied for supposing that their performance in assessed coursework and/or examinations has been seriously impaired by medical or compassionate circumstances, and the examiners judge that, but for those circumstances, the candidate would have achieved a weighted average in the higher range or would have met the criteria for promotion specified above.

15 Extenuating Circumstances

Policy regarding extensions to coursework on grounds of Extenuating Circumstances, Disability or Specific Learning Difficulties Summary:

- 1) Extensions to coursework will not normally be given unless the student has a specific recommendation from the School's Extenuating Circumstances Committee, or Academic/Disability Support.
- 2) Extensions will not normally be given as a result of short-term illness of less than 7 days unless the module convenor agrees this.
- 3) Students with Academic/Disability referrals allowing the option for coursework extension may arrange for a short extension to coursework submission with the module convenor, on the basis of particular circumstances, without the need to apply for extenuating circumstances.
- 4) Students with approved extenuating circumstances may be granted an extension to coursework submission of usually no more than 21 calendar days.

Full details of the school's implementation of University policy is below. Meeting deadlines is an important part of working life. It is important that students develop time management skills and the ability to meet deadlines before undertaking work placements or entering the workforce on graduation. Coursework deadlines are normally set at the start of the module by the module convenor¹, and clearly stated in module documents/introductory teaching sessions. This gives students the opportunity to identify periods of high workload within each semester and plan their time accordingly. Whilst course teams will try to adapt deadlines to avoid coursework 'hotspots', deadlines are set as appropriate for each individual module and it is the student's responsibility to plan their time accordingly.

Extensions to coursework deadlines can be given in limited circumstances – for example, if students have extenuating circumstances, disability or specific learning difficulties. These are dealt with in the following way.

- Extensions to coursework will not be given to students unless they have a specific recommendation from Academic/Disability Support, the School's Extenuating Circumstances (ECs) committee or the module convenor (see below).
- Students with specific recommendations from Academic/Disability Support may request one extension in advance of the deadline, giving justification for why they need it. Students should not expect to be offered an extension, and it is acceptable for the Module Convenor not to allow one, if it is not possible within the module structure – for example, if the work is subject to a very tight marking turn-around period, such as laboratory practical write-ups. In these circumstances, students should be given notice in advance of the deadline that no extensions can be allowed. If the module convenor feels that an extension is appropriate, the following extension lengths, which have been endorsed by Academic Support, will be followed:

Length of Coursework	Extension
Up to 2,500 words (or equivalent)	Maximum of 2 calendar days
2,500- 5,000 words (or equivalent)	2-4 calendar days

¹ Where this guidance refers to "module convenor" this can also be taken to include coursework marker/other academic contributor to the module where this person is not the module convenor.

Any further extension would normally only be given on the basis of approved extenuating circumstances.

Any unapproved late submissions will have marks deducted as outlined in the Quality Manual (5% for each working day).

Students who submit coursework late as a result of illness or other circumstances lasting more than 7 days should discuss this with the module convenor or their personal tutor and should submit an EC form in advance of the submission deadline and evidence within 7 days of the submission deadline. If evidence is not available at the time that the form is submitted, it can be submitted within 14 days of the EC form submission. This documentation will be considered via the normal EC process (see:

<http://www.nottingham.ac.uk/academicservices/qualitymanual/assessmentandawards/extenuating-circumstances-policy-and-procedures.aspx>

- If ECs are accepted, an extension to the submission will be agreed and any marks that have been deducted for late submission will be reinstated.

Any extension (within a teaching semester) for students with ECs will not normally be for more than 21 calendar days, to ensure that all coursework is submitted prior to the coursework return date. Any submission after the return date will not be accepted but a student may be given a first sit opportunity if they have approved ECs

16 Plagiarism and Paraphrasing

This section is also covered in the Study Skills book. It draws upon information available at the following University Web sources together with guidance from staff in the School of Biosciences. **As work is now submitted electronically through Turnitin, be aware the plagiarism is readily-detected.**

USEFUL ADVICE FOR STUDENTS

One good method to avoid plagiarism is to make notes from material you have read and construct your essay / report, in your own words, from these notes. It is tempting (and easy) to copy and paste, but this is unacceptable and constitutes an academic misconduct. It is also poor practice to construct a draft by copying and pasting material from multiple sources, with the intention of then paraphrasing the resulting document. Apart from the fact that the end-product may be disjointed, the paraphrasing is often incomplete and the work submitted may contain elements of plagiarised material. It is, however, acceptable to include relevant figures and tables from published work, as long as you acknowledge their source by citing the primary reference for them.

To make a specific point, there may be occasions when you have to quote an author verbatim; this is acceptable if you put the quotation in inverted commas and give the source, but you should have a good reason why you can't put the material in your own words.

USEFUL WEBSITES

Academic integrity and plagiarism

<http://www.nottingham.ac.uk/studyingeffectively/writing/plagiarism/index.aspx>

Quality Manual

<http://www.nottingham.ac.uk/academicservices/qualitymanual/assessmentandawards/academic-misconduct.aspx>

Studying Effectively

<http://www.nottingham.ac.uk/studyingeffectively/home.aspx>

DEFINITION OF AN ACADEMIC MISCONDUCT

Any activity or behaviour by a student which may give that student, or another student, an unpermitted academic advantage in a summative assessment is considered to be an act of academic misconduct and unacceptable in a scholarly community. Such action(s) will be considered under the University's Regulations on Academic Misconduct and this may lead to a penalty being imposed

DEFINITION OF PLAGIARISM

The following definition of plagiarism appears in the University Quality Manual:

Plagiarism: representing another person's work or ideas as one's own, for example by failing to follow convention in acknowledging sources, use of quotation marks etc. This includes the unauthorised use of one student's work by another student and the commissioning, purchase and submission of a piece of work, in part or whole, as the student's own.

Note: A proof-reader may be used to ensure that the meaning of the author is not misrepresented due to the quality and standard of English used, unless a School/Department policy specifically prohibits this. Where permitted, a proof-reader may identify spelling and basic grammar errors. Inaccuracies in academic content should not be corrected nor should the structure of the piece of work be changed; doing so may result in a charge of plagiarism.

Work in any year of study which is not undertaken in an Examination Room

under the supervision of an invigilator (such as dissertations, essays, project work, experiments, observations, specimen collecting and other similar work), but which is nevertheless required work forming part of the degree, diploma or certificate assessment, must be the student's own and must not contain plagiarised material.

Possible **penalties** for an academic misconduct including plagiarism are:

- a) No marks to be awarded in relation to the specific material which is the subject of the act constituting an academic misconduct (thus leading to a reduced overall mark for the piece of course work, dissertation, examination question or examination script in which the specific material appears)
- b) Award a mark of zero for the entire piece of course work, dissertation, examination question or examination script in which the academic misconduct has occurred
- c) Award a mark of zero for the entire module in which the academic misconduct has occurred
- d) Award a mark of zero for all the assessments in the semester (even where this will lead to a reduction in degree class). In the case of year-long modules, this penalty may affect both semesters
- e) Award a mark of zero for the whole year (even where this will lead to a reduction in degree class)
- f) Require the student to take reassessments (as a result of being awarded zero marks) in the following session before being allowed to progress or complete their course
- g) require the student to register with the University and enrol on modules in which they need to take reassessments (as a result of being awarded zero marks) in the following session before being allowed to progress or complete their course
- h) Terminate the student's course
- i) Withdraw the award of a degree or other qualification from, and issue an amended transcript to, a former student of the University
- j) Full details of possible School and University penalties can be found at: www.nottingham.ac.uk/academicservices/qualitymanual/assessment/academic-misconduct.aspx

ACADEMIC MISCONDUCT

Any activity or behaviour by a student which may give that student, or another student, an unpermitted academic advantage in a summative assessment is considered to be an act of academic misconduct and unacceptable in a scholarly community. Such action(s) will be considered under the University's Regulations on Academic Misconduct and this may lead to a penalty being imposed.

Here is a range of cheating behaviours:

1. False citation (i.e. attributing work to the wrong source)
2. Plagiarism
3. Using unauthorised sources or notes in examinations or tests
4. Dishonestly obtaining material or information prior to examinations
5. Copying from other students
6. Permitting other students to copy your work
7. Soliciting work from others (e.g. individuals, 'editors' or essay banks etc)
8. Submitting your own previously assessed work without acknowledgement (auto plagiarism)

Unauthorised Collaboration, or Collusion, occurs where:

Collusion: cooperation in order to gain an unpermitted advantage. This may occur where students have consciously collaborated on a piece of work, in part or whole, and passed it off as their own individual efforts or where one student has authorised another to use their work, in part or whole, and to submit it as their own.

Note: Legitimate input from University tutors or approved readers or scribes is not considered to be collusion.

Fabrication may take various forms but is essentially concerned with manufacturing aspects of the work produced. For example, the insertion of made-up information, data, sources, quotes, anecdotes or analysis would all amount to fabrication

Recycling or unauthorised, multiple submissions.

The multiple submission by a student of their own material is not, in itself, considered as academic misconduct. Submission of material that has been submitted on a previous occasion for a different summative assessment is, however, unlikely to be academically appropriate. The merit of such material will therefore be a matter of academic judgement and it may attract fewer (or no) marks than would have been the case if it had not been assessed previously

Note:

Plagiarism is regarded as a serious academic misconduct by the University and will be penalised accordingly. Plagiarism can be easily identified by entering suspect passages into search engines. Specialist search engines (e.g. Turnitin) are available to check all submitted work against previously published sources, including coursework submitted by students in the current or previous years. The School of Biosciences uses Turnitin to assist academic staff detect plagiarism; students may be required to submit all coursework in electronic form to facilitate automatic on-line detection of plagiarism. All BSc Research Projects must be submitted electronically to be checked by Turnitin along with the necessary hard copies (see Guidelines for BSc Research Projects).

If a student is required to attend an Academic Misconduct interview within the School for any suspected academic misconduct his/her tutor will be informed of this, together with the Head of School (or nominee), module convenor (or nominee) and the School Manager for Academic Administration (or nominee).

GUIDANCE TO HELP YOU AVOID COMMITTING PLAGIARISM

1. You are allowed to use information from other people's work provided you acknowledge the source. This can apply to a statement, Table or Figure. The best way of doing this for Tables and Figures is to add: "After Smith (1988)" or "Modified from Smith (1988)", and include the reference in your reference list.

2. If you are discussing something somebody else has said, you can say, for example: Smith (1987) claimed that coral reefs in the Pacific were damaged by high temperatures in 1975. Or: It has been claimed that high temperatures in 1975 damaged coral reefs in the Pacific (Smith, 1975).

3. If you wish to quote from previous work you should put it in quotation marks, e.g. Smith (1980) described the outcome of unprecedented high temperatures on coral reefs as: "A disaster for the marine communities in the coastal regions of the Indo-Pacific", and then stated that: "The phenomenon appears to be due to unprecedented high temperatures".

For information on paraphrasing see 8 and 9 below.

4. Authors should be cited in text either as: Smith (1975), Smith and Allen (1978), Allen (1987, 1989), or as (Smith, 1975; Smith and Allen, 1978; Allen 1987, 1989). Note that these are in chronological, not alphabetic order. When more than two authors are quoted, this should be in the form Allen *et al.* (1993) in the text, but the full reference should be given in your reference list.

5. In your "References" or "Literature cited" section, the following style (authors, date, title, journal, volume number, page numbers) should be used and references should be listed alphabetically. Provided you are consistent, you may also use any other accepted style - see journals in the library.

Smith, A. J. and Allen, N. B. (1986). Temperatures and coral reefs. *Journal of the Marine Biological Association* 86: 101-123.

Smith, A. J., Jones, K. L. and Allen, N. B. (1988). Death of corals due to high temperatures. *Thermal Biology* 27: 19-34.

6. For books, the following style (author, title underlined or in italics, publisher, place of publication) applies:

Allen, N. B. (1992). *Coral Reef Biology*. Blackwells, London.

7. For chapters in edited volumes, the following style (author, date, title of chapter, title of book underlined or in italics, editors, page numbers, publisher, place of publication) applies:

Smith, A. J. (1987). Temperature and bleaching in corals. In: *Coral Reef Biology* (N. B. Allen and C. K. Hodges, eds.), pp. 65-90. Clumber Press, New York.

8. **Paraphrasing**, i.e. verbatim or almost verbatim restatement of a passage is a form of plagiarism frequently used in essays and dissertations. The following is paraphrased from C. H. Gordon, P. Simmons and G. Wynn (date unknown). *Plagiarism - What It Is And How To Avoid It*. University of British Columbia.

