

**University of
Nottingham**

UK | CHINA | MALAYSIA

Nutrition and Food Science

Course Handbook

2017-2018

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 2018-2019. Any comments concerning this publication should be addressed to Kathy Wilson (Student Service Centre Manager) at the Sutton Bonington Campus or e-mail Kathy.Wilson@Nottingham.ac.uk.

This handbook is available in alternative formats. Please contact the Programme Team by emailing ss-programmes-sb@exmail.nottingham.ac.uk or the Student Services Centre at the Sutton Bonington Campus to request an alternative format.

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1 Dates for Your Diary

Term dates

Autumn Term

Monday 25 September 2017 – Friday 15 December 2017

Spring Term

Monday 15 January 2018 – Friday 23 March 2018

Summer Term

Monday 23 April 2018 – Friday 22 June 2018

Semester dates

Autumn Semester

Monday 25 September 2017 – Saturday 27 January 2018

Spring Semester

Monday 29 January 2018 – Friday 22 June 2018

Exam dates

Autumn Semester

Monday 15 January 2018 to Saturday 27 January 2018 – including
Saturday 20 January 2018

Spring Semester

Monday 21 May 2018 to Saturday 9 June 2018 – including Saturday 26 May and
Saturday 2 June 2018

Late summer resits

Monday 20 August 2018 to Wednesday 29 August 2018 – excluding
Saturday 25 August 2018

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 a 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 and on the website:
<http://www.nottingham.ac.uk/academic-services/quality-manual/assessment-and-awards/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 keep a diary in which to note appointments with tutors, module conveners, course diary, deadlines 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 Director**, responsible for overseeing its structure and smooth running. The Course Director ensures balance between modules and liaises regularly with other staff to ensure that appropriate teaching and learning are provided. The **Course Directors** are directly responsible to the **Assistant Pro-Vice-Chancellor for 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 **Assistant Pro-Vice-Chancellor for Teaching and Learning** 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.a c.uk
Head of School	Prof Simon Langley-Evans	MB	16139	Simon.Langley-Evans
Head of Operations	Dr Sarah Johnson	MB	16000	Sarah.Johnson
PA to Head of School and Head of Operations	Ms Susan Blencowe	MB	16010	Susan.Blencowe
Student Service Centre, Senior Manager	Ms Yvonne Allen	Barn	86500	Yvonne.Allen
Welfare Manager	Miss Helen Wells	MB	16003	SS-Welfare-SB
4-Year Degree Tutor (International Year)	Mrs Rachel Jessop	Barn	16162	Rachel.Jessop
Marketing Manager	TBC	MB	16607	
Student Service Centre Programme Administrator	TBC	Barn	86500	SS-Programmes-SB
IT Support Officer	Mr Gary Smith	JCG	16511	IT-Support-SB
U21 Co-ordinator	Mrs Rachel Jessop	BABS	16162	Rachel.Jessop
Student Service Centre Administrator	Mrs Elena Staves	Barn	18273	Elena.Staves
Student Service Centre Senior Administrator	Mrs Elisabeth Richmond	Barn	86500	SS-Assessments-SB

Building Locations

Barn = Barn Building
 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.a c.uk
Animal Sciences	Prof Phil Garnsworthy	SL	16065	Phil.Garnsworthy
Agricultural and Environmental Sciences	Prof Sacha Mooney	GB	16257	Sacha.Mooney
Food Sciences	Prof Tim Foster	FS	16246	Tim.Foster
Nutritional Sciences	Prof Andy Salter	NL	16120	Andrew.Salter
Plant and Crop Sciences	Prof Mike Holdsworth	PCS	16323	Michael.Holdsworth

Key Roles	Name	Building	Tel	Email @nottingham.a c.uk
Warden Bonington Hall	Dr Ian Hardy	SL	16052	Ian.Hardy
Senior Tutors	Prof Martin Luck Dr Liz Bailey	SL	16309 16255	Martin.Luck Liz.Bailey
Semester 1 Tutor	Dr Kevin Pyke	PCS	13216	Kevin.Pyke
Exam Officer	Dr Matthew Elmes	NL	16183	Matthew.J.Elmes
Director of International Studies	Dr Marcos Alcocer	NL	16103	Marcos.Alcocer
Biosciences Director of Learning and Teaching	Dr Fiona McCullough	NL	16118	Fiona.Mccullough
Malaysia School Coordinator	Dr Marcos Alcocer	PCS	16103	Marcos.Alcocer
Study Abroad Co-ordinator (U21/University-wide, Erasmus+, Summer Schools abroad)	Mrs Rachel Jessop	Barn	16162	Rachel.Jessop
Industrial Placement Officers & School Placement Officers	Dr Judith Wayte Mrs Rachel Jessop	Barn	16171 16162	Judith.Wayte Rachel.Jessop

Building Locations

Barn = Barn Building

FS = Food Sciences

GB = Gateway Building

NL = North Lab

PCS= Plant and Crop Sciences

SL = South Lab Building

Course Directors	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 International Agricultural Science	Dr C Sietto	SL	16306	Christina.sietto
Animal Science	Dr A Waterfall	SL	16307	Alan.Waterfall
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 Amanda Avery	NS	16118	Amanda.Avery
Nutrition	Dr P Jethwa	NL	16604	Preeti.Jethwa
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	C09, Bioenergy and Brewing Science Bldg	0115 951 6103	NS
Dr R Anand-Ivell	B216, South Laboratory Building	0115 951 6298	AS
Dr A Avery	49D, North Laboratory Building	0115 951 6238	NS
Dr E Bailey	C21, The Gateway Building	0115 951 6255	AES
Dr M Bell	B228, South Laboratory Building	0115 951 6056	AES
Ms M Benlloch Tinoco	A18, Food Sciences Building	0115 951 6146	FS
Prof M J Bennett	C06, Plant Sciences Building	0115 951 3255	PCS
Dr A Bishopp	C12, Plant Sciences Building	0115 951 6337	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, 1 st Floor, North Laboratory Bldg	0115 951 6133	NS
Prof M Broadley	A05, Plant Sciences Building	0115 951 6382	PCS
Dr K Brown	B20, Food Sciences Building	0115 951 6509	FS
Dr N Chapman	C34, Plant Sciences Building	0115 951 6032	PCS
Dr L Coneyworth	58, 2 nd 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 C E R Dodd	B30, Food Sciences Building	0115 951 6163	FS
Dr S Egan	C21, School of Veterinary Medicine and Science	0115 951 6659	VS
Mrs S Ellis	40, 1 st Floor, North Laboratory Bldg	0115 951 6170	NS

Dr M Elmes	53, 2 nd Floor, North Laboratory Bldg	0115 951 6183	NS
Dr I Fisk	A28, Food Sciences Building	0115 951 6037	FS
Dr R Ford	C03, Bioenergy and Brewing Science Bldg	0115 951 6685	FS
Prof T Foster	B29, Food Sciences 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 6374	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, Food Sciences Building	0115 951 6147	FS
Prof S E Harding	A15, NCMH, 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 P J Hill	B21, Food Sciences Building	0115 951 6169	FS
Dr J L Hobman	B22, Food Sciences Building	0115 951 6166	FS
Prof M J Holdsworth	301B, South Laboratory Building	0115 951 6046	PCS
Mrs Rachel Jessop	C05, Bioenergy and Brewing Science Bldg	0115 951 6162	FS
Dr P Jethwa	55, North Laboratory Building	0115 951 6604	NS
Prof I P King	C21, Plant Sciences Building	0115 951 6372	PCS
Dr J King	C26, Plant Sciences Building	0115 951 6780	PCS
Dr B Lomax	C24, The Gateway Building	0115 951 6258	AES
Prof M R Luck	B207, South Laboratory Building	0115 951 6309	AS
Dr S Lydon	C08, Plant Sciences Building	0115 951 6289	PCS

Dr J Majewicz	37, 1 st Floor, North Laboratory Building	0115 951 6106	NS
Dr G Mann	B208, South Laboratory Building	0115 951 6326	AS
Dr J Margerison	B209 South Laboratory Building	0115 951 6301	AS
Dr K May	50, 2 nd Floor, North Laboratory Building	0115 951 8823	NS
Dr S Mayes	301C, South Laboratory Building	0115 951 6082	PCS
Dr F S W McCullough	26, 1 st Floor, North Laboratory Building	0115 951 6118	NS
Dr K Mellits	B26, Food Sciences Building	0115 951 6172	FS
Dr K M Millar	B67, Vet School	0115 951 6303	AS
Prof S Mooney	C31, The Gateway Building	0115 951 6257	AES
Dr E H Murchie	301C, South Laboratory Building	0115 951 6234	PCS
Mrs J Orr	40, 1 st Floor, North Laboratory Building	0115 951 6170	NS
Dr T Parr	53A, 2 nd Floor, North Laboratory Bldg	0115 951 6128	NS
Miss J Pearce	49G, 2 nd Floor, North Laboratory Bldg	0115 951 6105	NS
A/Prof K Porter	30, 1 st Floor, North Laboratory Bldg	0115 951 6756	NS
Dr C Powell	C02, Bioenergy and Brewing Science Bldg	0115 951 6191	FS
Dr S Price	CO8, Bioenergy and Brewing Science Bldg	0115 951 6742	FS
Dr K Pyke	C09, Plant Sciences Building	0115 951 3216	PCS
Dr D Quain	C08, Bioenergy and Brewing Science Bldg	0115 951 6160	FS
Dr C Raaff	26, North Laboratory Bldg	0115 951 6121	NS
Dr S Ramsden	308, South Laboratory Building	0115 951 6078	AES
Dr A Rasmussen	A15, Plant Sciences Building	0115 951 6504	PCS
Dr R Ray	303, South Laboratory Building	0115 951 6094	PCS
Dr C E D Rees	B23, Food Sciences Building	0115 951 6167	FS
Prof K Ritz	C22 Gateway Building	0115 951 6288	AES
Dr T P Robbins	C27, Plant Sciences Building	0115 951 6329	PCS
Dr A Rosenthal	A24, Food Sciences Building	0115 951 6038	FS

Prof A M Salter	32A, 1 st Floor, North Laboratory Bldg	0115 951 6120	NS
Prof D Salt	A06, Plant Sciences Building	0115 951 6339	PCS
Dr D Scott	B19, Food Sciences Building	0115 951 6221	FS
Prof G Shaw	C29, The Gateway Building	0115 951 3206	AES
Dr C Sietto	C304, South Laboratory Building	0115 951 6082	AES
Prof K D Sinclair	B210, South Laboratory Building	0115 951 6053	AS
Dr M S Sjogersten	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
Dr A Swali	A20, Food Sciences Building	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, 2 nd Floor, North Lab	0115 951 6178	NS
Dr R Tarlington	School of Veterinary Medicine and Science	0115 951 6273	VS
Dr M Taylor	52, 2 nd Floor, North Laboratory Bldg	0115 951 6104	NS
Prof G Tucker	C09, Bioenergy and Brewing Science Bldg	0115 951 6126	NS
A/Prof N Walker	49H, 2 nd Floor, North Laboratory Bldg	0115 951 6594	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 6373	PCS
Dr H West	C28, The Gateway Building	0115 951 6268	AES
Mrs E Weston	A22, Food Sciences Building	0115 951 6146	FS
Dr G White	B227, South Laboratory Building	0115 951 6068	AS

Dr K Whitehead	28A, 1 st 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, Food Sciences Building	0115 951 6134	FS
Dr S Young	C25, The Gateway Building	0115 951 6256	AES

***Divisional codes**

AES Agricultural & Environmental Sciences
 AS Animal Sciences
 BABS Bioenergy and Brewing Science Bldg
 FS Food Sciences
 MB Main Building
 NS Nutritional Science
 PCS Plant and Crop Sciences
 VS School of Veterinary Medicine and Science

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

Preliminary Module Choices for 2018/19 (for courses that have optional modules)

In early May 2018, we will be inviting you to make preliminary module choices for the 2018/19 academic year via an online form.

We will contact you in early May, before the online form opens, with a link and instructions and with more information about how to check which modules are available in 2018/19, and how to confirm the requirements of your programme of study. This communication will be by email (to your University account) and via Moodle. It is really important you keep an eye out for this message so that you are ready to make your choices.

In the meantime if you have any questions about your module choices please contact us using the online enquiry form at www.nottingham.ac.uk/studentservices/contact-us and choose 'module choice' from the list of things we can help you with.