Students often ask "How much do I have to change a sentence to be sure I'm not plagiarising?" If you have to ask, you are probably about to commit plagiarism! There is no set number of words that you need to change or add to make a passage your own – the originality must come from the development and expression of your own ideas.

Original work demands original thought. You should try and separate your ideas from those of others. If you use another author's conclusions then acknowledge them. If you come to the same conclusions as another author you should still acknowledge them. Once a piece of work is complete, look at each part and ask yourself if the ideas expressed are entirely your own, and whether the general language or choice of words is your own. If the answer to either is "no" the work should be credited to the original author

9. Examples.

9.1 Original

From Smith (1992):

The author has found that corals respond to high temperatures by expelling their zooxanthellae. This causes them to go white, a phenomenon known as "bleaching." Such corals soon become covered in algae, which makes it difficult for new coral planulae to settle and start a new colony (Davies, 1980). The phenomenon of bleaching is similar to the effect of a crown-of-thorns starfish (*Acanthaster planci*) attack where the polyps are digested by enzymes secreted onto the colony surface (Brown, 1990). As Jones (1972) found, *A. planci* poses a severe threat to corals in the Indo-Pacific. The recent occurrence of high numbers of these starfish on reefs has been correlated to run-off from land which contains high levels of plant nutrients (Jones, 1986). The subsequent increase in the number of algae apparently enhances the survival of the filter-feeding larvae of the starfish.

To include this text verbatim in your own work, *without* placing the entire paragraph in quotation marks and acknowledging Smith (1992) (see 3 above) would constitute plagiarism.

9.2 Paraphrased version

Paraphrased from Smith (1992):

Smith (1992) has found that corals respond to high temperatures by expelling their zooxanthellae. This phenomenon, known as "bleaching", causes them to go white. Such corals quickly become covered in algae and this makes it difficult for new coral planulae to settle and begin developing a new colony (Davies, 1980). Bleaching is similar to the effect of a crown-of-thorns starfish (*Acanthaster planci*) attack. Brown (1990) notes that this is where the polyps are digested by enzymes secreted onto the colony surface. Jones (1972) found that *A. planci* may be a severe threat to corals in the Indo-Pacific. Recently high numbers of these starfish on reefs has been correlated to run-off from land with high levels of plant nutrients (Jones, 1986). The increase in the number of algae apparently enhances the survival of the filter-feeding larvae of the starfish.

To include this text in your own work, even *with* the initial acknowledgment Smith (1992) would constitute plagiarism since it reads as if only the first sentence is taken from Smith, and the rest of the references (Davies, Brown and Jones) have been sourced and read by you and that the development and expression of the text is your own original work.

9.3 Unacknowledged version (i.e. submitting this as if it were your own thoughts or work)

The presence of high numbers of crown-of-thorns starfish (*Acanthaster planci*) on reefs has been connected to run-off from land containing high levels of plant nutrients. This causes an increase in the number of algae which results in better survival of the filter-feeding larvae of the starfish. The starfish kills corals by secreting digestive enzymes onto their surfaces. *A. planci* poses a severe threat to corals in the Indo-Pacific and their effect is similar to that caused by "bleaching", a phenomenon caused by high temperatures which results in zooxanthellae being expelled. Subsequently the dead corals become covered in algae which makes it difficult for a new colony to start.

To include this text verbatim in your own work, would constitute plagiarism since there is no acknowledgment of Smith (1992).

9.4 Acceptable version (based on information from Smith, reading the cited references yourself and drawing upon other work)

Smith (1992) quoted Jones (1972, 1986) in suggesting that the crown-of-thorns starfish poses a threat to corals in the Indo-Pacific, and that their recent upsurge may be due to an increase in plant food levels caused by an input of nutrients from land. Brown (1990) found that these multi-armed starfish killed corals by everting their stomachs onto the coral colony surface and secreting an enzyme to digest the tissues externally. The resulting "bleaching" effect is similar to that which occurs when corals are exposed to high temperatures and the zooxanthellae are expelled (Smith, 1992). Davies (1980) found that the settlement of algae on the colony surface made it difficult for new coral larvae to settle and, although fish often grazed the algae continually, he found they could not keep these under control. Recent studies have shown that plagues of crown-of-thorns starfish may be a natural phenomenon, as the fossilised remains of previous outbreaks have been found in rocks millions of years old (Cromer, 1994).

To present your work like this would not constitute plagiarism.

Note that all the references and authors used in this document with the exception of Gordon *et al.* are fictitious.

PLEASE CONSULT YOUR TUTOR IF YOU ARE STILL IN DOUBT ABOUT PLAGIARISM

17 Personal Academic Development

This table sets out the goals that you should strive for as you progress through your degree. If you can achieve these you will be well prepared for the diverse opportunities that lie ahead

	Qualifying year Year 1	Part I Year 2	Part II Year 3
Learning experience	<ul style="list-style-type: none"> • Establish a strong factual base • Learn the basics of the scientific method and develop a questioning approach 	<ul style="list-style-type: none"> • Link knowledge from diverse sources and develop an ability to relate information • Develop a critical and analytical approach to information 	<ul style="list-style-type: none"> • Develop the ability to handle complex information • Evaluate information and synthesise ideas • Develop a creative approach to problem solving
Skills acquired	<ul style="list-style-type: none"> • Cope with varying lecture styles • Make effective use of library and IT facilities • Acquire basic laboratory skills 	<ul style="list-style-type: none"> • Consolidate information skills with extensive use of library and IT • Enhance practical skills • Enhance presentation skills • Organise study and manage time to meet deadlines • Appreciate the importance and value of team work 	<ul style="list-style-type: none"> • Develop a mature approach to study • Exhibit strong self-discipline and commitment • Clearly articulate knowledge and understanding • Respect the views of others and engage in reasoned argument
Developing independence	<ul style="list-style-type: none"> • Learn to combine teacher-driven study with work based on individual initiative 	<ul style="list-style-type: none"> • Make independent use of library and other information resources • Acquire experience in a range of learning styles 	<ul style="list-style-type: none"> • Take responsibility for self-learning • Demonstrate individual style and flair • Exhibit professionalism and ownership of subject

18 Academic Tutoring

Academic tutoring is the support which the school provides to students in addition to formal teaching. It is complementary to the University's central support services and pastoral care provision.

The objectives of Academic Tutoring are to:

- Help you acquire the necessary study skills to pursue your studies successfully.
- Address problems of lack of knowledge and understanding of the subject.
- Address any problems with aspects of a module or your studies in general.
- Provide you with an overview of your academic progress at module and programme level.
- Assist you in making academic choices e.g. module enrolments, programme pathways.
- Provide assessment feedback to help you improve your future performance.
- Contribute to the acquisition of key employability skills.
- Assist and encourage you to gain employment or continue your education after you graduate.

The School takes its responsibility for academic tutoring very seriously and provides the following to ensure that you are properly supported:

- One-to-one meetings with your personal tutor for personal development, pastoral support and guidance (e.g. on module choices).
- Meetings with course managers for module guidance, either informally or at module enrolment days.
- Tutorials/seminars within modules comprising your degree programme.
- Provision of specific credit-bearing academic tutoring and study skills modules (D21BP1: Bioscience Tutorials (academic development) Dissertation in Environmental Science) and also through skills embedded in other academic modules including project and dissertation modules.
- Drop-in support sessions for mathematics and statistics.
- Written feedback on assessments including;
 - individual written or verbal feedback on coursework and mark allocation based on a transparent marking scheme,
 - generic feedback one week after exam results,
 - constructive comments provided by markers through individual appointments with module conveners
 - module report forms collated from students' comments, available through Moodle.
- Student led-seminars.
- Peer support groups, including mentoring.
- 'Office hours' system for appointments with module coordinators/tutors.
- A flexible and comprehensive virtual learning environment (Moodle).
- Links to central support services e.g. Academic Support, the Counselling Service and the Student Services Centre.
- Assistance and guidance on academic administrative matters through the school office.
- Encouragement to make use of central on-line study skills resources e.g. 'Study Skills' www.nottingham.ac.uk/studyingeffectively.
- Assistance with personal support or guidance from the School Senior Tutors.

School of Biosciences Tutoring Statement

The full Biosciences tutoring statement can be found in appendix 8 and at <http://goo.gl/dPpFjU>. Students are encouraged to read the statement.

19 Attendance Monitoring

Students must attend all teaching activities necessary for the pursuit of their studies, undertake all associated assessments and attend meetings and other activities as required by their School or the University. Where students face difficulty in attending sessions or undertaking assessments and examinations, it is their responsibility to inform their School of this fact and to provide a satisfactory explanation. Please see <http://www.nottingham.ac.uk/academic-services/quality-manual/registration-attendance-and-dstudy/regulations-governing-attendance-and-engagement.aspx> for further details on attendance regulations at the University.

Two weeks is considered a significant period of absence and students are encouraged to consider interrupting their studies if they will miss this length of time. See for further details on voluntary interruption of studies.

The School will consider all extenuating circumstances relevant to attendance and engagement with a student's studies. Students should make the School aware of any extenuating circumstances as soon as possible to ensure full support can be provided and any alternative arrangements such as coursework extensions can be applied within the approved timescales. See for further details on extenuating circumstances.

Individual Schools and Departments have systems in place to monitor attendance during the academic year. Example includes taking registers in lectures, monitoring coursework submission and tutorial attendance, etc. Unauthorised absences are reported to Academic Services and recorded as appropriate. Where students are absent without authorisation, to the point that it is not possible to continue with the course, Academic Services will write to the student stating that they will be deemed to have withdrawn from the University and their student record will be amended to show that they have withdrawn.

Students who are identified to be poorly engaging with their studies or poorly attending teaching activities will be asked to meet with the Student Experience and Support Officer or their Personal Tutor.

Where required the University will report non-attendance and poor attendance to appropriate authorities including the UK Border Agency and Student Finance.

20 Complaints and Appeals Procedures

Details of the University's Complaints and Appeals Procedure can be found at:
www.nottingham.ac.uk/academicservices/qualitymanual/complaintsandappeals/academicappealpolicyandprocedure.aspx

The procedure regarding a complaint concerning your course is that in the first instance you should contact the lecturer concerned. If the matter cannot be resolved, the next points of contact would be:

- Module Convener
- Course Manager
- Teaching Manager
- Head of Division
- Head of School
- Student Year Representative (names are on the Learning Community Forum notice board together with the Module Convener)

Students are encouraged to involve their Personal Tutors at any stage, whether the matter of concern is of an academic or personal nature. Students also have the right to bring matters of concern before Learning Community Forum.

21 Year Out

21.1 Year Out and Erasmus

The School of Biosciences has established an ERASMUS programme of Student Exchange with a number of European Institutions in France, Germany and Spain.

All students taking honours degrees in the School (except MNutr) are able to take an additional Certificate in European Studies (normal entry requirement is at least a grade B in the second language that the student intend to improve at GCSE level). The Certificate consists of an additional year over and above your 3-year BSc degree programme and commences after the second year in September of Semester 5 and concludes at the end of Semester 6. You will then re-join the normal 3-year programme at the beginning of Semester 7.

Students entering the School need to apply to take the Certificate following a meeting which outlines the principles of the Certificate. Once the application is confirmed, students must submit their application in writing to the School Office.

Students taking the Certificate follow preliminary language training during Year 2 (Part I) by taking 10 credits of French, German or Spanish languages (held in the Language Centre, University Park) and 50 credits of Science modules in each of semesters 3 and 4. In Semester 5 and 6; students will be on placement in an academic Institution in another European country where they will follow courses, including language modules in both of the semesters in placement; the courses must be taken in the language of the chosen Country. Students will also need to complete a European Placement module during semester 5 and 6.

The ERASMUS programme is on an exchange basis. Thus it is suggested that students make contact with ERASMUS students within the School who are from the host University together with those Biosciences students who were at the host University in the previous year. Both these contacts can be invaluable in providing assistance and information.

Further information about the scheme is available from Ms Elena Staves (School Office) or Dr Zinnia H. Gonzalez-Carranza (Division of Plant and Crop Sciences, SB).

SUPPLEMENTARY REGULATIONS FOR THE EUROPEAN CERTIFICATE

In addition to the normal progression rules for undergraduate study, the following progression rules apply to the European Certificate element.

Part I candidates achieving a mark of 50% or more in each of the Autumn and Spring Semester language modules will progress to the language module in the Autumn of the year of the Certificate in European Studies (Biosciences). Part I candidates achieving a mark of 40-49% in the Autumn and / or Spring Semester language module(s) will normally be advised to discontinue with the Certificate in European Studies (Biosciences). Candidates achieving a mark of less than 40%, at first attempt, in the Autumn and / or Spring semester language module(s) will be advised to discontinue with the Certificate in European Studies (Biosciences). If, after reassessment, candidates do not achieve a mark of at least 50% in the Autumn and / or Spring Semester language module(s) they may not continue with the BSc with a Certificate in European Studies (Biosciences).