10 Nutrition and Food Science B4D6

Director: Dr David Gray **Telephone:** 0115 951 6147

See "taught" column to check the Semester in which modules are taught

Qualifying Year (Year 1)

Compulsory

Code	Title	Credits	Taught
D212F7	Bacterial Physiology	10	Spring
D21BN1	Introduction to Nutrition	20	Full Year
D21BN2	Biochemistry - The Building Blocks of Life	20	Full Year
D21BF1	Food Materials and Ingredients	20	Full Year
D212A2	Contemporary Agricultural Systems	10	Spring
D211F4	Food Commodities and Primary Processing	10	Autumn
D21BG1	Biosciences Tutorials (Academic Development) and Foundation Science	20	Full Year
D211F5	Food and Physiology	10	Autumn

Part I (Year 2)

Compulsory

Code	Title	Credits	Taught
D224F0	Food Product Case Studies	20	Spring
D224FE	Sensory Evaluation	10	Spring
D223F0	Manufacture of Food (40 credit)	40	Autumn
D224FB	Food Safety and Legislation	10	Spring
D224N0	Nutrition, Metabolism and Disease	20	Spring
D223NA	Nutritional Regulation, Physiology and Endocrinology	20	Autumn

Part II (Year 3)

Compulsory

Code	Title	Credits	Taught
D23BN1	Nutrition and the Health of Populations	20	Full Year
D235F8	Personal and Professional Development for Food Scientists	10	Autumn
D23PRO	Undergraduate Research Project	40	Full Year
D23BF2	Food Factory Operations	20	Full Year
D235FR	Trends in Food Research	10	Autumn
D235F9	Food Flavour and the Physiology of Perception	10	Autumn

Additional Module Choice Information for Part II

Students can take 10 credits from any University modules at this level if the conditions of registration are met by the student and there is no clash in the timetable with core modules.

11 Table of Modules

Title	Saturn code	Campus code	Agric (Production)	Agric (Business)	iABM	Ag & C	Ag & LS	Ani Sci	Biotech	Dietetics	Env Biol	Env Sci	Food Sci	Microbio	Nutrition	Nutri and Food Sci	Plant Sci
Biosciences Tutorials (Academic Development) & Foundation Sciences																	
The Biosciences and Global Food Security	D21BG1	BIOS1028	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	10 of 20
Biochemistry – The Building Blocks of Life	D211F3	BIOS1014	10	10	10	10	10	10	10	10				10	10		10
Genes and Cells 1	D21BN2	BIOS1009	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
Animal Biology	D211P1	BIOS1001	10			10	10	10	10	10				10	10		10
Introduction to Nutrition	D211A2	BIOS1015	10	10	10		10	10									
Agricultural Business in the Global Economy	D21BN1	BIOS1008					10 of 20	10 of 20		10 of 20			10 of 20		10 of 20	10 of 20	
Microbes and You	D211A3	BIOS1022		20	20												
The Physiology of Microbes	D21BF3	BIOS1020												10 of 20			
Dietetics Tutorial (academic Development)	D21BF7	BIOS1027							10 of 20					10 of 20			
Introduction to Dietetics	D21BN6	BIOS1029								5 of 10							
Food Commodities and Primary Processing	D21BN5	BIOS1021								5 of 10							
Food and Physiology	D211F4	BIOS1024											10			10	
Food Materials and Ingredients	D211F5												10	10		10	
Introduction to Health Behaviours	D21BF1	BIOS1010											10 of 20		10 of 20	10 of 20	
Global Environmental Processes (UP)	D21BN4	BIOS1019								10 of 20			10 of 20		10 of 20		
Environmental Geoscience (UP)	C11E1	BIOS1004									20	20					
Evolution, Ecology and Behaviour	C11E5	BIOS1013										20					
Tutorials in Environmental Science (UP)	C11EB										10 of 20						
Environmental Science and Society	C11BE1	BIOS1011									10 of 20	10 of 20					
Life on Earth (UP)	D212E4	BIOS1026									10 of 20	10 of 20					
Plant Science Research Tutorials	C11LOE	LIFE1030															
	D212P5	BIOS1017				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 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

Title	Saturn code	Campus code	Agric (Production)	Agric (Business)	iABM	Ag & C	Ag & LS	Ani Sci	Biotech	Dietetics	Env Biol	Env Sci	Food Sci	Microbiol	Nutrition	Nutri & Food Sci	Plant Sci
Biosciences Tutorials (Academic Development) and Foundation Sciences																	
Biochemistry – The Building Blocks of Life	D21BG1	BIOS1028	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	10 of 20
Applied Genetics	D21BN2	BIOS1009	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
Introduction to Nutrition	D212P3	BIOS1002					10	10	10					10			10
The Physiology of Microbes	D21BN1	BIOS1008					10 of 20	10 of 20	10 of 20	10 of 20			10 of 20	10 of 20	10 of 20	10 of 20	
Microbes and You	D21BF7	BIOS1027							10 of 20					10 of 20			
Food Materials and Ingredients	D21BF3	BIOS1020											10 of 20	10 of 20			
Contemporary Agricultural Systems	D21BF1	BIOS1010											10 of 20		10 of 20	10 of 20	
The Ecology of Natural and Managed Ecosystems	D21A2	BIOS1012	10	10	10	10	10					20	10			10	
Introduction to Dietetics	D21E5	BIOS1016	20	20	20	20											20
Dietetics Tutorials (academic development)	D21BN5	BIOS1021								5 of 10							
Introduction to Health Behaviours	D21BN6	BIOS1029								5 of 10							
Grassland Management	D21BN4	BIOS1019								10 of 20					10 of 20		
Bacterial Physiology	D21A1	BIOS1007	10	10	10	10	10				10						10
Introductory Physiology	D21F7	BIOS1005											10			10	
Tutorials in Environmental Science (UP)	D21Z5	BIOS1006						20	20	20		10 of 20			20		
Life on Earth	C11BE1	BIOS1011									10 of 20						
Evolution, Ecology and Behaviour	C11LOE	LIFE1030									10 of 20						
Integrated Agri-Food Markets and Marketing	C11EEB	LIFE1031									10 of 20						
Managing Tourism & the Environment: Conflict or Consensus (UP)	D21A3	BIOS1023		20	20												
Environmental Science and Society	N2122	BUS12014									10 of 20	10 of 20					
The Anthropology of Human Ecology (UP)	D21E4	BIOS1026									10						
Microorganisms and Disease (UP)	AA1017	ARC1001									10	10					
On Earth and Life	C51201	LIFE1007									10	10		10			
Earth and Environmental Dynamics (10cr) Spring	F81126	GEOG1014									10	10					
Environmental Archaeology	F81222	GEOG1012										10					
Plant Science (UP)	V61101	ARC1009									10						
	C112P1	BIOS1003	10				10		10			10					10

12 Timetable Information

Academic Year 2017-2018 Week Pattern for the UK Campus.

Teaching starts Thursday 28 September 2017

Syllabus+ Week	Teaching Week	Week Commencing	Comments
1	1	25/09/2017	Registration & Induction Week, teaching begins 28 September
2	2	02/10/2017	Autumn Semester
3	3	09/10/2017	Autumn Semester
4	4	16/10/2017	Autumn Semester
5	5	23/10/2017	Autumn Semester
6	6	30/10/2017	Autumn Semester
7	7	06/11/2017	Autumn Semester
8	8	13/11/2017	Autumn Semester
9	9	20/11/2017	Autumn Semester
10	10	27/11/2017	Autumn Semester
11	11	04/12/2017	Autumn Semester
12	12	11/12/2017	Autumn Semester
13	Vacation	18/12/2017	Christmas Break
14	Vacation	25/12/2017	Christmas Break
15	Vacation	01/01/2018	Christmas Break
16	Vacation	08/01/2018	Christmas Break
17	Assessment	15/01/2018	Assessment
18	Assessment	22/01/2018	Assessment
19	1	29/01/2018	Spring Semester
20	2	05/02/2018	Spring Semester
21	3	12/02/2018	Spring Semester
22	4	19/02/2018	Spring Semester
23	5	26/02/2018	Spring Semester
24	6	05/03/2018	Spring Semester
25	7	12/03/2018	Spring Semester
26	8	19/03/2018	Spring Semester
27	Vacation	26/03/2018	Easter Break
28	Vacation	02/04/2018	Easter Break
29	Vacation	09/04/2018	Easter Break
30	Vacation	16/04/2018	Easter Break
31	9	23/04/2018	Spring Semester
32	10	30/04/2018	Spring Semester
33	11	07/05/2018	Spring Semester
34	12	14/05/2018	Spring Semester
35	Assessment	21/05/2018	Assessment
36	Assessment	28/05/2018	Assessment
37	Assessment	04/06/2018	Assessment
38	-	11/06/2018	-
39	-	18/06/2018	<i>Term finishes 22/06/18</i>
40		25/06/2018	
41		02/07/2018	
42		09/07/2018	
43		16/07/2018	
44		23/07/2018	
45		30/07/2018	
46		06/08/2018	
47		13/08/2018	
48	Assessment	20/08/2018	Re-sit Period

49	Assessment	27/08/2018	Re-sit Period
50		03/09/2018	
51		10/09/2018	
52		17/09/2018	

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 COSHH. 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, MSci and MNutr degrees.

The regulations can be found at:

www.nottingham.ac.uk/academicservices/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%.

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 (there are no reassessment opportunities in the final year). 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 1-6.
- **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%.

The standardised weighting for the stages of a Bachelor degree will be 33/67 for Parts I and II respectively, and the standardised weighting for an Integrated Master's degree (undergraduate) will be 20/40/40 for Parts I, II and III respectively

Borderline Profiling

Classification borderlines will be based on the overall rounded average mark (credit and stage weighted). Borderline overall averages will be as follows:

2:1-1st	68, 69
2:2-2:1	58, 59
3rd-2:2	48, 49

A student should be given the higher class if either of the following criteria are met:

- Half or more of the final stage credits are in the higher class;
- Half or more of the final and penultimate stage credits are in the higher class

Further Reading

Full details of regulations can be viewed on the UoN Quality Manual page at

<http://goo.gl/qoQPi3>

15 Extenuating Circumstances

During your time with us you might experience significant personal difficulties that are outside of your control.

If these problems impact your ability to study or complete assessments, we recommend that you notify, for example, your Personal Tutor, PhD supervisor or a Welfare Officer, as soon as possible. These people will be able to provide advice and direct you to appropriate procedures or support services, if applicable.

If you've discussed your circumstances and you identify you need to make a claim under the Extenuating Circumstances policy, you will need to let us know by filling out an extenuating circumstances form.

Your case will then be looked at and you'll be informed of the outcome of your claim.

What you need to know

If you miss an assessment or coursework deadline, or your performance was affected by extenuating circumstances, you will need to complete an extenuating circumstances form. Coursework extensions should also be requested using this form, (also see below guidance on Academic and Disability referral forms).

We've produced a leaflet to help you understand what you need to know regarding time limits within the EC policy.

The extenuating circumstances form must be submitted before your coursework deadline or within seven days of your assessment. Supporting documents can be attached to the form or sent to student-services-ec@nottingham.ac.uk within 14 days of the assessment.

Students with Academic or Disability referral form

If you have an academic referral form (ARF) or disability referral form (DRF) that states on it that extensions to deadlines should be allowed on request wherever possible, you do not need to complete an extenuating circumstances form.

Instead you need to get the approval of the relevant module convenor/designated member of School staff on this form - Coursework Extension Request Form for students with an ARF/DRF, and submit it to a Service Centre. You do not need to include any supporting documentation. This form can only be used for one extension per assessment and must be submitted before the original deadline.

Submission can be in person or to studentservices@nottingham.ac.uk

16 Plagiarism and Paraphrasing

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 that plagiarism is readily-detected.**

USEFUL ADVICE FOR STUDENTS

One good method for avoiding 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 in the legend.

To make a specific point, there may be rare 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. It is bad practice to use this as a way of avoiding paraphrasing.

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 is unacceptable in a scholarly community. Such action(s) will be considered under the University's Regulations on Academic Misconduct and 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 grammatical 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.

The 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

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 are 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. It is rarely necessary to quote previous work directly and you should try to avoid doing this. If quotation is unavoidable, you should put the passage 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 reference given in your reference list should contain the names of all the authors. Do not use numerically cited or ordered references.
5. In your "References" or "Literature cited" section, the following style (authors, date, title, journal, volume number, page numbers; called the "Harvard" style) 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 – unless instructed otherwise by the member of staff setting the coursework.

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.

If the source is only available electronically or is being published "ahead of print", give the DOI number in your reference.

Some electronic journals do not use page numbers.

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. It is avoided by paraphrasing and including your own original thoughts, interpretations or evaluations. 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) note 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 • Be able to accept emerging ideas
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 • Be able to critically evaluate new ideas
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 a 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 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 directors for module guidance.
- Tutorials/seminars within modules comprising your degree programme.
- Provision of specific credit-bearing academic tutoring and study skills modules 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 are published,
 - constructive comments provided by markers through individual appointments with module convenors
 - module evaluation forms collated from student 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 Student Service Centres.
- 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

You are encouraged to read the full Biosciences tutoring statement in appendix 8 or at <http://goo.gl/dPpFjU>.