The above regulations as specified for candidates obtaining marks at first attempt. Candidates on the year of the Certificate in European Studies (Biosciences) between Part I and Part II who obtain a mark of less than 40% in the language module cannot progress onto placement in the following semester. Such candidates are offered the opportunity either:

- 1) to transfer to the equivalent 3-year BSc degree without European Studies at the start of the next academic year and thus do not take any further language modules. Or
- 2) to be reassessed in the Autumn semester language module in the August / September reassessment period.

If, after reassessment, a mark of 50% or more is achieved candidates may re-join the Certificate in European Studies (Biosciences) in the following academic year. If a mark of less than 50% is achieved at reassessment candidates will be offered 1) above.

In order to proceed to Part II of the degree BSc with a Certificate in European Studies (Biosciences) candidates must attain pass marks in assessments related to the European Year. Candidates who fail to attain satisfactory marks in the assessment undertaken during the European Year shall be offered the opportunity to transfer to the 3-year equivalent BSc degree without European Studies.

Candidates who fail to achieve the criteria for progression onto the three year equivalent degree without European Studies shall not be permitted to continue on this degree but may be offered the opportunity to transfer to the Ordinary degree.

MARKING SCHEME FOR THE EUROPEAN YEAR

European Placement Module:

Fifty percent of the mark correspond to the attendance and assessment of the courses taken abroad. The other fifty percent correspond to one scientific review, one cultural essay and one translation (see below for information).

50%: Attendance and assessment of courses taken abroad.

50%: Essays and translations.

<i>Activity Type</i>	<i>Information</i>	<i>Length</i>	<i>Weighting</i>
Attendance and assessment of courses abroad	Students must attend and sit the exams abroad	Not applicable	50%
Essay 1	Scientific review	4000 words	17%
Essay 2	Culture research paper	4000 words	16%
Translations	Science into English	10 * 400 words	17%

21.2 Studying Outside the UK

Malaysia Campus

Students on the BSc Biotechnology, BSc Agricultural and Crop Science, BSc Nutrition, BSc/MSci Environmental Science, BSc Environmental Biology and BSc Plant Science courses may have the opportunity to study for one semester or full academic year at our Malaysia Campus as part of their three-year degree programme. All teaching at our Malaysia Campus is in English and the modules and exams are very similar to those in Nottingham. Students from the UK campuses pay a reduced tuition fee during their time abroad and living costs in Malaysia are lower than in the UK.

See link: www.nottingham.edu.my/index.aspx

Universitas 21

Nottingham is a founder member of Universitas 21 which is a global alliance of key universities. You will be able to apply to spend one semester (the first of your second year) studying in one of our partner institutions (including Australia, China, Korea, Mexico, North America, New Zealand, Singapore). Competition for these placements is high but the rewards are considerable.

Find out more about study abroad opportunities at

www.nottingham.ac.uk/internationalstudents/exchanges/index.aspx

Interested? What to do next

Don't miss the Study Abroad Fair, organised by the International Office, which will take place in November 2015. Here, you will learn about all the study abroad options open to you and how to apply. You will also be able to meet with students who have already studied at overseas campuses.

Interested students are advised to find the Study Abroad Team on Facebook to be kept updated with deadlines and events at: www.facebook.com/UoNStudyAbroad and the International Office website:

www.nottingham.ac.uk/internationalstudents/exchanges/index.aspx

21.3 Industry Placements

All of the 3-year degree courses (not Master of Nutrition and Dietetics) have the option of being combined with an intercalated year in industry. Students are welcome to make the most of our extensive industrial links by arranging to combine their degree with an industrial placement between years 2 and 3. See further details and profiles of recent student experiences at:

www.nottingham.ac.uk/biosciences/prospectivestudents/undergraduate/industryplacements.aspx

22 Channels of Communication

Dissemination of information is an on-going process during the academic year; this will come from both the School Office and academic staff. We use several ways to give out information.

- **Email** - Email is the normal means of communication to individuals or class groups; your tutor and module conveners will email regularly and it is also a good way for you to contact academic staff. However, this and other media should not detract from personal meetings, which are necessary for the communication of several matters including the conveyance and discussion of examination.
- **Moodle** - Moodle is the online learning environment across the University. The resource allows you to access lecture notes, find links to external learning resources, access self-test exercises and assessments, participate in online learning activities, submit assignments and collaborate on group projects. You can log in using your University username and password the day after you have completed your registration online. w: moodle.nottingham.ac.uk
- **The Student Portal** - The Portal is a central part of the University's communication system for staff and students. Make sure you have access to it at: <https://goo.gl/dFwTwP>
- **Social Media** - The University of Nottingham uses the latest technology to bring Nottingham to life and to ensure that you can experience and interact with the University community at any time, see: www.nottingham.ac.uk/connect/nottinghamconnect.aspx
- **Blue Castle website** - students can view their marks, progression status and final award information electronically at: <https://goo.gl/txm85c>

23 Students/Staff Consultation

The courses you are taking have evolved over a number of years and incorporate many features arising from student feedback and evaluation. Each department has its own procedures for allowing students to participate in the evaluation and future development of courses.

Broadly, two channels exist:

- feedback evaluations which enable you to comment on the content, style and objectives of modules; we urge you to take the time and effort to complete these so you and future students can play a role in improving our teaching
- The Learning Community Forum (LCF) consists of course representatives of undergraduate students and teaching staff who discuss a wide range of academic and non-academic matters. Anyone who has comments, criticisms or suggestions that they wish to be discussed should contact one of the representatives, whose names will be notified to you during the first semester. Minutes of the Learning Community Forum will be made available electronically.
- The Student Guild also elects student representatives to the School Board and other School committees. If you want to influence academic procedures in the School and University on behalf of your fellow students, you must join the Guild first.

24 Office Hours

The School office hours policy, see below:

- Appointments for meetings with staff should be requested by students by email or in person (by phone or office notice board). Requests by email can be made at any time.
- Staff should respond to such requests by email within two working days (both during term and outside term-time). Staff are not obliged to send their responses outside of normal working hours, nor during official University holidays, nor when on vacation. They should put out-of-office messages on their emails during vacations and respond within two working days upon return.
- Following a request, appointments should be arranged with the student at a mutually convenient time, normally to be held within three working days of the request.
- Once an appointment has been made, both the staff member and the student are expected to honour the appointment. Should either be unable to attend they should email to cancel prior to the meeting.
- Staff have the option of restricting their availability to students to particular days or times of day (other than in emergencies). In this case, they will communicate their preferred availability to their tutees and to other students they see on a regular basis.

25 Quality Assurance

The primary aim of the University of Nottingham is to sustain and improve the high quality of its provision as one of the leading research-led universities in the United Kingdom. It is also committed to providing a learning environment of the highest quality for students, in which first class teaching is underpinned by excellent research. The School of Biosciences endeavours to maintain these goals in the Biosciences, where relevant in collaboration with other schools, in the following ways:-

- by recruiting motivated students with a proven record of high level of learning;
- by providing a broad education across the discipline;
- enabling the development of an analytical and critical appreciation of scientific ideas and problem solving;
- providing a learning experience enriched by an active research environment;
- enabling the development of independent learning and skills for a wide range of careers within and outside the biological sciences;
- to ensure that students receive appropriate support and guidance in their academic development and career planning;
- to identify and support the academic and pastoral needs of individual students;
- to provide a flexible, effective and adequately resourced learning environment, and
- to maintain and improve teaching and learning through effective management structures in line with the University Quality Manual.

As part of an ongoing process of improving quality, some of our teaching facilities have been recently refurbished and modernised. We look to our students to help us maintain these areas in good condition for the benefit of future generation.

26 Coursework and Examination Feedback

Feedback is generally provided in three main forms i.e on i) assessed coursework, ii) examination performance and iii) general aspects of each module. For each module, in addition to the individual marks given for assessed coursework, you will receive an overall module mark and the end of each semester you will receive a set of module marks for the semester that will be made available to you through Blue Castle (<https://bluecastle.nottingham.ac.uk>). Your module marks are confidential and not shown to other students. Individual mark components (e.g. coursework marks) are also confidential; the only exception to this is when you receive a mark for a piece of 'group work' in which all members of your group receive the same mark. The sections below provide further details about feedback.

Coursework Feedback

Coursework feedback is normally provided through written comments on your work. For many pieces of coursework, a cover sheet will be returned with your work to explain the mark received and give advice on how your work could be improved. For other pieces of non-examination assessed work, it may not be feasible to provide written comments on your work, for example, a group oral presentation; in such cases, feedback may be provided verbally or by email. Feedback for other assessed work e.g. laboratory practicals, may be provided in other ways as appropriate to the assignment set. Whilst the manner by which you receive coursework may vary depending on the type of coursework set, the purpose of the feedback is to provide a mark for the work together with constructive comments to help improve your performance in future assignments. If you wish to discuss your performance in any assessed work, you should contact the module convenor.

Module convenors will set a date by which you must submit coursework and a date when you can expect to receive feedback on your coursework. This information will be provided when the module convenor sets the piece of work. In normal circumstances, marked coursework and associated feedback should be returned to students within 21 days of the published submission deadline, i.e. students submitting work before the published deadline should not have an expectation that early submission will result in earlier return of work. See details

www.nottingham.ac.uk/academicservices/qualitymanual/assessmentandawards/feedback-to-students.aspx

Examination Feedback

After each of the main examination periods, students are advised that examination feedback will be posted on Moodle. This will include: i) feedback on examination questions on which students' performance could be improved, ii) suggested strategies for improving performance in those questions and iii) general comments about examination technique etc. Students wishing to discuss their examination performance should contact the relevant module convenor(s).

General Feedback

A copy of the Module Report Form, which is a summary of the discussion/feedback with students at the end of each module, can be found in the Moodle folder for the module. This feedback sheet is used by module convenors to identify areas of the module which students felt worked well, and areas which could be improved; in the latter case, the module convenor will make appropriate academic adjustments to the module for the following academic session. The areas of feedback covered by the module report form follow the headings detailed in the Module Report Form.

The University's Quality Manual provides information on good practice for feedback on assessed work and what you can expect to receive as a student at the University of Nottingham – see <http://goo.gl/DI1Gqo>

27 Student Services/departments

27.1 Student Services Centre

The Student Services Centre can provide you with information and support throughout your student life. They are approachable, knowledgeable and most of all they are there to help. Student Services Centres are based at Sutton Bonington, University Park and Jubilee Campuses.

The Student Services Centre is the home for Academic Support, the Disability Policy Advisory Unit, Financial Support, the majority of the Registry's front line services and Student Fees. They also provide a front-line service for Graduation.

More information at www.nottingham.ac.uk/ssc

27.2 School Office

The School Office is located at in room A2 (Main Building near the entrance) at Sutton Bonington. It is the main administrative office for the School of Biosciences. Details and useful information can <http://www.nottingham.ac.uk/~sazinfra//office/index.php>.

Students based at the Sutton Bonington Site should raise administrative module and course queries with the School Office (Main Building). Students based at University Park should refer course and module queries to their Course Manager or Emma Hooley.

Contacts below

Sutton Bonington

Gill Fox - 0115 951 6007
Kathy Wilson - 0115 951 6007

University Park

Emma Hooley – 0115 951 6262
Dr Ruth Blunt – 0115 951 3238

27.3 Libraries

The James Cameron-Gifford Library on SB Campus, together with Hallward Library (at UP), George Green Library (UP) and the Medical School Library (QMC and Derby) provide information on all subject areas covered by the School, plus study areas and computing facilities. The on-line catalogue (UNLOC) enables you to search for material held at all branches of The University of Nottingham library. Material from the other campuses can be obtained swiftly for you. During Semester 1 you should attend an introductory lecture provided by the appropriate library. This will be followed up by a tutorial providing an introduction to key resources and discussion on the critical interpretation of published materials as part of the Academic Development and Employability module.

Learning these basic information retrieval and evaluation skills is essential - you will need them for essays and projects throughout your course. As you progress, more specialised studies are undertaken and you must become familiar with the experimental data published in various journals. Acquaintance with published research provides the foundation for most final year research projects. You should not forget to read the more popular scientific press such as *New Scientist* or *Scientific American*, as well as those appropriate to your discipline.