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/academicservices/qualitymanual/registrationattendanceandstudy/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 the Quality Manual <http://goo.gl/yX4aTC> or 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 Student 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:
<http://www.nottingham.ac.uk/academic-services/qualitymanual/assessmentandawards/academic-appeals-policy-and-procedure.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 Director
- 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 Industry Placements

As an undergraduate student in the School of Biosciences, the vast majority of you can undertake an optional industry placement, between years two and three of your degree, extending your degree to a four year programme.

The year-long placement is open to you if you are studying one of the following degree programmes:

- BSc Agriculture
- BSc Integrated Agricultural Business Management with Industrial Placement Award ¹
- BSc Agricultural and Crop Science
- BSc Agricultural and Livestock Science
- BSc International Agricultural Science ²
- BSc Animal Science
- BSc Biotechnology
- BSc Environmental Science
- MSci Environmental Science ³
- BSc International Environmental Science ²
- MSci International Environmental Science ^{2 3}
- BSc Environmental Biology
- BSc Food Science
- BSc Microbiology
- BSc Nutrition
- BSc Nutrition and Food Science
- BSc Plant Science

You apply for placements during your second year. The School Placement Team help and support you by organising a range of employer presentations on campus, working with the Careers and Employability Service to provide training, sending weekly email alerts of placement opportunities, offering one-to-one appointments, and providing online resources.

All University of Nottingham students who undertake a year in industry as part of their degree pay a reduced tuition fee to The University of Nottingham, and continue to have access to student loans and the University's core bursary, as applicable. The vast majority of year in industry placements are paid.

Further information, profiles of student experiences and useful links can be found here: www.nottingham.ac.uk/biosciences/placements

If you have any questions or want to find out more, contact the School of Biosciences Placement Team, Dr Judith Wayte and Mrs Rachel Jessop, on biosciplacements@nottingham.ac.uk

¹ If you are studying BSc Integrated Agricultural Business Management with Industrial Placement award, then a year-long industrial placement during year 3 is built into the 4 year degree programme.

² If you are studying a degree with an international pathway where you study abroad at the University of Sydney for your second year, you can still undertake an industrial placement.

You will need to apply for your placement whilst studying in Sydney. You should be aware that some companies will require you to attend an interview/assessment centre in person, whereas others will be more flexible and will be able to interview you remotely. You can work together with the School Placement Team by email from Sydney.

³ If you are studying for an MSci degree course, adding a year in industry will mean that the total length of your degree course is 5 years. If you are an international student on an MSci degree course studying in the UK on a Tier 4 visa, and you wish to undertake a year in industry, you need to be aware of the following:

- Once you have secured an industrial placement, you will need to change degree course and apply for a visa extension.
- You may need to make your application for a visa extension from overseas.

The maximum length of time you can study in the UK on a Tier 4 visa at undergraduate level is 5 years. An MSci course with a year in industry is therefore at the maximum length, so if you were to fail one or more modules, you would not have the opportunity of resitting a year in the UK.

If you have any questions or want to find out more, contact the School of Biosciences Placement Team, Dr Judith Wayte and Mrs Rachel Jessop, on biosciplacements@nottingham.ac.uk

21.1 Study Abroad

Studying abroad takes you out of your comfort zone, helping you to develop valuable skills, such as independence and resilience, which are attractive to future employers. The School of Biosciences offers a range of study abroad opportunities.

University-wide exchange programme

The University-wide exchange programme is open to all first year undergraduate students (except MNutr). It's a competitive programme that offers the opportunity to study abroad at one of our university-wide partner universities for the Autumn Semester of the second year, as part of their Nottingham degree programme. Many of our partner universities are part of Universitas 21, an international network of leading research-intensive universities, of which The University of Nottingham is a founding member.

In order to be considered for the programme, applicants are required to have attained a minimum of 60% average in first year January exams, to have a good academic reference and a good personal statement provided as part of the application process. The application deadline is in January for first year students.

University of Nottingham Malaysia Campus

Students studying BSc Biotechnology, BSc Agricultural and Crop Science, BSc Nutrition, BSc/MSci Environmental Science, BSc Environmental Biology and BSc Plant Science have the opportunity to study abroad at the University of Nottingham Malaysia Campus during their second year, for one semester or the full academic year, as part of their three-year degree programme. All teaching at the Malaysia Campus is in English and the modules and exams are very similar to those in Nottingham. The application deadline is in February for first year students.

International Year (Erasmus+)

All BSc students in the School of Biosciences are able to apply to undertake an optional International Year in Europe. The International Year takes place between years two and three of the degree programme, extending the degree to a four year programme and changing the degree title to "...with an International Year". The School of Biosciences has established Erasmus agreements of student exchange with a number of European institutions in France, Germany and Spain.

Students who wish to apply to the International Year must submit an application during the first year of study. Information regarding how to apply will be provided at a specific meeting during the Spring Term, to which all first year students will be invited. The application deadline will be in March of the first year.

Students taking the International Year must take and pass language modules during Year 2 of the degree by taking 10 credits of French, German or Spanish language (as applicable) alongside 50 credits of their degree programme in each semester (or as an evening class for Nutrition and Food Science students). Language classes are taught at the Language Centre, University Park. Students who do not have a GCSE in the relevant language can apply to the programme and may have the option of studying abroad in English, depending on destination.

During the third year abroad, students will study abroad at one of the School's Erasmus partner institutions in France, Germany or Spain, taking modules in the target language

alongside language classes. For some destinations, there is the option of studying abroad for the first semester and working abroad for the second semester.

Summer Schools

Overseas Summer Schools offer students the fantastic opportunity to experience living and studying in another country over the summer vacation, through our range of international summer school programmes. These programmes range from one to six weeks so don't involve extended time away from your degree, family or friends. They are also a great way to study something you wouldn't normally have the chance to do, explore a new country and make new friends. As these programmes are offered during holiday periods, credits and grades are not transferred back to Nottingham and you can study whatever is of interest to you. The application deadline is in February each year for all students.

Study Abroad finance

Studying abroad need not be any more expensive than studying at The University of Nottingham, if you budget your finances well and take advantage of available funding. There are a number of grants, bursaries and scholarships available, depending on where you will be studying abroad.

All University of Nottingham students who participate in one of the University's exchange programmes as part of their degree pay a reduced tuition fee to The University of Nottingham UK during the academic year when they study abroad. No tuition fees are paid to the host university abroad.

Financial support may also be available from Student Finance such as an overseas rate of loan or a travel grant.

Interested in study abroad?

All first year Biosciences students will be invited to an information presentation about study abroad opportunities in November 2017 on the Sutton Bonington campus. 1:1 appointments for students interested in studying abroad will also be offered during the Autumn Term on campus.

Make sure you attend the Study Abroad Fair, organised by the Global Engagement Team, which will take place in November 2017. Here you will be able to find out about study abroad destinations open to you and meet with students who have already studied abroad. The Global Engagement Team also organise a range of information presentations throughout the year. Further information can be found here:
www.nottingham.ac.uk/currentstudents/study-abroad/events

Further information about studying abroad can be found here:

Web: www.nottingham.ac.uk/studyabroad

Facebook: www.facebook.com/UoNStudyAbroad

Twitter: @UoNStudyAbroad

Study abroad contacts:

Rachel Jessop rachel.jessop@nottingham.ac.uk

Elena Staves (Student Services Centre, The Barn)

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 Students' Access to Academic Staff policy

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 provided in three main forms on i) assessed coursework, ii) examination performance and iii) general aspects of each module. In addition to individual marks given for assessed coursework in each module, you will receive an overall module mark and the end of each semester and a full set of module marks 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 deadline by which you must submit coursework and a date when you can expect to receive feedback on your work. 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 15 work 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/academicsservices/qualitymanual/assessmentandawards/feedback-to-students.aspx

Examination Feedback

After each examination period, general examination feedback from each module will be posted on Moodle. This will include: i) feedback on examination questions where students' performance could be improved, ii) suggested strategies for improving performance in those questions and iii) general comments about examination technique. 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 within a folder for the module in Moodle. This feedback sheet is used by module convenors to identify which areas of the module students felt worked well, and others that 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 www.nottingham.ac.uk/academicservices/qualitymanual/assessmentandawards/feedback-to-students.aspx

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, QMC and Jubilee Campuses. Further details of support services to be given to you on arrival.

27.2 Libraries

The James Cameron-Gifford Library on Sutton Bonington (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 ([NUsearch](#)) 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 through the intersite delivery service. During Semester 1 you should attend an introductory lecture provided by the library's Teaching and Learning Support Team. 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 study spaces, including quiet areas, bookable/non-bookable study rooms 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 James Cameron-Gifford Library is open Monday to
Friday 8.00 am - 9.45 pm
Saturday 9.00 am - 4.45 pm Sunday
9.30 am - 4.45 pm

The library is open 24/7 during exam periods. More information can be found on our website at: www.nottingham.ac.uk/library
You can also stay up to date with library news and announcements via the Library Twitter account: @UoNLibraries

27.3 IT Facilities

Help and advice

Comprehensive advice and information for new users of the IT facilities is available on the Student Services web pages

(<http://www.nottingham.ac.uk/student-services/services/it.aspx>) and on the IT Services web site (<http://www.nottingham.ac.uk/it-services/>).

Several hard-copy guides and booklets are also available 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, or you may miss important information.

Computer rooms

There are a number of IT Services computer rooms on the Sutton Bonington campus which students can use, 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, Microsoft Office, 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 IT Services Laptop Loan and Repair service, where longer-term loan periods are possible. This service operates from the Pope Building on University Park.

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 all students to save their work safely and securely! Each student has 1TB of personal file storage available through the University's Microsoft Office 365

'OneDrive' service. This storage is available through a web browser on any networked computer.

Never save your work onto the hard drive of Computer Room computers: your work will be lost when you log off! Save files to your OneDrive or to an external storage device.

Work created on your own computer also needs to be backed up. Use either OneDrive; an external storage device; or 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 **eduroam** service should be available in all of the main teaching and social areas of the campus, and in some outdoor areas. Eduroam is also available in the CLV Ltd halls of residence at Sutton Bonington, although CLV also provide their own wireless service.

27.4 Accessibility

Teams supporting students with study support, disabilities, specific learning difficulties and long term health conditions are located in the Student Services Centre (SSC), in The Barn on Sutton Bonington Campus, in the Portland Building on University Park, and will be available on all of our 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

The Accessibility Team also provides support for students who wish to develop their strategies for academic writing and time management.

The Accessibility Team have online study resources which relate to almost all of the areas you cover in the guide, see <http://www.nottingham.ac.uk/studentsservices/supportforyourstudies/academicsupport/studyresources/index.aspx>

If you would like to contact us please phone the Student Services Centre on (0115) 951 3710

e: disability-support@nottingham.ac.uk
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.

The School also has a dedicated Student Welfare Manager, who provides a point of reference, advice and guidance for members of staff and students in the School about student support. The Welfare Manager is part of a large cross campus team of Student Welfare support managers and officers that meets regularly to share good practice. The Welfare Manager in Biosciences is located in the Main Building and works closely with the Accessibility Team in working to ensure that all students are supported and advised appropriately and that there is equality of opportunity for all.

If you have any requirements or concerns talk in the first instance to your Welfare Manager – or contact your personal tutor.

27.5 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.
- **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.
- **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** – A10, Main Building, 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/UASVap>

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 Module Information

29.1 Qualifying (Year 1) Modules

D21BN1 Introduction to Nutrition

Module Convenor: Dr L Coneyworth Lisa.Coneyworth@nottingham.ac.uk

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

Note: This module is a pre-requisite for D224N0 Nutrition, Metabolism and Disease, & D223N8 Principles of Animal Nutrition

Expected Number of Students Taking Module: 180

Target Students: Students studying Master of Nutrition (B401), BSc Nutrition (B400), Nutrition and Food Science (B4D6), Food Science (D610), Animal Science (D320), Agriculture and Livestock (D420).

Summary of Content: This module aims to provide a comprehensive introduction to the key concepts in the field of Nutrition, including macronutrients, energy metabolism, vitamins and minerals. The role of nutrition in human disease will be introduced in the context of major public health issues (coronary heart disease, cancer, obesity and diabetes). Animal-specific content will include ruminant and comparative animal nutrition and animal product quality. Key academic and transferable skills will also be taught in lectures with a particular emphasis on evidence-based approach to nutrition.

Timetable: Typically one two hour timetabled session per week. Twenty two lectures. Further Activity Detail: One computer practical (4 hours) will take place during the Autumn Semester, to introduce online resources. Personal timetables will be available to all students via www.nottingham.ac.uk/studentservices

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

Week	SUBJECT
AUTUMN	
1	Introduction to Module Dietary Reference Values
2	Macronutrients - Protein
3	Macronutrients - Carbohydrates
4	Macronutrients - Lipids
5	Energetics
6	Energetics
7	Vitamins 1
8	Vitamins 2
9	Minerals 1
10	Minerals 2
11	Revision session

Teaching Staff: Dr Lisa Coneyworth (LC, module convenor), Dr Preeti Jethwa (PJ), Miss Joanne Pearce (JP), Prof. Andrew Salter

Week	SUBJECT
SPRING	

19	Introduction and Public Health Nutrition
20	Food Labelling & Pre/pro-biotics
21	Functional Foods
22	Obesity & cancer (human)
23	Equine and companion animal nutrition (animal)
24	Diabetes (human)
25	Comparative nutrition & ruminant nutrition (animal)
26	Coronary Heart Disease (human)
31	Product quality (animal)
32	Revision session
33	Coursework 1

Teaching Staff: DR Lisa Coneyworth (LC) , Dr Matthew Elmes (ME), Dr J Brameld (JB), Dr Marcos Alcocer (MA), Prof A Salter (AS), Dr Tim Parr (TP), Miss Joanne Pearce (JP)

Coursework: Online assessment of taught content at the end of the Spring Semester (1 hour)

Assessment:

Exam 1	70%	2 hour online 'short answer' exam (Autumn)
Inclass Exam 1	30%	In-course online assessment of 1hr duration at the end of the Spring

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

- 1) To provide a sufficiently comprehensive basis in nutritional science, both for students preparing to specialise in Nutrition and those preparing for other specialisations.
- 2) To emphasise the scientific, evidence-based approach to nutrition and illustrate the quantitative nature of nutrition science.
- 3) To extend these ideas into applications specific to animal and human nutrition and highlight the differences and similarities between the two disciplines.

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

- 1) Describe the role of essential nutrients (macro and micro) in mammals
- 2) Describe the basic principles underlying nutritional energetics
- 3) Recognise comparative aspects of nutrition between species

In addition, students focussing on animal nutrition will be able to:

- 4) Describe the role of nutrition in producing high quality animal products for human consumption

In addition, students focussing on human nutrition will be able to:

- 5) Describe the influence of diet on the prevention of disease

D21BN2 Biochemistry The Building Blocks of Life

Module Convenor: Dr Matt Elmes Matthew.Elmes@nottingham.ac.uk

Lecturers: Dr Matt Elmes (ME); Dr Marcos Alcocer (MA); Prof Andy Salter (AS); Dr Simon Welham (SM); Dr Ranjan Swarup (RS); Dr Kevin Pyke (KP).

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

Expected Number of Students Taking Module: 250

Target Students: All School of Biosciences students in year 1

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

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 & D23BN3 Molecular Nutrition.

Timetable: Personal timetables will be available to all students via www.nottingham.ac.uk/studentservices

Summary of Content: This module introduces - proteins, carbohydrates, lipids and nucleic acids. The structure and properties of these will be examined in relation to their function. Topics covered include proteins as structural elements and enzymes, lipids as components of cell membranes, carbohydrates as energy stores and nucleic acids as genetic information and genetic engineering. The process of protein synthesis in prokaryotes will be outlined. The nutritional roles of amino acids, carbohydrates and fats will also be considered briefly. The major metabolic pathways in the cell responsible for energy production (respiration) and biosynthesis of cellular components, including the major pathways of carbohydrate and lipid metabolism along with some aspects of thermodynamics will be covered. Photosynthesis and pathways responsible for the assimilation of nitrogen in plants and eventually animals, will be covered along with general nucleic acid metabolism. In addition general mechanisms for the control of cellular metabolism will also be discussed. The practical sessions are designed to introduce students to several key biochemical techniques. In the first semester this will introduce students to the use of spectroscopy and demonstrate two major separation techniques - chromatography and electrophoresis. The practical sessions in the second semester are designed to introduce the concept of sub-cellular fractionation, enzyme assays and metabolite quantification.

Lecture Programme (provisional):

Week	Subject	Lecturers
2	Nucleic acids - structure	ME
3	Nucleic acids – Properties and Applications	TBC
4	Amino acids and protein structure	MA
5	Practical	ME,
6	Practical	ME
7	Practical	MA,
8	Protein synthesis	SW
9	Amino acid metabolism	MA
10	Nucleotide synthesis and metabolism	MA
11	Nucleotide synthesis and metabolism	MA
12	Enzymes	SW

19	Bioenergetics and Respiration	ME, RS
20	Bioenergetics and photosynthesis	ME, KP
21	Bioenergetics	ME
22	Practical	MA,
23	Practical	ME
24	Practical	MA,
25	Carbohydrates and lipids-structure	ME, AS,
26	Carbohydrates and lipids-structure	ME, AS
31	Carbohydrates and lipids -functions	ME, AS
32	Metabolic control	ME

Teaching Staff: Dr Matt Elmes (ME); Dr Marcos Alcocer (MA); Prof Andy Salter (AS); Dr Andy Murton (AM); Dr Simon Welham (SM); Dr Ranjan Swarup (RS); Dr Kevin Pyke (KP)

Coursework: Laboratory practical report.

Formative Assessment: MCQ moodle quiz

Summative Assessments:

Exam 1	60%	1.5 hour MCQ exam
Coursework 1	40%	Practical Write up in Spring (equivalent to 1000 words)

Aims: The aim of this module is to introduce students to the basic structure, properties and functions of the four key biological macromolecules namely- nucleic acids, proteins, carbohydrates and lipids. It also aims to introduce the basic metabolic pathways occurring in cells, such as respiration, photosynthesis and the biosynthetic pathways for the key macromolecules. In particular:

1. To provide a basis for the understanding of biochemical processes in living organisms.
2. To provide students with a basic understanding of the structure and key properties of all four major macromolecules.
3. To demonstrate to students how these properties are essential for the biological functions of the macromolecules.
4. To provide students with a basic understanding of the major biochemical pathways in cells and their control.
5. To demonstrate to students how these pathways are essential for the cell.
6. To demonstrate several key biochemical techniques for the separation and analysis of macromolecules and measurement of metabolic processes.

Learning Outcomes:

Knowledge and Understanding to learn of:

The structure, properties and functions of proteins, nucleic acids, lipids and carbohydrates.

Handle kinetic data and understand molarity.

Understand the basic principles of key techniques such as electrophoresis and spectrophotometry.

The major metabolic pathways such as respiration, photosynthesis, lipid and protein biosynthesis.

Bioenergetics and the role of energy in metabolism.

Understand the basic principles of key techniques used to study metabolism such as enzyme assays.

Intellectual Skills the ability to:

Analyse simple experimental data

Handle simple mathematical concepts relevant to the biological sciences, such as molarity, calibration curves and kinetics.

Practical Skills - the ability to:

Accurately operate simple laboratory equipment, such as pipettes Collect and record data

Work safely in the laboratory.

Transferable/key skills - the ability to:

Communicate experimental results clearly and concisely in a written form Work productively as an individual and as part of a team

Manage time efficiently.

D21BG1 Biosciences Tutorials (Academic Development) and Foundation Science

Module Convenor: Dr A French

Module Assessment Period: Full Year (Default) Assessed in both Autumn and Spring Semesters

Target Students: Biosciences Tutorials (Academic Development) and Foundation Science.

Total credits: 20

Level: 1

Pre-requisite(s): None

Number of Places: 260

Timetable: Personal timetables will be available to all students via www.nottingham.ac.uk/student-services

Summary of Content: The content is as follows: The tutorials component is intended to enhance the transition into university and guide students through the academic expectations of their degrees. This part of 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, oral presentation, data handling and presentation of results, preparation for examinations, and essay writing skills relevant to the Biosciences. The Foundation Science content 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 and Stats element will include: calculations, algebra, functions and relationships, powers, logarithms, descriptive statistics, significance, regression and presenting data. 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.

Lecture Programme: Lecture programmes will be given to Students at the beginning of module.

Practical Class Programme:

Computing	1	4hrs 0min	Centrally
Computing	1	2nhrs 0min	Centrally
Lecture	1	1hr 0min	Centrally
Lecture	1	2hrs 0 min	Centrally
Placement	1	3hrs 0min	Centrally
Tutorial	1	1hr 0 min	Locally

Further Activity Detail: Tutorials: 3 x 1 h lectures spec times in year; Tutorials 9 wks 1 per wk 45 mins. Foundation science: large lecture rm in Vet School every wk, with exception of wks 3,8,12,23,24,34. Specific requirements other wks: 3, 24,34: booking

of all computer rooms on SB campus for 4 hrs(9-1);Weeks 8,12, 23: book B01/02 Gateway for 4 hrs(9-1).If not available, book seminar rms in Lecture Block B04, 5, 6, 7, 8

Coursework:

Coursework 1 50% 2000 word essay completed in the Autumn semester

Assessment:

Exam 1 25% Chemistry and Physics test (Rogo, 45 minutes)
Coursework 1 50% 2000 word essay completed in the Autumn semester
Exam 2 25% Mathematics and statistics tests (Rogo, 45 minutes)

Aims and Objectives: The aims of this module are twofold: The Tutorial elements are 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. This part of 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. The Foundation Science element will complement this by providing foundation level knowledge of mathematics, physics and chemistry for undergraduate students entering the School of Biosciences. The module aims to compensate for gaps in knowledge caused by differences in individual prior education and to ensure that all students have the basic knowledge of these key disciplines required to underpin their future studies in the School of Biosciences. The syllabus has been developed in conjunction with degree programme leaders across the School.

Learning outcomes:

- Recognise the significance of the core topics in foundation level physics, chemistry and mathematics to their future degree study in the Biosciences.
- Understand a range of fundamental concepts in physics, maths and chemistry which form core knowledge for scientists of all disciplines.
- 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).
- Manipulate mathematical equations and perform calculations designed to improve confidence in dealing with logarithms, exponentials, powers, scientific notation.....etc.
- Recognise the basis of fundamental scientific equations, their interpretation and meaning.
- Use Microsoft Excel at a basic level to analyse scientific data, enter formulae and plot graphs
- 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.

D21BF1 Food Materials and Ingredients

Module Convenor: Dr David Gray David.Gray@nottingham.ac.uk

Lecturers: Dr. David Gray, Prof Sandra Hill, Dr. Bill MacNaughtan, Dr. Andrew Rosenthal, Dr. Angie Swali, Dr Bettina Wolf

Module Details: A level 1, 20 credit module taught in the Spring and Autumn Semester at Sutton Bonington and assessed by the end of the Spring Semester. The module consists of lectures, practical classes and student centered learning.

Pre-requisite(s): None

Note: This module is a pre-requisite for D223F0 Manufacture of Food (40 credits), and D224FO Food Product Case Studies.

Expected Number of Students Taking Module: 50

Target Students: Honours students studying 'Food Science' or 'Nutrition and Food Science'.

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

Summary of Content: Food materials can be raw, or in the form of manufactured food products. During processing, the material properties of the food are altered; this directly affects the quality of the food product in terms of, for example, its colour, flavour and texture. This module introduces you to properties of these materials (raw and processed), with a particular focus on the chemical and physical nature of carbohydrates, proteins and lipids; the details of food processing/engineering is covered later in the semester 3 module entitled 'Manufacture of Food' (D223F0). Practical classes will support lectures where the properties of food materials can be observed at first hand; analytical methods will be learnt so that particular properties of the food materials can be measured. In addition to these formal classes, there is an opportunity in small teams to compose a poster that explains the properties of the ingredients listed on the label of a specific product.

Timetable: Personal timetables will be available to all students via www.nottingham.ac.uk/studentservices

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

Semester 1

- Module Introduction
- Why study Food Materials?
- Food Labels and Units of Concentration
- Units and Calculations
- Properties of Water
- Ash Measurement
- pH and Buffers
- Practical: Physical-Chemical Attributes of Foods
- Amino Acids & Protein Functionality
- Lipids and emulsions
- Sugars & Complex carbohydrates
- Practical: Parallel Sessions: Cooking Meets Science 1
- Colour and Spectroscopy
- Practical: Colour and Spectroscopy

- Tutorial: Calculations

Semester 2

- Preservatives & Lipid Oxidation
- Modification of Oils and Fats
- Practical: Edible Fats
- Tutorial: Edible Fats
- Starch and Thickeners
- Practical: Starch
- Viscosity
- Emulsifiers
- Practical: Cooking Meets Science 2
- Interactive Food Label Exercise

Assessment Details:

Exam 1 40% Examination (2 hours)

Report 20% Practical Report (1000 words)

In-Class Test 40% (2 hours)

Assessment details to be confirmed at that start of the module

Aims:

- learn about the basic chemical and physical nature of the materials that make up foods
- understand the different techniques employed to measure the composition and certain functional properties of food materials
- appreciate the changes occurring to food materials during processing, and to become familiar with some of the methods used to measure the changes that determine the quality of the food product
- begin to develop the ability to interpret food labels and appreciate the functional properties of listed ingredients

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

1. From a chemical and physical perspective, describe and explain the structure and functional properties of food materials and ingredients.
2. Select from a range of quantitative methods used to measure food composition, and justify your choice.
3. Interpret and present qualitative and quantitative data.