The James Cameron-Gifford Library at Sutton Bonington has over 100 reading places, including quiet areas and a number of PCs (see below); it links with several of the Computer Rooms. The Library stock has been developed to support teaching and research in the Schools of Biosciences and Veterinary Medicine, and the library service also provides access to a wide range of databases, electronic journals, and e-books.

Your University Card is also used as a Library borrower's card, and is required for entry to the libraries at University Park campus.

The Library is open
(Term Time): Monday to Friday
8.00 am - 9.45 pm

Saturday 9.00 am - 4.45pm
Sunday 9.30 am - 4.45 pm

Opening hours may differ during vacations and are increased during exam periods. More information can be found on the Libraries website at:
www.nottingham.ac.uk/library/index.aspx

27.4 IT facilities

Help and advice

Advice and information for new users of the IT facilities can be found on the University web pages – go to www.nottingham.ac.uk and search for 'Student Essentials'. Several on-line guides can be found, and many of them are available as hard copy booklets in the libraries.

Getting online

Your username and password will get you access to most of the services you will need during your time at the University. Make sure you set a strong password and *never* share your password with someone else. The University will *never* ask you to reveal your password, and you should be suspicious of any request to tell someone your password. Be sure to check your University email regularly, otherwise you may miss important information.

Computer rooms

There are a number of Information Services (IS) computer rooms on the Sutton Bonington campus which can be used by students, but some are also used for teaching classes. Please look out for notices stating times when the rooms are unavailable due to teaching bookings

There is a large (120 seat) computer room in the Gateway building (room A07); and smaller rooms in the Main Building (rooms B05, B08, B09, and B10). Further computers are available in the James Cameron Gifford Library, including some with large screens for collaborative or group work.

All IS Computer Room computers are set up in an identical manner, with the same selection of software installed or available (Windows 7, Office 2010, EndNote, PDF Creator; and a range of statistical, graphical and course-related software applications).

Computer loans

The JCG library counter offers a short-term laptop and tablet loan service, with loans restricted to use within the Library and Learning Hub areas only. Students may also make use of the Information Services Laptop Loan service, where longer-term loan periods are possible. This service operates from an office at University Park (Pope Building).

The Portal; and Virtual Learning Environment

The **Portal** (linked from the University's home page) is the main point of access for students, through which you can access most of the services you will need. From the Portal you can connect to your email service, module information, Library services, timetables, and other essential information. You can also connect to **Moodle**, which is the University's Virtual Learning Environment (VLE), and is where you will find course information, module documents, lecture notes, reading lists, assignments, etc.

Saving your files and backing up your data

It is the responsibility of each student to save their work safely and securely! Each student has 4GB of personal file storage available on the University's networked servers. This is available as the 'Home Drive' from any IS Computer Room computer, as well as via the web at files.nottingham.ac.uk.

Never save your work onto the hard drive of Computer Room computers – files will be deleted when you log off! Save files to the Home Drive or to an external device.

Any work done on your *own* computer should be backed up – either onto *at least* one external hard drive or onto one of a number of cloud storage options available widely.

Printing

Students can print from any IS computer to the University Print Service. Printing is held in a queue and can be printed off and collected at Print Service printers which are situated close to all IS computer rooms and in the libraries.

You can also print from your home computer, laptop or mobile device using the Mobile Print Service. Simply email your document to mobileprint@nottingham.ac.uk.

Wireless

Good wireless coverage on the UoN-Secure service should be available in all of the main teaching and social areas of the campus, and in some outdoor areas. In the halls of residence the wireless service is provided by the Hall management companies.

27.5 Academic and Disability Support

Services for students who have a disability, dyslexia and/or a long-term medical condition

At the University of Nottingham we are strongly committed to equality of opportunity for all our students. We welcome disabled and dyslexic students and aim to ensure that, as far as possible, appropriate support is offered to meet your needs.

Full information on the range of support and services available for students is available at www.nottingham.ac.uk/student-services

Disclosure and confidentiality

We will respect the confidential nature of information you provide and act in accordance with data protection regulations. Confidential information will only be shared within the University on a need-to-know basis.

If you have a disability, dyslexia or other Specific Learning Difficulties (SpLDs), we would strongly encourage you to make early contact with us, before submitting your application.

Knowing about your requirements in advance can help us to prepare and arrange support in time for the start of your course.

We would therefore encourage you to disclose your disability or SpLDs to us as soon as possible. Failure to do so may affect our ability to make some of the adjustments that you require.

For more information about confidentiality and disclosure, please see:

<http://www.nottingham.ac.uk/StudentServices/supportforyourstudies/index.aspx/>

Eligibility

If you are disabled or have a long term medical condition, you will need to provide evidence from a medical professional (such as a GP, consultant or specialist nurse) in order to access our services and support. For more information about our medical evidence policy, please see:

www.nottingham.ac.uk/student-services/supportforyourstudies/disabilitysupport/medical-evidencepolicy.aspx

If you are dyslexic, you will need to provide a report, in English, from an educational psychologist or a specialist teacher, dated after your 16th birthday. If you have dyspraxia or AD(H)D, or other Specific Learning Difficulties you will need to have a letter or report from a suitable, qualified professional; for example an educational or occupational psychologist or medical practitioner

What we can offer you...

Academic Support (AS) and Disability Support (DS)

Academic Support (comprising Dyslexia Support and Study Support) and the Disability Support Team are located in the Student Services Centre (SSC), in Portland Building on University Park, and by appointment on our Jubilee and Sutton Bonington campuses, as well as other teaching sites.

We can assist with queries regarding:

- Support in making the transition to University, admissions and registration
- Liaison with your School or department about any impact your condition may have on the study elements of your course OR: assessments in relation to disability and dyslexia and recommendations to academic staff about reasonable adjustments in the learning, teaching and assessment environments
- access to alternative formats such as Braille and large print
- residential accommodation – adapted study bedrooms
- accessible transport around and between our Nottingham campuses
- applying for Disabled Students' Allowances
- access to alternative formats such as Braille and large print
- access to specialist technology in libraries
- liaison with libraries for enhanced services such as extended loans
- timetabling arrangements

Academic Support also provides support for students who wish to develop their strategies for academic writing and time management.

If you would like to contact us please phone the Student Services Centre on (0115) 9513710

or email disability-support@nottingham.ac.uk
or dyslexia-support@nottingham.ac.uk

The University of Nottingham ACCESS Centre (UNAC), in the Student Services Centre, provides assessments for students who have applied for Disabled Students' Allowances.

Disability Liaison Officers (DLO)

The School appoints Disability Liaison Officers, who provide a point of reference, advice and guidance for members of staff and students in the School about student disability issues and support. The DLOs are part of a network that meets regularly to share information and good practice. DLOs liaise with both the Academic Support and the Disability Support Teams, as necessary, in relation to individual students and general policies and procedures.

If you have any requirements or concerns talk in the first instance to your DLO - or contact your personal tutor.

School Disability Liaison Officer (DLO)

The **DLO** for the School of Biosciences is located in the Main Building. You will be given further details on your arrival at university.

27.6 Careers and Employability Service

Careers and Employability Service

Many first year students think it is too early for them to start thinking about their future career, but in our experience it is never too early. By making the most of your time at university you can develop skills and build experiences that will be of interest to your future employers.

You could:

- join a **society** or **sports team**
- complete an **Advantage Award** module
- find a **part-time job** through Unitemps.

For more information about the Advantage Award, Unitemps or other ways to make the most of university life you can visit our webpages www.nottingham.ac.uk/careers or speak to a member of the careers team.

Whether you have one or several career ideas or none at all, it is a good idea to start researching possible career options. There are a number of ways the Careers and Employability Service can help you to do this:

- **Speak to a Careers Adviser.** You can book a one-to-one appointment to discuss your career ideas or questions at Sutton Bonington Campus or at University Park. A careers adviser is based in the Student Services Centre, Sutton Bonington Campus, two days each week. At University Park the Science Faculty Careers Team are based in B08 Pope Building.
- **Meet employers on campus.** Throughout term time there will be a range of different employers visiting Sutton Bonington Campus and University Park. While you're in your first year you can attend these events to find out about different industries and companies, which will help you with your career planning.
- **Attend a workshop.** There are a series of workshops held at Sutton Bonington Campus and University Park. These are free for you to attend and could help you with career ideas, making successful applications or developing job hunting strategies.
- **CV Reviews.** Whether applying for work experience, a summer internship or a part-time job you can have your own CV reviewed at Sutton Bonington Campus or University Park.

To book an appointment or CV review, or to book a place at an employer event or workshop visit: www.nottingham.ac.uk/careers/login

To find out about the workshops and events, check your university email to find your weekly Biosciences Careers bulletin. You can also follow @UoNCareers and @UoNBioscicareers on twitter.

If you have any questions or if you would like to find out more about The Careers and Employability Service, please do visit one of the careers offices:

- **Sutton Bonington Campus** – Student Services Centre, The Barn, Sutton Bonington Campus
- **Science Faculty team** – B08, Pope Building, University Park

28 Health, Safety & Security

- The research buildings are open to students from 08:30am until 18:00pm, Monday to Friday, except public holidays and University holidays. If for any reason you have to be in the building outside of these times, you must be supervised by an academic member of staff.
- There are lifts available in all teaching buildings for use by disabled students. The other use of the lifts is for movement of goods, and should not be used for other purposes.
- The School has its own Safety Handbook which is available on the web at <http://goo.gl/fg8fCF>

Fire

- Fire alarms in the teaching buildings are tested at a regular time (eg Wednesday at 10 am in the Main Building). In the event of fire in the building the alarm will sound continuously. In the event of this the lecturer in charge of your class will organise evacuation of the building to the relevant assembly point. Fire exits are clearly sign-posted. Re-entry into the building after a fire alarm is given by the Fire Monitor.

Safety

- Safety in the building, especially in the Laboratories is paramount. See further reference to this matter under 'Practical Classes'
- Practical classes are continuously supervised by an academic member of staff with the support of demonstrators and occasionally technicians. You should not enter a laboratory until a member of staff arrives.
- Suitable protective clothing must be worn for laboratory classes (see 'Practical Work').
- Defined procedures must be followed for the disposal of certain types of laboratory waste, such as syringes and syringe needles, broken glass, organic solvents and microbial cultures. Instruction on the correct disposal of these and other items will be given in practical classes.
- Safety in Fieldwork. Field Course safety information and the Code of Practice for students can be found at: <http://goo.gl/IBS6EF>

Accidents & First Aid

- For minor injuries, first aid boxes are available in all laboratories and certain offices. In such situations it is likely you can deal with such injury yourself.
- Where an injury is more serious a qualified 'First Aider' should be called. Names of First Aiders are listed on the School's web pages.
- If a 'First Aider' is not available or if further treatment is required, you will be taken to the Cripps Health Centre or A&E at Queens Medical Centre in extreme situations.
- All accidents, whatever their severity, must be reported on an accident report form available from the member of staff taking the class at the time of the accident and will supervise completion of the form.

Food & Drinks

- On no account should food and/or drink be taken into a laboratory, lecture theatre or computing rooms.

29 Modules

Biosciences Tutorials (academic development)

D21BP1

Module Convenor Prof Matt Dickinson (Convenor)
matthew.dickinson@nottingham.ac.uk

Module Details: A year-long, 10-credit module of tutorials and lectures. Compulsory for all Biosciences students apart from those studying the Environmental Sciences degrees. Not available to other students.

Expected Number of Students taking module: 200-250

Target Students: All year 1 Biosciences students apart from those studying Environmental Science degrees

Availability to Exchange Students: Not applicable for year 1

Module Web Links: Moodle

Summary of Content: This module is core for all students in the School of Biosciences with the exception of those registered for the Environmental Science degrees, and will help to enhance the transition into university and guide students through the academic expectations of their degrees. The module is spread throughout the year and will include three generic sessions on 'study skills and plagiarism', 'study opportunities' and 'career and personal development', and a series of small group tutorials with the academic tutor to develop generic skills such as finding crucial information (library skills), oral presentation, data handling and presentation of results, preparation for examinations, and essay writing skills relevant to the Biosciences. Sessions are compulsory and performance during these tutorials will be monitored and may be used in conjunction with the assessment exercises to inform on the overall module mark

Timetable: The module will comprise three generic sessions and nine tutor-led sessions of 45-50 minute duration. Full details will be made available through the Tutorial and Study Skills handbook and will be available on Moodle.

Teaching Staff: All academic tutors

Coursework: The assessed coursework will comprise three written assignments. Background reading will be required to supplement the topics for discussions and essays.

Coursework 1	50	1500 word essay completed in the Autumn semester
Coursework 2	25	200 word quantitative exercise to be completed in the Spring semester
Coursework 3	25	300 word abstract of a scientific paper to be completed in the Spring semester

Assessment: The module will be assessed using marks from tutors for the three written assignments. Students should attend all meetings, and **must** attend at least 75% of tutor-led meetings to pass the module, irrespective of the marks from the coursework. Students failing the module on marks and/or attendance grounds will not be permitted to progress to Part I without being reassessed during the summer vacation.

Aims:

The principal aim of this module is to enhance the academic and professional development of students via small group work within tutor groups. Working in small groups will encourage active participation and knowledge transfer. The module should equip students with essay-writing, presentational skills (oral and written), critical interpretation of published materials, and other generic skills that should benefit them in modules throughout their degree. It will also provide an opportunity to learn and reflect on opportunities available to enhance their transition from University into the workplace.

Learning outcomes: On successful completion of this module, students will be able to:

- Summarise key relevant information succinctly in an abstract.
- Give examples of appropriate referencing styles for scientific reporting.
- Identify an appropriate approach for solving a quantitative problem through background and collaborative research.
- Review a given scientific topic in a written report.

Biochemistry – The Building Blocks of Life

D21BN2

Module Convenor: Dr Matt Elmes matthew.j.elmes@nottingham.ac.uk

Lecturers: Dr Marcos Alcocer; Prof Andy Salter;

Module Details: Level 1 Autumn and Spring semesters, 20 credits

Pre-requisite(s): None.

Co-requisite(s): None.

Expected Number of Students Taking Module: 250

Target Students: All School of Biosciences students in year 1

Note: This module is a pre-requisite for D224N0 Nutrition, Metabolism and Disease, D223F0 Manufacture of Food (40 credit), D223N8 Principles of Animal Nutrition, D224A6 Endocrine Control Systems & D224G1 Professional Skills for Bioscientists

Aims: The module aims to teach students the basic biochemistry behind the structure and function of nucleic acids, proteins, carbohydrates and lipids. It will also serve to teach students the basic details of the key metabolic pathways in the cell including respiration, photosynthesis and protein synthesis. Aspects of metabolic control will be highlighted.

Learning outcomes: Learning outcomes for this module can be found on: modulecatalogue.nottingham.ac.uk/Nottingham

Week	Subject	Lecturers
2	Nucleic acids - structure	
3	Nucleic acids – Properties and Applications	GAT
4	Amino acids and protein structure	MA
5	Practical	GAT, MA, ME
6	Practical	GAT, MA, ME
7	Practical	GAT, MA, ME
8	Protein synthesis	GAT
9	Amino acid metabolism	MA
10	Nucleotide synthesis and metabolism	MA
11	Nucleotide synthesis and metabolism	MA
12	Enzymes	GAT
19	Bioenergetics and intermediary metabolism	GAT,ME
20	Bioenergetics and intermediary metabolism	GAT,ME
21	Bioenergetics and intermediary metabolism	GAT,ME
22	Practical	GAT, MA, ME

23	Practical	GAT, MA, ME
24	Practical	GAT, MA, ME
25	Carbohydrates and lipids- structure	AMS, ME
26	Carbohydrates and lipids- structure	AMS, ME
31	Carbohydrates and lipids - functions	AMS, ME
32	Carbohydrates and lipids - functions	AMS, ME
33	Metabolic control	GAT

Teaching Staff: Greg Tucker (GAT); Marcos Alcocer (MA); Andy Salter (AMS). Matt Elmes (ME)

Coursework: Two MCQ based tests and a practical report (2500 words)

Assessment:

Exam 1 40% 1.5 hour MCQ exam

Coursework 1 20% MCQ moodle assessment

Coursework 2 40% Practical Write up in Spring (1000-2000 words)

Foundation Science D21BF2

Module Convenor: Dr D Cook (Convenor) david.cook@nottingham.ac.uk

Lecturers: Prof G. Tucker (Chemistry), Dr D Stekel (Maths) and Dr N.Graham (Statistics)

Module Detail: Level 1, Full Year new module, 10 credits

Pre-requisite(s): Compulsory for all Semester 1 students in Biosciences

Aims: This module is compulsory for all Semester 1 students in Biosciences and aims to equip them with core skills in physics, chemistry, mathematics and statistics which will support learning throughout their degree courses. Emphasis is placed on developing problem solving skills, through examples classes and tutorials and on data handling/ IT skills. The idea is to ensure that certain fundamental areas of science of broad application are understood by all students, irrespective of their prior studies. Students are encouraged to identify their own areas of weakness in this respect and to develop skills commensurately.

Summary of Content: The module has three elements: Chemistry, Maths & Statistics and Physics. The Chemistry element will include: elements and periodic table; atomic structure and bonding; intermolecular attractions, chemical equilibrium; acids and bases, oxidation and reduction; rates of reaction; basic organic chemistry, isomerism, and rings. The Maths element will include: equations; powers and logs; important functions; differentiation, significance and regression. The Physics element will include: - units and dimensions; power, energy and heat; light and the electromagnetic spectrum; attenuation/absorption; and radioactivity. There is also an IT element, which interfaces with generic IT training for undergraduates provided within the University.

Timetable: Typically two one-hour timetabled sessions per week (Monday mornings from 9 am): twenty-three lectures, regular tutorials/examples classes, forty hours student led studies and revision. The timetable will be finalised at the beginning of the semester, hard copies will be made available from the School Office but can also be viewed at www.nottingham.ac.uk/timetable/

Lecture Programme: Lecture programme is provisional and more detailed information will be given to you in the first session.

- 1 Module introduction (DC)
- 2 Physics 1: Units and Dimensions (DC)
- 3 Maths 1: Why Mathematics? (DS)
- 4 Physics 2: Temperature & Heat (DC)
- 5 Chemistry 1: Atomic structure and Molarity (GT)
- 6 Maths 2: Basic calculations and spreadsheets (DS)
- 7 Physics 3: Electromagnetic radiation (DC)
- 8 Chemistry 2: Chemical bonding (GT)
- 9 Maths 3: Basic algebra – what, why and how! (DS)
- 10 Chemistry 3: Basic Organic Chemistry (GT)
- 11 Maths 4: Functions and relationships (DS)
- 12 Chemistry 4: Acids/Bases (GT)
- 13 Chemistry 5: Equilibrium and Kinetics (GT)
- 14 Maths 5: Powers and serial dilutions (DS)
- 15 Chemistry 6: Rings and isomers (GT)

- 16 Physics 4: Worked calculations tutorial (DC)
- 17 Maths 6: Logarithms and exponentials (DS)
- 18 Chemistry 7: Oxidation and Reduction (GT)
- 19 Statistics 1: Descriptive statistics (NG)
- 20 Physics 5: Moving fluids and Diffusion (DC)
- 21 Physics 6: Radioactivity (DC)
- 22 Statistics 2: t-tests (NG)
- 23 Statistics 3: Correlation and linear regression (NG)
- 24 Statistics 4: Presenting and interpreting data (NG)
- 25 Maths 7: Revision and worked examples (DS)
- 26 Physics 6: Example calculations (DC)

Throughout the course follow-up examples are given for students to try in their own time, in support of lecture material. Tutorials and examples classes are arranged on request with smaller groups of students according to need.

Assessment: A 1.5 hours multiple-choice examination (100% of module mark).

Learning outcomes:

On successful completion of the module students will be able to:

A1 Recognise the significance of the core topics in foundation level physics, chemistry and mathematics to their future degree study in the Biosciences.

A2: Understand a range of fundamental concepts in physics, maths and chemistry which form core knowledge for scientists of all disciplines

A3: Understand the importance of using the correct scientific units and be able to convert between different units of measurement (e.g. SI and non-SI units).

B1: Manipulate mathematical equations and perform calculations designed to improve confidence in dealing with logarithms, exponentials, powers, scientific notation.....etc.

B2: Recognise the basis of fundamental scientific equations, their interpretation and meaning.

C1 Use Microsoft Excel at a basic level to analyse scientific data, enter formulae and plot graphs

Recommended background reading:

For the mathematics syllabus we recommend Keith Gregson's own publication: Gregson, K. (2007). *'Understanding mathematics'*, Nottingham University Press, Nottingham, UK.

With respect to Physics and Chemistry we do not recommend specific texts; any good 'A'-level text will suffice in subjects where the student needs additional material to support them.

Genes and Cells: 1 D211P1

Module Convenor: Dr Jon Majewicz jon.majewicz@nottingham.ac.uk

Module Details: Level 1, Autumn Semester, 10 Credits

Pre-requisite(s): None

Co-requisite(s): None

Expected Number of Students taking module - 300

Target Students – all year 1 students enrolled on a School of Biosciences degree

Aims: This module is designed to give students a broad foundation in the basic functional units of life: cells. The first half of the module will cover the general cell ultrastructure of animal, plant and bacteria cells and also viruses as well as the major organelles essential for their function. A solid foundation in the growth and development of cells will be delivered focusing on mitosis, meiosis, cell division and differentiation. Basic genetic principles will be examined in the second half of the module looking at the Mendelian laws of inheritance and gene expression processes. Application of the basic theories will also be enhanced using practical sessions and workshops

Learning outcomes:

1. Describe the ultrastructure of eukaryotic (animal and plant), prokaryotic cells and viruses outlining the structure and function of the main organelles.
2. Explain the growth and development of cells in relation to the cell cycle and cell differentiation.
3. Explain the regulation of gene expression in eukaryotic and prokaryotic cells highlighting the processes from DNA to protein and the sub-cellular units involved that each stage of the process.
4. Online Mendelian Law of Inheritance (using the correct terminology) and the factors that result in changes in populations
5. Report on several key molecular cell biology techniques examining the principles and functions of cell biology

Summary of Content:

The module will start will examining the ultrastructure of the main cell types; eukaryotic (animal and plant) and prokaryotic; and viruses, along with the structure and function of the main organelles within cell type. An overview of cell growth and development will be outlined including the control of the cell cycle, mitosis and meiosis and cell differentiation. The module will then move into more molecular biology and genetic investigations, examining Mendelian laws of inheritance and gene expression

Assessment:

Exam 1	75	1.5hr hour examination
Coursework 1	25	Online portfolio of practical work

Genes and Cells: 2 D212P3

Module Convenor: Dr Zinnia Gonzalez-Carranza Zinnia.Gonzalez-Carranza@nottingham.ac.uk

Module Details: Level 1, Spring Semester, 10 Credits

Pre-requisite(s): D211P1 Genes and Cells: 1

Co-requisite(s): None

Expected Number of Students taking module - 150

Target Students – D420 Agricultural and Livestock Science, D320 Animal Science, C110 Applied Biology, J700 Biotechnology, C501 Microbiology, C200 Plant Science

Aims: This module aims to build upon the basics of fundamental biological processes and examine areas of nucleic acid structure; DNA replication; mutation and repair; transcription and translation; control of gene expression. It will then apply the knowledge and explain how this is exploited in recombinant DNA technology; gene cloning, DNA sequencing and genetic engineering.

Specialist options within animal, plant and microbial spheres will allow for subject specific applications of genetic techniques and theories which form an underpinning knowledge base for subsequent modules.

Learning outcomes:

- describe the structures and functions of DNA and RNA and how they relate to the mechanisms of DNA replication and repair
- describe the modes of gene expression in prokaryotic and eukaryotic cells
- describe the basic methods of gene cloning and recombinant DNA technology
- explain the polymerase chain reaction and DNA sequencing

Summary of Content:

This module builds upon the material delivered in semester 1 in which within the core section running throughout the module students will further examine the gene structure, function and regulation and investigate how this knowledge can be applied in recombinant DNA technology through DNA sequencing and genetic engineering. Dependent on the enrolled course there are options on plant, animal and microbial genetics which will deliver specific lectures and practicals essential to that discipline, which will feed into modules delivered in the second and third years.

Assessment:

Exam 1	75	1.5hr hour examination
Coursework 1	25	Specialist option exercise

Grassland Management D212A1

Module Convener: Dr Debbie Sparkes debbie.sparkes@nottingham.ac.uk

Lecturers: Dr Stephen Ramsden, Prof Paul Wilson.

Module Details: Level 1 Spring Semester, 10 credits.

Aims: The module will cover the morphology and physiology of forage grass species, identification of grass species, grassland systems in the UK and worldwide and conservation of grass (hay/silage). The module will consider grassland management within mixed farming systems and specific requirements for environmental stewardship schemes. Grassland management will be delivered through e-learning, supported by a farm visit.