D212A2 Contemporary Agricultural Systems

Module Convenor: Dr Matt Bell (MB) Matt.Bell@nottingham.ac.uk

Lecturer: Prof Paul Wilson (PW), Dr Stephen Ramsden (SR), Dr Michael Davies (MD), Debbie Sparkes (DLS), Dr Scott Young (SY), Dr Helen West (HW)

Module Details: Level 1 Spring Semester, 10 credits.

Expected Number of Students Taking Module: 60

Target Students: For students studying Agriculture and related subjects and available to Exchange Students - if relevant in the first year.

Summary of Content: This module is delivered through lectures, practical classes and business visits to provide an overview of UK agricultural systems. Fundamental concepts of agricultural systems and techniques are introduced, with information gained from lectures and farm visits placed in the context of contemporary markets, policies and research findings.

Timetable:

Week	Subject	Lecturer
1	Introduction to the module and course work	MB
2	Farm business	PW/SJR
3	Agri-diversity (+ practical)	HW
4	Milk (+ practical)	MB
5	Business visit	MB
6	Soils (+ practical)	SY
7	Cereals (+ practical)	DLS
8	Meat (+ practical)	MB/MD
9	Business visit	MB
10	Labour and machinery (+ practical)	MD
11	Business visit	MB

Personal timetables will be available to all students via

www.nottingham.ac.uk/studentservices

Coursework: Coursework will count for 100% of the overall mark for this Module and consists of two 'Farm Research Reports' (maximum 1000 words). The reports will follow two of the farm visits. The reports will test students' ability to place the information gained from the visits in the context of contemporary markets, policies and research findings.

Assessment:

Coursework 1 100% Farm system report. 1000 words.

Aims: Modern agriculture is a dynamic, fast-paced and high-tech industry. In this module, you'll explore practical agricultural systems used by commercial UK farms. A range of fundamental concepts of agricultural systems and techniques are introduced via a series of on-farm visits and explanations. The topics of the visit may vary dependent upon the issues affecting the agricultural industry in any one year, but example topics covered include the following: meat and milk production, cereals, fresh produce, soils, agri-diversity, labour and machinery, farm business, water and waste management, mixed farming systems. You will further develop the concepts introduced via directed student centred learning, including integration of current research findings, leading to the production of two assessed reports.

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

- Demonstrate an understanding of contemporary issues facing agriculture within the context of farm systems, enterprises and resource implications;
- Use appropriate terminology to communicate issues and evidence-base proposals to agricultural and associated professionals;
- Analyse information from a range of sources and apply this information to an agricultural systems context;
- Evaluate the importance of individual aspects of agricultural practice with the context of an individual enterprise or activity and across the farm as a business system;
- Develop approaches to integrating introductory material across a range of subjects;
- Assess the motivations and drivers for decisions made within a contemporary agricultural context;
- Ability to interact and engage with professionals and practitioners in the agricultural industry;
- Understanding of the terminology used within different aspects of agricultural practice;
- Place knowledge gained from research into a practical application and context;
- Appraise the relevance of key information to a range of familiar and unfamiliar contexts;
- Present information from a wide range of sources in a professional manner;
- Generate the confidence to engage with professionals in the industry in order to develop one's own understanding of a particular subject;
- Develop a skill set of terminology and practical knowledge that will be essential for a future career in agriculture and agricultural professional practice;
- To listen to people;
- To evaluate the relevance of research results to contemporary agriculture.

Recommended Reading: Soffe, R.J. (2003). Primrose McConnell's The Agricultural Notebook, Twentieth Edition, Oxford: Blackwell Science; Nix, J. (2015). Farm Management Pocketbook 2016, The Andersons Centre

D211F5 Food and Physiology

Module Convenor: Dr Angie Swali

Total credits: 10

Level: 1, Autumn Semester

Pre-requisite(s)

Number of Places: ~40

Target Students: D610 and B4D6

Summary of Content: This module will cover the basics of the journey of food around the body. Students will learn how our body reacts when it first senses the presence of food, and how hormones are activated in response to hunger and food consumption. The microbiome and gut health will be covered, both in the healthy state and when undesirable reactions occur, leading to disease. Students will be encouraged to explore how certain foods can impact the body, affecting our cognitive and physical health.

Module Activities: One 2h lecture every week. Students will also be encouraged to find information on given topics and present their findings back to the class.

Assessment: 100% 1.5h written Exam

Aims and Objectives: To equip students with an understanding of the pathway of food around the body, how different organs react to certain foods and how this affects our state of health.

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

- Describe the sensory processes which are triggered in response to food
- Explain how the body regulates physiological responses to food
- Describe how food and the microbiome can contribute to disease states

D212F7 Bacterial Physiology

Module Convenor: Dr CED Rees

Module Assessment Period: Spring (Default) Assessed by end of Spring Semester

Target Students: BSc in Food Science, and Nutrition and Food Science. Available to students on the Malaysia Campus

Total credits: 10

Level: 1

Pre-requisite(s): D211P1Genes and Cells: 1

Module Web Links:

Reading List URL:

<http://www.nottingham.ac.uk/is/gateway/readinglists/local/displaylist?module=D212F7>

Timetable: Personal timetables will be available to all students via

www.nottingham.ac.uk/studentservices

Summary of Content: Principles of bacterial structure and nutrition covering the diverse ways by which bacteria obtain energy. Practical and theoretical elements of bacterial growth, and knowledge of bacterial adaption, including motility, sporulation and regulation of genes by alternative sigma factors. Strategies that bacteria have evolved to allow them to occupy selected environmental niches with additional information on the relevance of this to food. Special emphasis on the handling and presentation of data from microbiological experiments. Twenty x one-hour lectures at approximately two per week throughout the semester; four 3-hour practicals and four 1-hour practicals (results and subculture sessions) held in alternate weeks.

Lecture Programme: Lecture programmes will be given to Students at the beginning of module.

Practical Class Programme:

Lecture 1 2hrs 0 min Centrally

Practical 1 3hrs 0 min Locally

Further Activity Detail: Other activities 1 x 1.5 hours, 3 x 3 hours plus 4 x 1 hour; open book test 1 hour. This module cannot be used as a pre-requisite unless students attend 75% of the practicals and achieve a pass mark in the practical element of the course (50% of the module mark based on 4 short laboratory reports).

Coursework:

Coursework 1 60% Laboratory reports – 900 words

Assessment:

Exam 1 40% 1 hour MCQ questions and short answer maths questions

Coursework 1 60% Laboratory reports – 900 words

Aims and Objectives: The major aim is to provide basic knowledge of bacterial cell structures and growth and to reveal the mechanisms that allow bacteria to respond to their environment required for students to take higher level microbiology courses in the area of food microbiology. Students will also be taught how to handle data commonly used in

microbiological experimentation and be given training in the basic practical methods required for all microbiological laboratory work.

Learning outcomes: Principles of microbial nutrition covering the diverse processes by which bacteria obtain energy. Practical and theoretical elements of microbial growth and knowledge of bacterial cells structures. Strategies microorganisms have evolved to allow them to occupy selected environmental niches, including motility, sporulation and regulation of genes by alternative sigma factors, with additional information on the relevance of these to food. The students will gain:- a Knowledge and understanding i. knowledge of the ways microorganisms have adapted to growth under various environmental conditions. ii. an understanding of experimental approaches to investigating microbial populations. iii an insight into the relationship between microbial physiology and food preservation techniques. b Intellectual skills ii. an understanding of experimental approaches to investigating microbial populations. c Professional practical skills iv. ability to process and present data from microbiological experimentation v. basic training in sterile technique, culture and identification of microbes. d Transferable (key) skills iv. ability to process and present data from microbiological experimentation v. basic training in sterile technique.

Recommended Reading/Resources: Teaching laboratory appropriate for handling ACDP group 1 microbes.

D211F4 Food Commodities and Primary Processing

Module Convenor: Miss Maria Benlloch Tinoco Maria.Benlloch-Tinoco@nottingham.ac.uk

Module Details: Level 1, Autumn Semester, 10 Credits

Expected Number of Students taking module: 40

Target Students: Food Science' and 'Nutrition and Food Science' students

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

Timetable: Personal timetables will be available to all students via www.nottingham.ac.uk/studentservices

Module Content:

Food commodities can be defined as: 'raw materials consumed directly or used to manufacture food products'. The major food commodities we shall study are cereals, oilseeds, fruit and vegetables, tea, coffee, cocoa, herbs and spices, sugar, meat, fish, eggs and milk. Having described the chemical composition of the commodity, strategies employed to store and/or prepare the material for food manufacturing operations will be covered. A common theme, which runs through this module, is quality. What is quality and how can it be defined for each commodity? How does it develop then deteriorate? What methods (chemical, physical or biochemical) can be employed to control quality and slow down deterioration? Each commodity will be dealt with individually but principles which link different commodities will be emphasised. There will also be lectures on the global trade of food commodities in terms of economics/markets, and in terms of trade justice.

1. Food Commodities

Cereals

Over 5% of the entire land surface of the world is covered with cereals. They are a staple of most diets. In the course we will look at the structure and composition of different grains and review how they are best stored. For wheats we will also look at how they are milled to turn them into a major food commodity, wheat flour.

Milk

A detailed account of milk constituents and their physical distribution is given. The chemistry of milk fat globules, casein micelles, lactose and whey proteins is dealt with. This lecture course is completed with an account of the methods used to treat milk prior to human consumption e.g. pasteurisation, sterilisation and homogenisation. Spray drying of milk to yield milk powder is also covered in outline.

Meat and Fish

Fresh foods and associated products make up the greatest part of an average food bill in the UK. In the lectures an understanding of how live muscle becomes meat will be given and the key quality attributes will be discussed. Red meat will be contrasted with poultry, fish and meat analogues.

Eggs

Eggs are a versatile commodity, not only as a nutrient-rich food, but also as a functional ingredient in a wide range of food products. Although fresh eggs are often sold 'locally', there is a significant global trade in liquid and dried eggs.

Oilseeds/fruits and Oil Extraction/Refining

The major global oil commodity crops will be introduced, with an emphasis on oilseed rape, sunflower seed, soya and palm fruit). Industrial methods used to extract oil and to refine it

will be explained. The steps taken at different stages of the process to secure high oil quality will be identified.

Fruit and Vegetables

The major and minor constituents of fruit and vegetables (eg water, polysaccharides, vitamins, metal cations, organic acids) are highlighted with reference to their nutritional importance. The modern methods used to preserve perishable crops stem from an understanding of postharvest physiology, biochemistry, molecular biology and genetics. These changes are described in some detail, from the difference between a climacteric and non-climacteric fruit to ethylene biosynthesis and the biochemical changes during fruit ripening.

Tea, Coffee, Cocoa and Sugar

Tea, coffee, cocoa, and sugar are commodities that have been traded globally for hundreds of years. Primary processing of tea, coffee and cocoa maximises the flavour and colour potential of the raw materials. Enzymic browning, and non-enzymic browning reactions will be covered. Sugar (sucrose) is produced to very high purity specifications but at very low costs. Methods for sugar extraction and purification must therefore be simple, cheap and effective. The key principles used in sugar production are discussed to show the underlying science as well as the other factors (safety, economics etc.) that shape the choice of methods for sugar processing.

Herbs and Spices

In addition to the global nature of herb and spice production, key aroma/flavour compounds present in herbs and spices (particularly terpenoids) will be identified. Methods used to extract essential oils will be outlined as will the chemical synthesis of 'nature identical' methanol.

2. Global Trade

Economics of Commodity Trade

A review of the trends in commodity markets provides the basis for an investigation of the two principal issues of interest in primary commodity trade, namely price instability and price decline. We review the explanations for, and implications of, these features with particular reference to producers in developing countries.

Fairtrade

The Fairtrade Foundation is the independent non-profit organisation that licenses use of the FAIRTRADE Mark on products in the UK in accordance with internationally agreed Fairtrade standards. Their vision is of a world in which justice and sustainable development are at the heart of trade structures and practices so that everyone, through their work, can maintain a decent and dignified livelihood and develop their full potential.