Learning outcomes On successful completion of the module, students will be able to:

- Identify the key structures of a grass plant
- Describe the mechanisms of grass growth, production and utilisation and how these are influenced by management practices
- Discuss the latest developments in grassland management and the policy issues associated with them
- Calculate a pasture budget

Week	Subject	Lecturer
1	Introduction to the module and course work	DLS
2	Student centred learning	
3	Student centred learning	
4	Grass physiology practical	DLS
5	Student centred learning	
6	Pasture budget tutorials	SJR
7	Student centred learning	
8	Student centred learning	
9	Student centred learning	
10	Student centred learning	
11	Farm visit	DLS

Coursework: On-line test on grass morphology; written report on farm visit

Assessment:

Exam 1	50%	1 hour exam
Coursework 1	20%	Online test
Coursework 2	30%	Farm visit report. 1500 words.

Recommended Reading

Finch, HJS, Samuel, AM and Lane, GPF (2002) *Lockhart and Wiseman's crop husbandry; including grassland*. (8th edition). Woodhead, Cambridge.

Hopkins, A (2000) *Grass: its production and utilization*. (3rd edition). Blackwell Science, Oxford.

Frame, J and Laidlaw, S (2011) *Improved grassland management*. Crowood Press

Plant Science C112P1

Module Convener: Dr Kevin Pyke kevin.pyke@nottingham.ac.uk

Module Details: Level 1 Spring Semester 10 credits.

Target Students: Primarily available for students taking a degree in Biology, Applied Biology, Biotechnology Environmental Science or Environmental Biology.

Pre-requisite modules or other requirements: A level in Biology and Chemistry preferred

Module Aims: To provide an introduction to the biology and importance of plants. Lectures will focus on plant form and function, highlighting the ways that genetics and studies on the model plant, *Arabidopsis*, have added to our understanding. Emphasis will also be placed on the ways plants adapt to their surroundings and the potential for use of biotechnology in plant improvement.

Learning outcomes: On successful completion of the module, students will be able to:

1. Describe the process of plant evolution and place the Angiosperms in the context of different types of plants.
2. Discuss the cellular structure of plants, in particular seeds, leaves, flowers and roots and demonstrate an understanding of how these multicellular tissues are constructed.
3. Appreciate the importance of model plants such as *Arabidopsis* in the development of modern plant biology and demonstrate knowledge of how this plant's attributes have been exploited.
4. Recognise the importance of plant nutrition and the interaction with pathogens are crucial to plant growth and production
5. Develop professional skills in scientific information retrieval and to work safely in a laboratory situation.

Timetable: The timetable will be finalised at the beginning of the semester, hard copies will be made available from the School Office but can also be viewed on www.nottingham.ac.uk/timetable/

Lecture Programme: Lectures will cover a variety of topics on modern plant science including plant morphology, photosynthesis and water movement, flowering and seed development biology, plant pathology, plant genetic transformation and the central role of the model organism *Arabidopsis thaliana* in plant science research. The module also has three practical sessions relating to the lecture material.

Example:

Week	SUBJECT	LECTURER
1	Plant Evolution and Plant Structure	KP
2	Photosynthesis	KP/RF
3	Flowering	ZW
4	Seed Development and Fruit ripening	KP
5	Water relations of plants	KP
6	Plants and Nutrients	MB
7	Plant Pathology	Matt D
8	Arabidopsis and Plant Tissue culture	RS/MD
9	Practical 1	ZW/PC/KP/NG
10	Practical 2	ZW/PC/KP/NG
11	Practical 3	ZW/PC/KP/NG

Staff: KP – Kevin Pyke; RF – Rupert Fray; ZW – Zoe Wilson; MB – Martin Broadley; Matt D – Matt Dickinson; PC – Peter Crittenden; NG – Neil Graham

Assessment:

Exam 1 75% 1 hour 30 mins examination

Coursework 1 25% Coursework essay - 1000 words

Module Amendments introduced this session: Some changes to teaching personnel.

Recommended reading:**Main Text:**

Campbell NA, Reece JB and Mitchell LG (2011) Biology 9th International Edition

Secondary texts:

Raven Biology of Plants, Evert RF and Eichorn SE (2012)

All course material including PowerPoint lectures will be available on the web.

Lecturers on this course are members of the Plant and Crop Sciences Division,
School of Biosciences, Sutton Bonington

(www.nottingham.ac.uk/biosciences/plantcrop/index.html)

Plant Science Research Tutorials D212P5

Module Convener: Dr. Kevin Pyke, Plant and Crop Sciences, School of Biosciences, kevin.pyke@nottingham.ac.uk

Module Details: Level 1 Spring Semester 10 credits.

Target Students: Students taking degree in Plant Sciences and students taking degree in Agriculture and Crop Sciences

Availability to Exchange Students Yes - if relevant

Pre-requisite(s): Taking degree in Plant Sciences or Agriculture and Crop Sciences

Aims: To explain and demonstrate to students the research taking place in the Plant and Crop Sciences Division and to enable students to familiarise themselves with the cohort of plant and crop science academic staff and learn about their cutting edge research.

Learning outcomes: On successful completion of the module, students will be able to:

1. Recognise the breadth of plant science research areas within the Plant and Crop sciences division
2. Appreciate how the research of different groups relates to the needs of society in improving and understanding plant function.
3. Develop an understanding of how research groups function in terms of their hierarchy of Principle Investigator, post-doc, postgraduate student and undergraduate student.
4. Demonstrate knowledge and synthesis of research literature of a chosen topic related to plant science research

Summary of Content – Each weekly session will be with a different academic and their research group, from the Plant and crop Sciences Division, who will explain and demonstrate their research to this particular cohort of students. This would also enable postgraduate students to talk to first year undergraduates about their work and for these students to gain a detailed understanding of the research areas and dynamics of the division to which they are related for their degree. It would also facilitate interaction between these students and academic staff who do not teach normally in the first year and hence improve staff interaction with these students in choosing modules in the second and third year and final year projects.

Assessment details A 2000 word report submitted at the end of the module about a specific area of plant science research and how it may benefit our understanding of plant biology and how such knowledge may benefit society in the short and long term.

The Biosciences and Global Food Security

D211F3

Module Convenor: Dr Kevin Pyke kevin.pyke@nottingham.ac.uk

Module Details: Level 1, Autumn Semester, 10 Credits

Target Students Most first year students studying taking degrees in the School of Biosciences including, Nutrition, Biotechnology, Food science, Animal Sciences, Plant Sciences, Applied Biology.

Availability to Exchange Students Yes - if relevant in the first year

Pre-requisite(s): Normal entry requirements for School of Biosciences.

Aims: To provide first year students with an overview of the issues of global food security and show them the level of complexity that exist in different parts of the food generation system, from plant and crop growth, agricultural systems, generating food stuffs and the environmental effects this process entails and sustainable nutrition.

Learning outcomes: On successful completion of the module, students will be able to:

- Review new technologies used to combat global food security.
- Describe the impact agriculture and food production has on the environment.
- Describe the challenges being faced in global food production in relation to your subject area.
- Develop professional skills to work safely in a laboratory situation.

Summary of Content – The module will define global food security as a concept and then examine various aspects thereof, including plant growth, evolution of crop crops, agriculture and crop production, agricultural systems and animal production, the food industry and sustainable nutrition.

Assessment details There will be several pieces of assessment including a practical questionnaire to be filled in after the practical session, an online assessment for a self study session (30 minutes), a multiple choice test in week 8 of the module covering all taught material up till then (one hour, 50 questions) and a final exam which will be performed online using ROGO (one hour)

- Practical questionnaire (3 pages) – 500 words 10%
- An online assessment for a self study session (30 minutes) – 10%
- MCQ test –one hour – 50 questions - 10%
- ROGO exam - one hour (70%)

The Ecology of Natural and Managed Ecosystems

D211E5

Module Convenors: Dr R Blunt ruth.blunt@nottingham.ac.uk
Dr ICW Hardy ian.hardy@nottingham.ac.uk
Dr H West Helen.west@nottingham.ac.uk

Module Details: Level 1, Autumn Semester, 20 Credits

Pre-requisite(s): Normal entry requirements for School of Biosciences.

Summary of Content: This module introduces the principles of ecology at a first year level. The module covers: Evolutionary aspects of ecology. Organisms and their environment: physical, chemical and biotic factors limiting species distribution; capture and utilization of resources by organisms; the niche concept; life cycles and dispersal. Population Ecology: intraspecific and interspecific competition; predation; parasitism and mutualism. Community Ecology: diversity and stability of communities; patterns of species richness; the concept of a climax community; energy flow and nutrient cycling. The module explores definitions of biodiversity and explores the value of biodiversity through different ethical frameworks. The loss of species and habitats is discussed with particular reference to semi natural and managed habitats such as woodland, hedgerows, meadows, and agricultural land.

Timetable: The timetable will be finalised at the beginning of the semester, hard copies will be made available from the School Office but can also be viewed on www.nottingham.ac.uk/timetable/

Lecture Programme: (Provisional) teaching week number

- 1 No lectures
- 2 Lectures Introduction to the module, The Nature of Ecology
- 3 Lectures Trophic Levels and Food Webs
- 4 Lab Practical: NB – held at Sutton Bonington!
- 5 Lectures Energy Inputs and Agricultural Systems- Sustainable agriculture
- 6 Lectures Plant Ecology
- 7 Lectures Genetics and Niche Theory
- 8 Lectures Populations and Demography
- 9 Computer Practical: Population Models
- 10 Lectures Behavioural Ecology
- 11 Lectures Ethics and Ecology
- 12 Lectures Habitat Loss Biodiversity and Conservation

Assessment:

Exam 100% 2 hour exam - Rogo

Aims: Educational Aims: To give students a general understanding of the interactions of organisms with one another and with the physical and chemical environment. Students will learn about different levels from the biosphere to the population and learn how an understanding of ecology can help us manage our environment.

Learning Outcomes: Knowledge and Understanding - to learn of 1) Ecology

and its component sub-disciplines. Intellectual Skills - the ability to 1) Critically analyse and interpret information and data 2) Derive and analyze material from a range of sources. Practical/Professional Skills - the ability to 1) Invertebrate identification 2) Work safely in the laboratory. Transferable/Key Skills - the ability to 1) Communicate via poster 2) Team working 3) Find relevant information in the library and the web 4) Time management.

Recommended Reading

Cotgreave P & Forseth I (2002) Introductory Ecology, Blackwell Science (**course book**)

Townsend C R, Harper J L & Begon M (2002) Essentials of Ecology, Blackwell Science

Beeby H (1993) Applying Ecology, Chapman Hall

Krebs C (1987) Ecology, Harper & Row

Krebs JR & Davies NB An introduction to Behavioural Ecology, 3rd Edⁿ, Blackwell Science

Krebs JR & Davies NB (1997) Behavioural Ecology, 4th Edⁿ, Blackwell Science

Stiling G (1996) Ecology: Theories & Application, Prentice Hall

Plus appropriate Journals

Additional Key literature will be suggested during the lecture course.

30 Appendices

- 1 Qualitative Assessment Criteria - General Guidelines for Examinations
- 2 Qualitative Assessment Criteria - General Guidelines for Essays & Reports
- 3 Qualitative Assessment Criteria - General Guidelines for Posters
- 4 Qualitative Assessment Criteria - General Guidelines for Oral Presentations
- 5 Qualitative Assessment Criteria – Research Project Experimental Work
- 6 Progression and Compensation Charts
- 7 Marking at Different Levels within Degree Programmes
- 8 School of Biosciences Tutoring Statement

Appendix 1

QUALITATIVE ASSESSMENT CRITERIA - GENERAL GUIDELINES FOR ESSAYS & REPORTS	
CLASS	%
First	100 90 80 73
A1	a. Excellent report structure with professional presentation of figures, tables, diagrams, references etc.; evidence of originality/novelty in presentation.
A2	b. Deep understanding of subject; all arguments carefully developed and clearly expounded.
A3	c. Considerable and effective use of literature information, beyond that supplied as taught material.
A4	d. Clear evidence of critical thinking, originality and novelty.
Upper Second	68 65 62
B1	a. Well organised report; appropriate choice of illustrative figures, tables, diagrams etc.; clearly presented throughout.
B2	b. Sound grasp of subject material; generally logical arguments.
B3	c. Reasonable evidence of wider study beyond lecture material.
	d. Some evidence of independent thinking and originality.
Lower Second	58 55 52
C1	a. Generally clear report conforming with accepted format but with some errors in style and/or omissions in presentation of illustrative figures.
C2	b. Reasonable understanding of subject material, but some flaws in the logic of arguments and factual errors.
C3	c. Only limited evidence of wider study and use of literature information.
	d. Very little evidence of independent thinking or originality.
Third	48 45 42
D1	a. Little attention given to report structure; limited use of illustrative figures, tables etc.; serious flaws in presentation.
D2	b. Limited understanding of subject; considerable factual errors demonstrated.
D3	c. Virtually no inclusion of literature information beyond lecture material.
	d. Virtually no evidence of independent thinking or originality.
Soft Fail	35
E	a. Very poorly structured; disorganised; missing sections; minimal presentation of supporting data, figures etc.
	b. Minimal understanding of subject; serious factual errors; general lack of any logical arguments.
	c. Virtually no inclusion of literature information.
	d. No evidence of independent thinking or originality.
Fail	25
F1	Very poor coverage of material with little information that is relevant. Virtually no evidence of understanding the question; minimal attempt to provide a structured answer.
Fail	10
F2	A few lines of relevant material
Fail	0
F3	No relevant material

1. Only broad classes (A,B,C,D and E) have qualitative criteria attached; the division into (e.g.) C1, C2, C3 etc. is at the discretion of the examiner.
2. The qualitative criteria include consideration of :
 - a. The quality of the report/essay etc. - the use of sections; diagrams; figures etc.; citation of references; general neatness etc.
 - b. Student's knowledge of subject; depth and quality of answer.
 - c. Evidence of reading / study beyond regurgitation of standard taught material.
 - d. Independent or critical thinking / originality etc.