Assessment:

Assessment Type	Weight	Requirements
1. Presentation	20%	Design and deliver a group presentation (3-5 students) on a pre-set topic related to module content for 15-20 min.
2. Inclass test (written)	40%	In – class rogo test (30 MCQ in 40 min)
3. Exam (written)	40%	Complete a MCQ paper of 30 questions in 40 min

Formative – feedback will be given for the group presentation designed to encourage active learning (see 'learning and teaching' section above)

Guidelines for Student Group Presentations

You will be part of a group of about five students who will be tasked to give one group presentation as part of the module's timetabled slots; each week a different group will

present. The topic will be based on the previous week's food commodity category (e.g. milk or oilseeds or cereal or fruit and vegetables etc.).

Purpose of Presentation:

1. Develop presentation skills in an informal/non-assessed environment
2. Expand the knowledge of the class of a particular commodity category
3. Promote team working/a team spirit early on in your degree course.

The presentation will be 15-20 minutes long; each individual will be expected to make a 3-minute contribution as part of the team.

Structure of the Presentation:

Address the following 5 questions (one per student)

1. Geographical location of production of the main commodities in this category (current and historical, and main varieties/breeds); and the site of primary processing (i.e. country of origin or country of destination).
2. Form and manner of storing and transporting the main commodities and the principles employed to preserve material quality (e.g. low temperature, or modified atmosphere packaging...)
3. Routine QC tests of the main raw materials (in its raw or primary processed state) in this category. Explain the basic chemical/physical principles of the test(s)
4. Main applications/markets for this category of commodities
5. Some interesting history about this category of commodities

N.B. A lecturer may provide more specific guidelines for this exercise, e.g. a particular food commodity to focus on.

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

Aims: The principal aim of this module is to teach students about the composition of a wide range of food commodities, and how they are handled/treated/processed immediately after production. This will equip students with knowledge about the quality of food commodity materials and how they are traded within the global food supply chain. This module, which is information –rich, will be delivered through lectures. Students will be involved in some active learning: a different small group each week for 20 – 30 minutes, will address the questions 'where on the planet is particular food commodity produced, what primary handling/processing steps are taken after harvest/slaughter, how is the commodity transported, and what countries are the major customers?'

Learning Objectives:

1. Recall the chemical composition and physical structure of major food commodities.
2. Locate geographical regions of food commodity production
3. Articulate the properties of a broad range of food commodities that determine their quality
4. Describe the rudiments of post-harvest/slaughter handling, or primary processing, designed to retain quality during storage/transport

29.2 Part I (Year 2) Modules

D224FE Sensory Evaluation

Module Convenor: Dr R Ford R.Ford@nottingham.ac.uk

Lecturers: Prof Joanne Hort, Dr Ian Fisk, Mrs Emma Weston

Capped module at 50: You will need permission from the module convenor to take this module unless it is compulsory for your course.

Module Details: Level 2 Spring Semester, 10 credits

Pre-requisites: None

Target Students: BSc (Hons) Food Science and BSc (Hons) Nutrition & Food Science

Summary of Content: This module considers: the senses and sensory stimuli: panel selection and sensory protocols; experimental design and statistics for sensory evaluation: methods for the sensory evaluation of products; consumer sensory testing; and sensory methods for quality control. Students also have the option to sit the Institute of Food Science and Technology Sensory examination leading to an Intermediate Certificate in Sensory Science, for which the course is accredited.

Timetable: Typically a 3 hour timetabled session per week (with a 30 minute break): thirty-three lectures, regular tutorials/workshop classes, seventy seven hours student led studies including coursework and revision. Personal timetables will be available to all students via www.nottingham.ac.uk/student-services

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

Week	Typical Content	
1	Module Introduction.	The Senses and Sensory Panels
2	Sensory stimuli and receptors	
3	Sensory Logistics	An introduction to Experimental design, data analysis and reporting for sensory analysis
4	Discrimination testing	Discrimination testing in Practice
5	Quantifying and analysing sensory responses Part 1	Quantifying and analysing sensory responses: Part 2
6	Descriptive techniques	QDA Practical
7	Descriptive techniques and data analysis (ANOVA)	
8	Consumer Sensory testing	
9	Visualising Sensory Data: Principal Component Analysis	Combining Sensory and Consumer Data: Preference Mapping
10	Sensory Evaluation for Quality control	

11	Examination for IFST Certificate in Sensory Evaluation: Intermediate level	Module Evaluation and UoN Exam Guidance/Practice
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Teaching Staff: Dr Rebecca Ford (MC), Prof Joanne Hort, Dr Ian Fisk, Emma Weston, Dr Qian Yang (Sensory Science Centre Manager), Helen Allen (Technician).

Assessment:

Exam 1 (100%) 1.5 hour

Aims: Sensory quality of food is the key attribute in food acceptability. It provides pleasure and also plays a key role in delivering nutritious food in a palatable way. Food quality can be measured using sensory methods as well as instrumental measures of attributes like taste, aroma and texture. The aim of this module is to review the senses and the sensory methods employed by research and industry to measure sensory properties and the consumers' hedonic (liking) response. The importance of the correct data analysis and presentation will also be practiced and reviewed.

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

- Review the human senses and their role in assessing the sensory properties of products
- Discuss the selection and training of individuals for inclusion on sensory and consumer panels.
- Describe, categorise and evaluate sensory and associated statistical techniques used to measure the quality of products
- Process, analyse interpret and present sensory data using appropriate analysis techniques

Recommended background reading:

Kemp S, Hollowood T & Hort J (2009) Sensory Evaluation: A Practical Handbook. Wiley Blackwell.

D224F0 Food Product Case Studies

Module Convenors: Dr Andrew Rosenthal Andrew.Rosenthal@nottingham.ac.uk
and Mrs Emma Weston Emma.Weston@nottingham.ac.uk

Module Details: A level 2, 20 credit module taught in the Spring Semester at Sutton Bonington.

Pre-requisite(s): D21BF1 Food Materials and Ingredients; D223FO Manufacture of Food (40 credits)

Expected Number of Students Taking Module: 40

Restriction: Open as a Level 2 Module for Exchange / Study Abroad Students in the Spring Semester dependant on student's previous learning and core numbers in the current year. Student required to be able to study for the whole spring semester.

Target Students: Honours students studying 'Food Science' or 'Nutrition and Food Science' and available to Exchange Students

Summary of Content: Through problem-based learning (PBL) students will develop skills in diagnosing and solving challenges/problems relating to the manufacture, distribution and/or storage of food products. Students will gather relevant information, synthesise an argument, and disseminate a recommendation/solution. No formal lectures given, but the students will be able to refer to their notes from 'Manufacture of Food' taken in semester 3, and they will be given, or directed to, any additional literature that is necessary for the successful completion of the task in the time available.

PBL Definition: 'The learning which results from the process of working towards the understanding of, or resolution of, a problem' - it is not just 'solving problems'. The most powerful learning comes when a student is dealing with uncertainty. Students need to acquire the process skills not just 'content', therefore they all have to participate. In small teams, students will be given some information about a problem/challenge relating to a food product. Their task is to fully diagnose the problem/challenge and to set about gathering/synthesising relevant information that will allow them to propose an appropriate resolution to the problem. A range of 5 food products will be covered, one product every two weeks, with one full day per week (i.e. 2 full days per product).

Timetable: Typically 1 full day of group activity per week starting at 09:00. Personal timetables will be available to all students via www.nottingham.ac.uk/student-services

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

- 1 Module introduction (1) & Trial Problem Day 1
- 2 Module introduction (2) & Trial Problem Day 2
- 3 Problem 2 Day 1
- 4 Problem 2 Day 2
- 5 Problem 3 Day 1
- 6 Problem 3 Day 2
- 7 Problem 4 Day 1
- 8 Problem 4 Day 2
- 9 Viva Voce 1
- 10 Viva Voce 2

Coursework: In small groups, students will be given some information about a problem/challenge relating to a food product. Their task is to fully diagnose the

problem/challenge and to set about gathering/synthesising relevant information that will allow them to propose an appropriate resolution to the problem. Trained facilitators with appropriate food science/technology backgrounds will provide an appropriate level of support to assist the learning process, and be involved in assessments. *Assessments issued on rota for different groups over semester so order will change.

Task	Assessment Type*	Mark Given	% of Final Mark	Marked Output
Report - Problem 1	Individual	25	25	Marked Output
Report - Problem 2	Individual	25	25	Marked Output
Presentation - Problem 3	Group	20	20	Presentation
Presentation - Problem 4	Group	20	20	Presentation
Viva voce	Individual	10	10	10 minute Viva Voce

Aims:

- Develop problem solving skills
- Promote the application of theoretical knowledge to real problems in the food industry.

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

- Apply relevant knowledge, gained from earlier modules and acquired during the activity, to assist in problem scoping and solving.
- Investigate real scenarios from the food industry demonstrating an appreciation of risk and of any wider business implications within the given scenario.
- Propose and evaluate a range of possible explanations for each scenario that emerges.
- Provide recommendations to resolve the problem
- Interact positively with team members in a time limited environment, by carefully listening, articulating pertinent information and ideas, and taking initiative when necessary.

D224FB Food Safety and Legislation

Module Convenor: Dr N Doherty Neil.Doherty@nottingham.ac.uk

Module Details: Level 2, Spring Semester, 10 credits

Prerequisites: D21BF1 Food Materials and Ingredients

Expected Number of Students taking module: 42

Target Students: Students studying BSc Nutrition (B400), BSc Food Sciences (D610) and Food and Nutrition degrees (B4D6) and Exchange students.

Timetable: Personal timetables will be available to all students via www.nottingham.ac.uk/student-services

Summary of Content: The module will discuss laws relating to the composition, labelling and advertising of food and food products sold for human consumption within the UK and the EU, the responsibilities and liabilities of producer, manufacturers and suppliers of food and food products (for example current changes in food labelling legislation), the minimum legislative standards required in the food industry, the responsibilities and liabilities of the consumer and manufacturer and the role of enforcement officers for food products.

Assessment details:

Exam 1	50	1.5 hour exam
Coursework 1	50	1000 word (or equivalent) report

Aims: The aim of this module is to introduce learners to the legislation relating to food. It will enable learners to not only recognise the responsibilities (and liabilities) of those engaged in the production, manufacturer and distribution/supply of food and their related products, but also the legislation that impacts on health attributes and claims for consumer products.

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

- Describe how current European and National legislation and guidelines impacts on food and nutritional commodities.
- Outline the general principles and methods associated with determining the efficacy, health attributes, health claims, safety and legal aspects of foods, drinks and supplements.
- Investigate how particular food ingredients (e.g. gluten, nuts, shellfish) can result in adverse physiological reactions and the legislation to inform consumers of food composition.

D223F0 Manufacture of Food (40 credit module)

Module Convenors: Dr Bettina Wolf Bettina.Wolf@nottingham.ac.uk and Miss Maria Benlloch Tinoco Maria.Benlloch-Tinoco@nottingham.ac.uk

Module Contributors: Dr David Cook, Dr David Gray, Dr N Doherty, Dr M Benlloch-Tinoco, Prof Tim Foster

Capped Module at 30: You will need permission from the module convenor to take this module unless it is compulsory for your course.

Module Details: A level 2, 40 credit module taught in the Autumn Semester at Sutton Bonington. The module consists of lectures, student centered learning, tutorials including in small groups and small group practicals.

Pre-requisites:

- D21BF1 Food Materials and Ingredients
- D211F4 Food Commodities and Primary Processing

Target Students: Honours students studying 'Food Science' or 'Nutrition and Food' with or without certificate in European studies.

Summary of Content:

Food manufacturing is addressed from three major perspectives in this module: main ingredients or raw materials, processing steps and quality of the final product as detailed below.

- Ingredients: Food structuring ingredients; physical interactions and chemical reactions during conversion from ingredient to food product.
- Processing: Fundamentals and design of key processing and preservation techniques; operations involved in the manufacture process of a range of food products; key processing parameters and their impact on the properties of the product.
- Final product: Quality and shelf – life/ post – processing changes.

Timetable: Personal timetables will be available to all students via www.nottingham.ac.uk/studentservices

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

Topic	Type	Subtopic	Time (h)
Canned foods	Lecture	1 Introduction	1
		2 Thermal processing 1	1
		3 Thermal processing 2	1
		4 Heat transfer	1
		5 Designing retort processes	1
	Tutorial	1 Thermal processing	1
		2 Designing retort processes	1
	Practical	1 Can temperatures	1
Milk products	Lecture	1 Introduction	1
	SCL		10
	Tutorial	1 Milk products	1
		2 Milk products	2
		3 Milk products	2

	Practical/SCL	1	Manufacture of milk products	3
	Lecture	1	Introduction	1
	SCL			10
Starchy foods	Tutorial	1	Starchy foods	1
		2	Starchy foods	2
		3	Starchy foods	2
	Practical/SCL	1	Manufacture of starchy foods	4
Confectionary	Lecture	1	Chocolate	2
		2	Sugar confectionary	2
	Practical	1	Manufacture of confectionary	3
Hydrocolloid ingredients	Lecture	1	Polysaccharide structure	1
		2	Protein gelation	1
		3	Gelatine and industrial polysaccharides	1
		4	Application in emulsion based products	1
	Practical	1	Hydrocolloids	3
Brewing & Cider & RTD	Lecture	1	Brewing 1	2
		2	Brewing 2	2
		3	Cider & RTD	2
		4	Distilling	2
Meat products	Lecture	1	Introduction	1
				10
		1	Meat products	1
		2	Meat products	2
		3	Meat products	2
	Practical/SCL	1	Manufacture of meat products	3
Other and other foods	Lecture	1	Module introduction & Why study	2
		2	Manufacture of Food?	
		3	Fat spreads	1
		4	Revision session	2
		5	Future of foods	1
		6	Ready to eat	2
	Practical /SCL	1	Introduction	1
		2	Practical slot 1/3	4
		3	Practical slot 2/3	4
		4	Practical slot 3/3	4
		5	Group presentation	3
Essential processes & processing equipment	Lecture	1	Comminution	2
		2	Heat exchangers	1
		3	Pipe flow	2
		4	Pumps and vessels	2
		5	Freezing	1
		6	Dehydration	2
		7	Microwave processing	1

Assessment:

Report 35% Practical project write-up (2000 words). Staged submission: Introduction (25% of final report mark) followed by revised

		Introduction, Materials & Methods, Results & Discussion, Conclusions (75% of final report mark)
Viva Voice	25%	20 minute Viva: Demonstrate an understanding of and the ability to link science based concepts learnt during the lectures and practical sessions
Presentation 1	15%	Group presentation on the practical prior to submission of the practical write up.
Inclass Exam 1	25%	90 minute written In-class test. Open book calculations

Aims: To learn about the manufacturing of a wide range of industrially manufactured food products from the ingredients used to the final packaged food, with an emphasis on key physical and chemical properties, during and after processing, and on the underpinning scientific principles that can be applied to a number of food manufacturing systems.

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

- 1) Formulate a preservation process for a given food.
- 2) Explain the conversion process of milk, grains and meat to food and drink products.
- 3) Justify ingredients and processing steps to impart a desired food microstructure.
- 4) Solve a practical food manufacturing team challenge based on research, analysis and reformatting of information.

Recommended background reading:

- Singh, R. Paul. Introduction to food engineering / R. Paul Singh, Dennis R. Heldman. 4th ed. Burlington, Mass. London : Academic Press, c2009. **Note:** Also look out for other editions and e-book.
- Fellows, P. (Peter), 1953- Food processing technology : principles and practice / P. Fellows. 2nd ed. Boca Raton, Fla. : CRC Press ; Cambridge : Woodhead, 2000. **Note:** Also look out for other editions.
- Food chemistry / edited by Owen R. Fennema. 3rd ed. New York : M. Dekker, 1996
- Toledo, Romeo T. Fundamentals of food process engineering / Romeo T. Toledo. 2nd ed. New York : Van Nostrand Reinhold, 1991. **Note:** Also look out for other editions.
- Atkins, P. W. (Peter William), 1940- Elements of physical chemistry / Peter Atkins, Julio De Paula. 5th ed. Oxford : Oxford University Press, c2009. **Note:** Also look out for other editions.
- Tucker, G (2011) Essentials of Thermal Processing, Greg Tucker and Susan Featherstone Wiley Blackwell: Oxford.
- Improving the thermal processing of foods/edited by Phillip Richardson. (2004) CRC Press: Cambridge. **Note:** Also look out for other editions and e-book
- Hersom, A.C. (1980) Canned foods: thermal processing and microbiology/A.C Hersom, E.D. Hulland. 7th Ed. Edinburgh: Livingstone.
- Tamime and Robinson's yoghurt: science and technology/edited by A.Y Tamime and R.K Robinson (2007) 3rd Ed. CRC: Cambridge: Woodhead. **Note:** Also look out for e-book.
- Clarke C (2004) The science of ice cream. Cambridge: RSC.
- Lawrie, R. A (2006) Lawrie's meat science. 7th Ed. Cambridge: Woodhead. **Note:** Also look out for e-book.
- Processed meats: improving safety, nutrition and quality/edited by J.P. Kerry and J.F. Kerry. (2011) Oxford: Woodhead. **Note:** Also look out for e-book.
- Stauffer, C.E (1996) Fats and Oils. St. Paul, Minn: Eagen Press.
- Mohos, Ferenc A. (2010) Confectionery and chocolate engineering: principles and applications. Oxford: Wiley Blackwell.
- Industrial chocolate manufacture and used/edited by Stephen T Beckett. (2009). 4th Ed. Chichester: Wiley- Blackwell.

- Bamforth, Charles W (2009) Beer: tap into the art and science of brewing. 3rd Ed. Oxford; New York: Oxford University Press.

D224N0 Nutrition, Metabolism and Disease

Module Convenors: Prof Andrew Salter Andrew.Salter@nottingham.ac.uk

Module Contributors: Dr J Brameld, Dr M Alcocer, Dr T Parr

Module Details: Level 2, Spring Semester, 20 credits

Pre-requisites: Nutritional Regulation, Physiology and Endocrinology (D223NA)

Expected Number of Students taking module: 100

Target Students: BSc Nutrition (B400), BSc Nutrition & Food Science (B4D6), Master of Nutrition & Dietetics (B401) and available to Exchange students.

Summary of Content:

Metabolism in the Fed, Fasted and Starved States: The role of carbohydrates, lipids and proteins as energy substrates. A review of how the metabolism of these macro-nutrients is integrated in the fed, fasting and starved states.

Nutrition, Metabolism and Exercise: Changes in metabolism associated with different forms of exercise, current concepts concerning the role of nutrition in enhancing sporting performance.

Obesity: body composition and energy balance, control of food intake and energy expenditure, health and physiological considerations of obesity, treatment of obesity.

Diabetes: history of diabetes, role of insulin in regulating metabolism, impaired glucose tolerance, metabolic syndrome, Type 1 and Type 2 diabetes, diabetic complications, treatment of diabetes.

Cardiovascular Disease, Lipoproteins, Hyperlipidaemia and Atherosclerosis: Cardiovascular Disease Risk Factors, Structure and function of lipoproteins. Regulation of plasma lipoprotein concentrations. Genetic and metabolic basis of the hyperlipidaemias. Nature of the atherosclerotic plaque and the biochemical mechanisms underlying its development.

Disorders of Metabolism: consideration of some selected examples of inherited disorders of metabolism and the metabolic rationale for some of the therapies used to alleviate their effects.

Module Web Links – Moodle

Timetable: Typically 4 x 1h lecture/week for 7 weeks and 2 x 1h for three weeks. During this 3 week period each student will attend a practical class for 1h at a designated time. Personal timetables will be available to all students via www.nottingham.ac.uk/student-services

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

Week	Date	Duration		Subject	Format	Rm No	Staff
		From	To				
19	30/01/17	13.30 15.00	14.30 16.00	Introduction to module Integration of Metabolism	Lecture	A03	AS
	01/02/17	09.00 10.30	10.00 11.30	Integration of Metabolism	Lecture	A03	AS

20	06/02/17	13.30 15.00	14.30 16.00	Nutrition, Metabolism & Exercise	Lecture	A30 (Vet) A02	TP
	08/02/17	09.00 10.30	10.00 11.30	Nutrition, Metabolism & Exercise	Lecture	A03	TP
21	13/02/17	14.00	17.00	Anthropometry Practical	Practical		AS
	15/02/17	09.00 10.30	10.00 11.30	Nutrition, Metabolism & Exercise	Lecture	A03	TP
22	20/02/17	14.00	17.00	Anthropometry Practical	Practical		AS
	22/02/17	09.00 10.30	10.00 11.30	Obesity	Lecture	A03	JB
23	27/02/17	14.00	17.00	Anthropometry Practical	Practical		AS
	01/03/17	09.00 10.30	10.00 11.30	Obesity	Lecture	A03	JB
24	06/03/17	13.30	14.30	Anthropometry Data Analysis Workshop	Workshop	A30 (Vet)	AS
	08/03/17	09.00 10.30	10.00 11.30	Metabolic Syndrome	Lecture	A03	AS
25	13/03/17	13.30 15.00	14.30 16.00	Diabetes	Lecture	A30 (Vet) A02	MA
	15/03/17	09.00 10.30	10.00 11.30	Diabetes	Lecture	A02	MA
26	20/03/17	13.30 15.00	14.30 16.00	Lipoprotein Metabolism	Lecture	A30 (Vet) A02	AS
	22/03/17	09.00 10.30	10.00 11.30	Lipoprotein Metabolism	Lecture	A03	AS
27	27/03/17	13.30 15.00	14.30 16.00	Cardiovascular Disease	Lecture	A30 (Vet) A02	AS
	29/03/17	09.00 10.30	10.00 11.30	Cardiovascular Disease	Lecture	A03	AS
28	03/04/17	13.30 15.00	14.30 16.00	Disorders of metabolism	Lecture	A30 (Vet) A02	TP
	05/04/17	09.00 10.30	10.00 11.30	Disorders of metabolism	Lecture	A03	TP
33	08/05/17	13.30 15.00	14.30 16.00	Disorders of metabolism	Lecture	A30 (Vet) A02	TP
	10/05/17	09.00 10.30	10.00 11.30	Disorders of metabolism	Lecture	A03	TP
34	15/05/17	13.30	15.00	Revision Session	Workshop	Gateway B01/02	AS
	17/05/17			No lectures			

Assessment details:

Exam 1 70% 1.5 hour examination
Coursework 1 30% Practical write up

Aims:

- 1) To provide a basic understanding of the role of nutrition in a variety of physiological and pathological situations
- 2) To emphasise the interaction between the disciplines of biochemistry and nutrition

Learning Outcomes:

- Recall major factors associated with the metabolism of macronutrients during normal (healthy) metabolism
- Explain changes in macronutrient metabolism associated with common chronic diseases (obesity, diabetes and cardiovascular disease)
- Predict the impact of genetic mutations/polymorphisms on pathways of metabolism and disease outcomes
- Conduct and appraise different methods of assessing body composition.

D223NA Nutritional Regulation, Physiology and Endocrinology

Module Convenor: Dr P Jethwa Preeti.Jethwa@nottingham.ac.uk

Lecturers: Dr Tim Parr, Dr John Brameld, Prof Andy Salter, Jo Pearce, Prof Fran Ebling

Module Details: Level 2, Autumn Semester, 20 credits

Pre-requisites: D21BN1 Introduction to Nutrition
D21BN2 Biochemistry – The Building Blocks of Life

Expected Number of Students Taking Module: 105

Target Students: Students studying Master of Nutrition (B401), BSc Nutrition (B400) and BSc Food Sciences (D610) Food and Nutrition degrees (B4D6) and Exchange Students.

Summary of Content: The physiology and regulation of the main endocrine systems, and its relation to diet, dietary energy and nutritional energetics and regulation of appetite and energy expenditure.

Timetable: Typically two 4 -hour timetabled sessions per week plus 100 student self-directed learning studies and revision. Personal timetables will be available to all students via www.nottingham.ac.uk/student-services

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

- 1 Module introduction / Introduction to Endocrinology (PJ)
- 2 Thyroid hormones (PJ)
- 3 Insulin, Glucose, glucagon (AS)
- 4 Glucocorticoids and the adrenal axis (TP)
- 5 Growth hormone/IGF axis (JB)
- 6 Chronobiology (FE)
- 7 2nd messenger signaling pathways (TP)
- 8 Insulin signaling pathway (JB/TP)
- 9 Integrated endocrinology: the response to nutrition (TP)
- 10 Appetite regulation (PJ)
- 11 Energy Metabolism (PJ)
- 12 Human Energy requirements (JP)
- 13 Recent research in Endocrinology (various)

Assessment:

Exam 1	70	2 hour exam
Coursework 1	30	2000 word (or equivalent) report

Aims: To introduce students to the physiology of the mammalian endocrine system and to the endocrine control of homeostasis and metabolism and to understand their interaction with nutrients.

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

- Describe how the central nervous system interacts with the main endocrine axes, and how these axes regulate major physiological and metabolic systems
- Explain how the main groups of hormones and growth factors interact with and change the functions of their target cells.