Appendix 2

QUALITATIVE ASSESSMENT CRITERIA - GENERAL GUIDELINES FOR EXAMINATIONS	
CLASS	%
First	
A1	100
A2	90
A3	80
A4	73
Upper Second	
B1	68
B2	65
B3	62
Lower Second	
C1	58
C2	55
C3	52
Third	
D1	48
D2	45
D3	42
Soft Fail	
E	35
Fail	
F1	25
Fail	
F2	10
Fail	
F3	0

1. Only broad classes (A,B,C,D and E) have qualitative criteria attached; the division into (e.g.) C1, C2, C3 etc. is at the discretion of the examiner.
2. The qualitative criteria include consideration of :
 - a. Student's knowledge of subject; depth, relevance and quality of answer.
 - b. Evidence of reading / study beyond regurgitation of standard taught material.
 - c. Independent or critical thinking / originality etc.
 - d. The quality of presentation - structure of answer, the use of sections, diagrams etc., general neatness etc.

Appendix 3

QUALITATIVE ASSESSMENT CRITERIA - GENERAL GUIDELINES FOR POSTERS	
CLASS	%
First	
A1	100
A2	90
A3	80
A4	73
Upper Second	
B1	68
B2	65
B3	62
Lower Second	
C1	58
C2	55
C3	52
Third	
D1	48
D2	45
D3	42
Soft Fail	
E	35
Fail	
F1	25
Fail	
F2	10
Fail	
F3	0

1. Only broad classes (A, B, C, D and E) have qualitative criteria attached; the division into (e.g.) C1, C2, C3 etc. is at the discretion of the examiner.
2. The qualitative criteria include consideration of :
 - a. Structure and organisation of the poster.
 - b. Visual impact and attractiveness.
 - c. Accuracy and completeness of the content.
 - d. Where appropriate, inclusion of students' own experimental data.

Appendix 4

QUALITATIVE ASSESSMENT CRITERIA - GENERAL GUIDELINES FOR ORAL PRESENTATIONS	
CLASS	%
First	
A1	100
A2	90
A3	80
A4	73
Upper Second	
B1	68
B2	65
B3	62
Lower Second	
C1	58
C2	55
C3	52
Third	
D1	48
D2	45
D3	42
Soft Fail	
E	35
Fail	
F1	25
Fail	
F2	10
Fail	
F3	0

1. Only broad classes (A, B, C, D and E) have qualitative criteria attached; the division into (e.g.) C1, C2, C3 etc. is at the discretion of the examiner.
2. The qualitative criteria include consideration of :
 - a. Presentation of talk; audibility, speed, use of notes, addressed to audience, time keeping.
 - b. Organisation of talk; logical coherent progression with introduction and summary.
 - c. Use of visual aids; clarity and explanation of salient points.
 - d. Research and response to questioning; evidence of extensive reading, presentation of own data (where relevant), evidence of wider understanding.

Appendix 5

QUALITATIVE ASSESSMENT CRITERIA - RESEARCH PROJECT EXPERIMENTAL WORK	
CLASS	%
First	
A1	100
A2	90
A3	80
A4	73
Upper Second	
B1	68
B2	65
B3	62
Lower Second	
C1	58
C2	55
C3	52
Third	
D1	48
D2	45
D3	42
Soft Fail	
E	35
Fail	
F1	25
Fail	
F2	10
Fail	
F3	0

1. Only broad classes (A, B, C, D and E) have qualitative criteria attached; the division into (e.g.) C1, C2, C3 etc. is at the discretion of the examiner.
2. The qualitative criteria include consideration of :
 - a. Independence and initiative. Perseverance when work does not go according to plan.
 - b. Organisational ability; can the student plan their use of time effectively and efficiently?
 - c. Technical ability; can the student carry out work competently and learn new techniques quickly
 - d. Critical ability and appreciation of the limitations of the work.

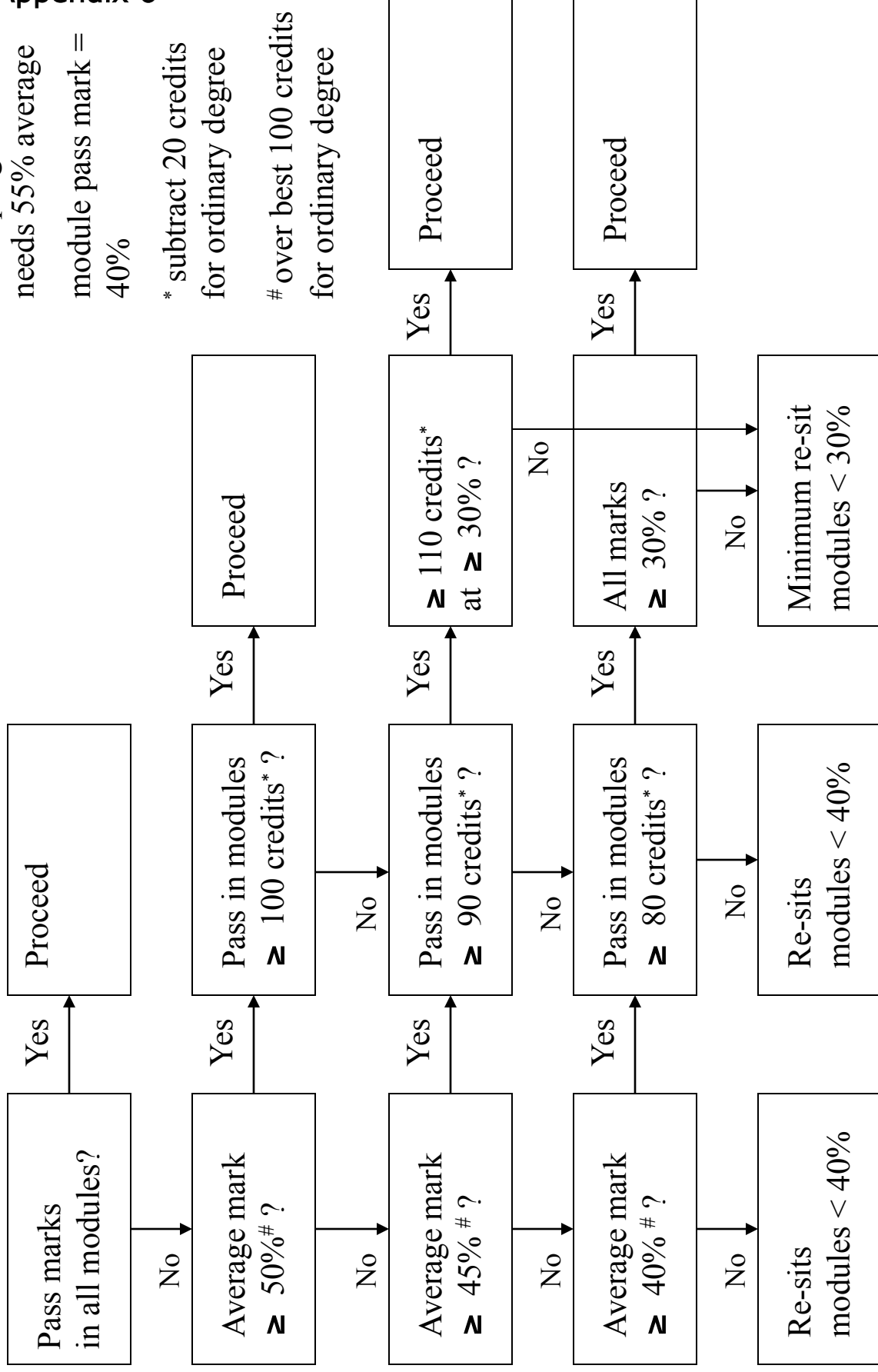
Progression and Compensation BSc Hons (to Parts I and II) and MNUtr (to Part I)

Appendix 6

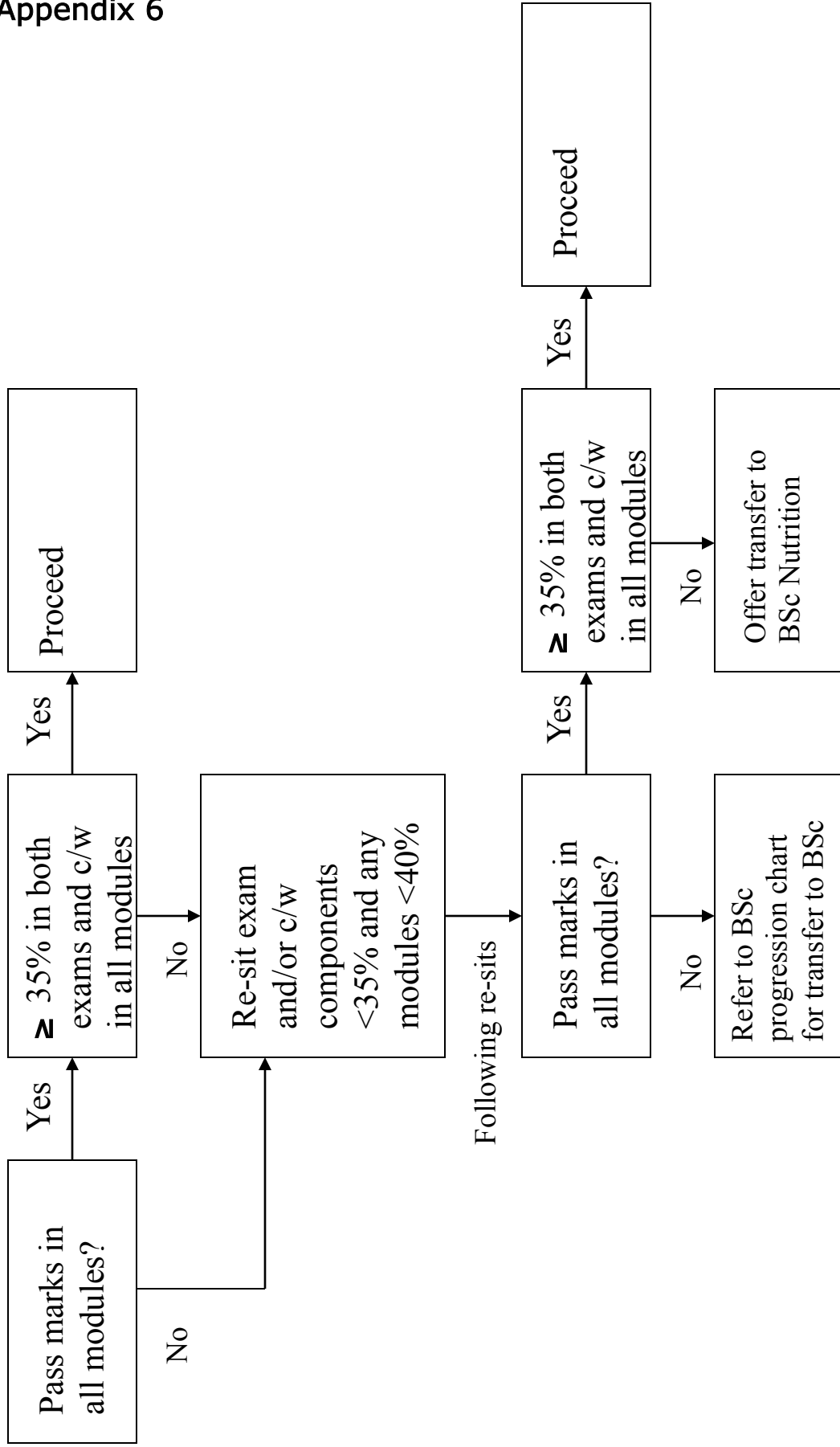
MSci prog to Part II
needs 55% average
module pass mark =
40%

* subtract 20 credits
for ordinary degree

over best 100 credits
for ordinary degree



Progression and Compensation MNutr (to Parts II and III)



Appendix 7

School of Biosciences Qualitative Marking Schemes Supplementary Guidelines

Marking at Different Levels Within Degree Programmes

The School's qualitative marking schemes provide general guidance for assessment of various types of work. However, in applying these schemes to individual assessments, account must be taken of the level at which students are working. The criteria outlined below provide general guidance, and not all criteria will be applicable to all forms of assessment.

Academic Levels

- Level 1** Certificate level, generally qualifying year students
- Level 2** Diploma level, generally taken by year 2 students
- Level 3** Degree level, generally taken by year 3 students
- Level 4** Masters levels, generally taken by post-graduate or year 4 undergraduate students

Major considerations

Mark Class A

- Level 1:** Draws on available evidence to make sound conclusions supported from a range of sources.
- Level 2:** There is evidence of further reading and careful analysis offering alternative views.
- Level 3:** There is critical analysis offering alternative views. There is clear expression of own views, which are supported by appropriate literature. Draws on available evidence to make persuasive conclusions.
- Level 4:** Detailed, orderly and critical work with clearly specified focus/foci exhibiting rigorous analysis, synthesis and evaluation. There must be evidence that the student has developed their own arguments.

Mark Class B

- Level 1:** Content is accurate and relevant with appropriate use of supporting material.
- Level 2:** There is sound analysis with good expression and argument with evidence of independent thinking supported by appropriate material.
- Level 3:** There is sound critical analysis. Alternative views are expressed using supporting evidence from a variety of sources.
- Level 4:** Evidence of originality and significant critical analysis. There is evidence of integration of material from a variety of sources.

Appendix 7

Mark Class C

- Level 1:** Content is largely accurate and relevant with some evidence of understanding.
- Level 2:** There is adequate analysis with limited evidence of wider study.
- Level 3:** There is reasonable understanding, with some attempt at analysis and limited use of supporting material.
- Level 4:** There is reasonable understanding and analysis supported by a range of relevant evidence.

Mark Class D

- Level 1:** Some relevant content but with evidence of only very limited understanding.
- Level 2:** Some relevant content with limited understanding but little evidence of wider study.
- Level 3:** Basic understanding with limited evidence of wider study.
- Level 4:** Basic understanding with limited evidence of understanding and some attempt at analysis.

Mark Classes E/F

- All levels:** Work does not demonstrate above criteria and reference should be made to the qualitative criteria in deciding final mark.

Modules offered at levels A-C are considered intermediate between Levels 1-2, 2-3 and 3-4 respectively.

School of Biosciences: Tutoring Statement

The following statement demonstrates how each of the specific outcomes of the University’s principles of tutoring are delivered in the School of Biosciences.

Principle	Outcome achieved in Biosciences through . . .
<p>1. The student should feel acknowledged, recognised and accepted within their school/department as an individual with distinct academic needs and preferences.</p>	<p>A detailed Week One programme incorporating course-specific teaching and learning support sessions.</p> <p>A specific Course Manager for each degree from whom students can obtain individual academic advice.</p> <p>Module registration days (three times/year) when students can obtain individual academic guidance on their module choices.</p> <p>Each student is allocated a personal tutor and this is one of the first people they meet when they arrive in the School.</p>
<p>2. The student should feel part of the school/department community, experiencing frequent contact with academic staff on an individual or small group basis and building relations with particular members of staff over an extended period.*</p>	<p>Three formal meetings with tutors/year, in addition to which students are encouraged to meet mid-semester with their personal tutors.</p> <p>Learning Community Forum deals with all issues affecting campus life (eg social, residential and catering) as well as academic issues.</p> <p>Close working relationship developed with project supervisor during final year of studies.</p> <p>Student Guild – an SB-based branch of the Students’ Union which has combined social and representational roles.</p> <p>Semester One tutor appointed to give particular assistance to first year students at the start of their course. Semester One discussion group at end of first semester to seek feedback on students’ experiences.</p> <p>Most first year students and many from later years reside in Bonington Hall. The Hall is closely integrated with all aspects of Campus and School life and is central to the SB community.</p> <p>Campus-based alumni organisation (OKA) provides continuity for graduates and is also involved with travel awards, fund-raising, communication and development.</p>

<p>3. The personal development of the student should be promoted; leading to improved communication skills and greater confidence in presentation and dealing with the unfamiliar.</p>	<p>Many modules require presentations, group working and practical skills to be developed – see: http://www.nottingham.ac.uk/biosciences/study-with-us/employability/employability-skills.aspx.</p> <p>Final year research project involves significant personal development as an individual researcher and scientist. MSci students take undertake an additional project in which their professional skills are further developed. M Nutr students undertake clinical placements giving them first-hand experience of communicating with the public.</p> <p>Project assessment includes an oral presentation.</p>
<p>4. Students should receive prompt, helpful and detailed feedback on their assessments, in a manner that enhances learning and improves future assessment performance.</p>	<p>Coursework returned to students (within a 21 day turn-around time) with individual comments – often on a standard assessment feedback form. Models of good practice in feedback are provided on School intranet.</p> <p>Standard module feedback which is provided at the end of each module on performance over the course of the module, including the formal summative assessment.</p> <p>Module timetables routinely specify submission and feedback dates for coursework.</p>
<p>5. Students struggling with aspects of individual modules, or more generally with their programme of studies, should have clearly signposted and ready access to a reasonable level of academic advice and support designed to remedy their difficulties.</p>	<p>Guidance available from Course Manager, Module Convener, Module Registration Days, Personal tutor and School Office staff.</p> <p>Colleagues from Academic Support hold drop in sessions on campus throughout term-time.</p> <p>In 2014-15, appointment of a new Student Experience and Support Officer.</p>
<p>6. Students should receive the level of support in developing their study skills necessary to perform satisfactorily on their programme of studies.</p>	<p>A well-developed Study Skills Handbook, to which students are introduced during a specific session in Week One. Personal tutors also provide study-skill advice.</p> <p>A year-long Academic Development and Employability module delivered to first year students.</p> <p>Provision of self-assessment materials from the Virtual Writing Centre for students' use.</p> <p>Course staff provide specific aspects of guidance, especially in relation to coursework.</p>

	<p>All students receive detailed Module Handbooks appropriate to all years of their course. Year 2 and 3 students receive a detailed Research Project handbook. Information in these documents is explained and reinforced during discussions with Personal Tutors, project supervisors and module staff.</p>
<p>7. Students with personal circumstances adversely affecting their studies should feel able to make these known to the school/department without difficulty and to be directed to the appropriate support service.</p>	<p>Personal tutor, the School's Senior Tutors (undergraduate or postgraduate), any other member of academic staff, and/or School Office staff who are available to talk to students about difficulties facing them. All staff are aware of support mechanisms available such as the Student Services Centre and Counselling Service.</p> <p>A well-publicised extenuating circumstances procedure, which students are encouraged to make use of as appropriate.</p> <p>The Student Experience and Support Officer who provides support for students with extenuating circumstances.</p>
<p>8. Students should receive the necessary careers information, advice and guidance to equip them to make informed choices about their future, to understand the options open to them, and to take advantage of available opportunities.</p>	<p>Workshops on taking an industrial placement year, CVs and application forms, mock assessment workshops are run by Careers and Employability Service during the Autumn Semester. In addition, regular employer presentations from relevant business are hosted on campus throughout each year.</p> <p>Additional drop-in clinic for CV feedback offered to finalist students in June each year.</p> <p>Careers appointments available on the Sutton Bonington Campus throughout the year.</p> <p>2014-15 a new Careers Fair held on campus in February.</p> <p>MSc mentoring scheme for interview skills/CV development.</p> <p>Some modules deliver integral employability skills.</p> <p>Guidance from tutor, PhD supervisor/assessor and external lecturers.</p>
<p>9. Students should be made aware of the importance of developing and articulating their employability skills, including possible participation in the Nottingham Advantage Award.</p>	<p>Course and subject area staff provide guidance on opportunities in their own disciplines or facilitate connections with specialist resources/alumni/industrial partners/research organisations.</p> <p>Some subject areas promote placement opportunities directly; an Industrial Placement Officer provides general employment advice and opportunities for year-long internships</p>

	<p>Personal tutors provide general employment guidance.</p> <p>Additional School Placement Officer to be recruited for start of 2015-16.</p> <p>Personal tutors, project supervisors and other staff provide referee statements to support employment applications.</p> <p>Introduction to the Nottingham Advantage award given during formal Week One Induction programme and students supported to achieve this.</p> <p>Integral employability skills built into the second year and MSc curriculums.</p>
<p>10. Students should receive appropriate advice and support when considering changing their programme of study or contemplating leaving the University.</p>	<p>The following sources of advice and support are available to students considering changing their course of study or withdrawing from the University: Personal Tutor, Course Manager, School Manager (Academic Administration), Student Services – financial team.</p> <p>These resources are detailed in the Study Skills book.</p>
<p>11. Students should be prepared for periods of study away from their home campus and appropriately supported during those periods.</p>	<p>Students receive general information during Week One induction about the possibilities for study abroad. Students following specific courses where placement is a recognised option or obligation receive guidance and support from course staff and from the ERASMUS and Study Abroad Coordinator, and Industrial Placement Officer. Students undertaking a period of study at the Malaysian campus are provided with School briefing prior to departure. The provision of continued support for students who are studying away is a defined responsibility of personal tutors.</p>
<p>12. The procedures for submitting extenuating circumstances regarding assessments should be straightforward and well publicised.</p>	<p>Information about the extenuating circumstances process which is provided to all students through the Study Skills Handbooks. This is articulated to students during Week One induction.</p> <p>Reminders about how and when to submit extenuating circumstances which are sent to students twice/year.</p> <p>Tutors, Course Managers and Student Experience and Support Officer who are all able to give advice and support to students with extenuating circumstances.</p>

Appendix 8

<p>13. Students with disabilities should be clear as to the support they will receive and where it is available, and the support should be in line with University policies.</p>	<p>The Study Skills Handbook which gives information about support available for students with disabilities. This is articulated during Week One by the Disability Liaison Officer (DLO) who gives a presentation to all new students. The DLO provides support to students throughout their course, and directs students to relevant support services.</p> <p>Tutors who are trained to deal with students with disability.</p> <p>A close working relationship which is maintained between the School's DLO and the University's Senior Disability Officer, who is available on the Sutton Bonington campus once/week.</p>
<p>14. The procedures for submitting academic appeals and complaints should be well publicised and staff should be aware of their responsibilities within these procedures.</p>	<p>The process for submitting academic appeals and complaints which is publicised in the students' Study Skills Handbooks and Course Handbooks.</p> <p>The School Manager (Academic Administration) who gives advice and support to students who wish to submit a complaint or an appeal.</p> <p>Guidance available from tutors and Course Managers.</p> <p>Learning Community Fora provide an opportunity for complaints to be resolved informally.</p>
<p>15. Students being subjected to the academic offences procedure should receive clear information and advice.</p>	<p>Information about what constitutes plagiarism and how to avoid it which is provided in the students' Study Skills Handbooks and Course Handbooks. This information is articulated in a dedicated session during Week One.</p> <p>On-going guidance on how to avoid plagiarism provided by module conveners and tutors.</p> <p>Personal tutors and the School Manager (Academic Administration) who give support for students being subjected to the academic offences procedure.</p>
<p>16. Students should receive relevant health and safety guidance, especially in laboratory or workshop-based subjects.</p>	<p>General information on health and safety is provided to all students during Week One induction and in the School's Study Skills Handbooks. Specific information related to laboratories and practical classes is included in module documentation. Students' attention is drawn to safety matters, including risk assessments and safety procedures, by individual course staff at times appropriate to their application. Some courses, such as those where pathogens will be used, contain a compulsory lab safety module.</p>
<p>17. Students should be directed in a timely and appropriate manner to</p>	<p>The School's Study Skills Handbooks, Course Handbooks, Personal Tutor, Senior Tutor,</p>

<p>University support services for assistance with all of the above matters as necessary.</p>	<p>School Office staff and the Student Services Centre.</p>
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The student Study Skills book is produced annually and provided in hard copy to all new students. It can also be found online at <http://www.nottingham.ac.uk/~sazinfra/student/current/docs/Biosciences%20Study%20Skills%20-%20updated%20July%202014.pdf>

January 2015