- Explain the relationships between cellular and molecular aspects of hormonal function
- Explain the regulation of energy metabolism and appetite control
- Anticipate the likely response of the endocrine system to a range of common challenges to homeostasis
- Read, understand and evaluate the content of a contemporary research paper within the general field of endocrine science; be able, as part of a small team, to present this information publically and respond to questions about the content.

Recommended background reading:

- Endocrine Physiology by Patricia E Molina, McGraw-Hill Education, ISBN 0071796770
- Human Endocrinology by Paul R Gard, Taylor & Francis, ISBN 978074840655
- We also recommend the use of primary research papers specific ones will be provided during the sessions.

29.3 Part II (Year 3) Modules

D23PRO Undergraduate Research Project

Module Convenor: Dr S Lydon susannah.lydon@nottingham.ac.uk

Total Credits: 40

Level: Level 3, Year-long module

Summary of Content: The project is a year-long level 3 module. The topic of the project will be chosen from a list of suggestions, and will be finalised after consultation with the student's Course Manager and a member of academic staff who will act as the supervisor. It involves detailed research on the topic chosen after discussion with the supervisor. Each project will involve collection of data by means such as experiment, questionnaire, observation and/or literature search as well as the analysis and interpretation of the data in the context of previous work. Reading and summarising previous research by other scientists working in the area, and writing a clear concise final report are essential components of the project.

Module details: This module consists of an extended programme of research under the direction of an individual member of staff. Students are expected to undertake a challenging piece of work, in which emphasis is placed on self-motivation and self-learning. Detailed guidelines will be provided by the Division.

Expected Number of Students Taking Module: 250

Target Students: All Biosciences students registered for Honours Degrees in the School of Biosciences apart from those studying Microbiology, and Environmental Sciences degrees.

Non-lecture programme: Private study using library, Internet, laboratory, or field facilities supported by regular tutorials with the project supervisor.

Target Students: All Biosciences students registered for Honours Degrees in the School of Biosciences apart from those studying Microbiology, and Environmental Sciences degrees.

Assessment: The module will be assessed by coursework only; this will take the form of a 15 minute oral presentation of the research findings (10%), an objective assessment of project planning and execution (30%) and a 5,000-word written report (60%). Details of the precise format required for the oral presentation and written report will be provided to students by the School Office.

Module aims: The module aims to provide a detailed training in research work. At the end of the module, students should be familiar with the relevant published literature in the field, have become familiar with some of the fundamental techniques necessary to do the prescribed research and published their findings as both an oral report and a comprehensive written report.

Module objectives: The objectives are to enable students to:

- i) Identify and analyse problems
- ii) Undertake good experimental design
- iii) Search for, analyse and interpret relevant literature
- iv) Carry-out competent laboratory, field or survey research
- v) Analyse data using appropriate methods
- vi) Write and deliver an oral presentation
- vii) Prepare and write a detailed report

Transferable skills

Transferable skills associated with this module include:

- i) Literature searching using a range of databases
- ii) Use of relevant laboratory, field or survey research methods
- iii) Statistical analysis as appropriate
- iv) Computing and word processing skills
- v) Problem solving
- vi) Oral communication skills
- vii) Time management

Subject specific information

In some project areas, it is necessary to begin project work in semester 4 because of factors such as seasonal availability of crops or farm animals. This phase of the project forms a discrete, 10-credit, Part I module

D23BN1 Nutrition and the Health of Populations

Module Convenor: Jo Pearce Jo.Pearce@nottingham.ac.uk

Module Details: Level 3, full year, 20 credits.

Pre-requisite(s): Introduction to Nutrition (D21BN1) Nutritional Regulation, Physiology and Endocrinology (D223NA)

Co-requisites: None.

Expected Number of Students Taking Module: 95

Target Students: Students studying Master of Nutrition (B401), BSc Nutrition (B400) and Nutrition and Food Science (B4D6).

Availability to Exchange Students: Yes

Summary of Content: This module considers the influence of nutritional factors at all stages of life upon the development of specific disease states, it will provide an integrated programme of epidemiology, basic nutrition and molecular science and public health nutrition and policy. Nutritional assessment tools: Will consider the perils and pitfalls of available methods for assessing nutrient intake and levels of physical activity. Nutritional epidemiology: An overview of approaches used in nutritional epidemiology and provide a guide to interpreting the findings of epidemiological studies. Nutrition in Pregnancy & Lactation, Infant Nutrition: Consider the impact of diet upon the normal development of the human fetus, the nutritional requirements of infants and the transition from milk to solid diets. Nutrition in childhood and adolescence. Disease states in the developed world: Consider some of the known nutritional risk-factors for these cardiovascular disease, osteoporosis and cancer and consider how changes in diet may reduce risk. Issues in the developing world: For much of the population of the world food supply is insecure. Ageing: Consider specific aspects of nutrition that are important to the over 65 population and describe current theories of how we age at the cellular level

Timetable: Typically two one-hour timetabled sessions per week: forty-four lectures, supporting journal clubs, and revision session. Personal timetables will be available to all students via www.nottingham.ac.uk/studentservices

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

1. Introduction and Nutritional assessment (JP)
2. Nutritional assessment and physical activity (JP)
3. Nutritional epidemiology (JM)
4. Nutritional epidemiology (JM)
5. Intervention strategies (JP)
6. Nutrition and fertility (JO)
7. Periconceptual nutrition and pregnancy (JO & JP)
8. Nutrition and pregnancy (JP)
9. Developmental origins of disease (SE)
10. Lactation and infant feeding (JP & JO)
11. Nutrition and infancy (JP)
12. Obesity in childhood (JO)
13. Schools and nutrition (JP)
14. Nutrition and adolescence (JP)
15. The nutrition transition and developing countries (LC)

16. Diet and cancer (SE)
17. Diet and cardiovascular disease (JO)
- 2*. Nutrition and bone health, Nutrition and the elderly (SE)
21. Nutrition and ageing (SE)

JP- Jo Pearce, JM- Jon Majewicz, LC- Lisa Coneyworth, JO – Jemma Orr, SE – Sarah Ellis

Coursework:

- Coursework 1: Critical analysis of study designs in nutritional epidemiology (20% of module)
- Coursework 2: Essay (2000 words), (20% of module)

Assessment: Exam 1 (60%) 3 hours exam. Coursework 1 (20%). Coursework 2 (20%)

Aims: This module will introduce students to the basic methodology used to explore relationships between diet, health and disease in human populations. An appreciation of these techniques will be used as the basis for in-depth exploration of current major public health priorities. The module will take a lifecourse approach to explain and develop the concepts of human health and disease as affected by diet, dietary components and interacting factors. Specific material to be covered: • Nutritional epidemiology: terminology and basic methods. • Nutritional assessment at the population level. • Intervention strategies and public health priorities. • The nutritional requirements of women during pregnancy and lactation • The nutritional requirements of infants. • Diet and coronary heart disease. • Diet and cancer. • Nutritional requirements from childhood to old age.

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

1. Assess the major concepts and principles of nutritional epidemiology
 2. Critically interpret epidemiological data in relation to nutrition and health, constructing balanced evidence-based arguments.
 3. Evaluate the contribution of nutrition to early human growth, development and physiological function
 4. Analyse the common themes and concepts in human nutrition and relate these to all stages of the lifespan and changing nutrient requirements.
 5. Examine the relationship between diet and disease and how it has an impact on a molecular level, the development of degenerative diseases and impacts public health nutrition and policy.

Recommended background reading:

Langley-Evans SC (2015) Nutrition, health and disease: a lifespan approach. Wiley.

D235F8 Personal and Professional Development for Food Scientists

Module Convenors: Dr Judith Wayte Judith.Wayte@nottingham.ac.uk and Emma Weston (Associated Professor) Emma.Weston@nottingham.ac.uk

Lecturers: Experts in professional development and speakers from industry

Module Details: Level 3 Autumn Semester, 10 credits

Pre-requisites: Participation in the tour of food manufacturing sites (end of the first year)

Co-requisite(s): Not open to exchange or study abroad students

Capped module at 35: You will need permission from the module convenor to take this module unless it is compulsory for your course.

Target Students: Food Science and Nutrition and Food Science Students

Summary of Content: This module provides specific training and learning opportunities to develop a range of key skills and competencies that improve employability prospects for the students, and their performance once in work.

Lecture Programme (Example):

Week	SUBJECT	LECTURER
1	Introduction to the module Use of Mahara	EW/JW
2	Personality Assessment	Careers and Employability Service
3	Making Job Applications & CVs	External e.g. PepsiCo
4	Building Targeted CVs	Self Directed Learning
5	You and Your Career – 1 Career Planning	EW/JW Self-Directed Learning
6	Careers Launch Pad	Field Trip
7	Drop In 1:1 Appointments	EW/JW
8	The Interview Process I	External – e.g. recruitment consultant
9	The Interview Process II – Group Assessments	External – e.g. Tesco
10	Understanding the Job Market	External e.g. CFA
11	Module Review and Coursework Support	EW/JW

Module Activities:

- Visit four food/drink manufacturing sites at the end of year 1 (2-day field trip) – attendance compulsory as part of the module
- Participate in a range of workshops, for example: CV and cover letter writing; application forms and interview techniques; career planning; aptitude tests
- Attend a field trip to an employment event
- Attend employer presentations
- Create online personal portfolio/profile

Assessment:

Coursework 1	80%	A collection of 3 reflective logs and 1 Personal Development Plan. Reflections can be audio; video or 1-2 page written reports. Marked as per written assessments Pass/Fail.
Coursework 2	20%	Portfolio of 5 items that contains evidence of the acquisition and realisation of skills, and draws on activities scheduled throughout the course and promotes a high degree of reflective practice. Students can align with a range of specific careers. 5% penalty for omission of each item. Attendance at 4 employer events / workshop outside of the module activities.

Aims: To provide specific training and learning opportunities to prepare students for a range of careers on graduation and in successfully securing a job.

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

- Demonstrate a range of professional behaviours
- Synthesise their skills and capabilities into a targeted portfolio
- Evaluate their performance at networking, interviews and assessment centres
- Construct an action plan for Personal and Professional Development to build on strengths and develop areas of weakness.

D23BF2 Food Factory Operations

Module Convenors: Dr Ian Fisk Ian.Fisk@nottingham.ac.uk and Dr A Rosenthal Andrew.Rosenthal@nottingham.ac.uk

Lecturers: Prof T Foster, Dr B Wolf, , Mrs E Weston (Associate Professor), Dr J Jia, Dr A Swali, , , Dr KS Brown, Prof C Dodd, Dr A Rosenthal, external speakers from industry

Module Details: Level 3, Full Year, 20 credits

Pre-requisites: Compulsory Food Science stream route at Levels 1 & 2

Expected Number of Students Taking Module: 30

Target Students: Compulsory for students reading for a degree in Food Science. Not available to Exchange Students due to project work

Summary of Content: The influence of hygiene, quality and legislation on the manufacture of food will be addressed up to factory scale. Design and layout of factories for low and high risk foods will be explained with examples of Good Manufacturing Practice. Cleaning practices will be explained in terms of theory and in practical sessions using commercial cleaning equipment. The provision of services like steam and water (of the required quality) will be explained along with automation, particularly control using feedback loops. The legal constraints on food producers will be explained with reference to English and EC law, with input from enforcers (e.g. Environmental Health Officers and Trading Standard Officers) and related professionals. A product-development project where students will work as part of a team will provide opportunities to put these skills into practice.

Timetable: One four hour timetabled lecture session per week in the autumn term. One four hour timetabled practical session per week in the spring term (product development project). Personal timetables will be available to all students via www.nottingham.ac.uk/studentservices

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

- 1 Introduction to Module, Manufacturing Strategies
- 2 Utilities, Special Factors in Food Production, Design of Food Hall
- 3 Management Structures in Factory Operations, Unit Operations
- 4 Production Control, Microbiological Testing for Product Development, HACCP
- 5 Patents and IP Management, Managing Innovation, Process Control
- 6 Food Factory Layout, Packaging
- 7 Sampling for Quality Testing, Cleaning Food Factories
- 8 Food Factory Audits, Specifications
- 9 NPD Programme, Roles of TSO/EHO
- 10 Securing Food Production for the Future, Business Planning, Food Law and Labelling
- 11 Module Evaluation and Revisions

Non-Lecture Programme: 48 hours are allocated for students to work in groups on a product development brief set by a member of staff. This culminates with the presentation of the product at the Product Development Exhibition and submission of a technical report.

Coursework: Product development presentation and technical report.

Assessment:

Exam	50%	2 hour examination (compulsory written short answer section and a choice of essay question from three offered)
Coursework	50%	Presentation of product development project to staff and invited visitors – portfolio of work (2500 words), poster presentation and stand manned by the group.

Aims: To make the student aware of a range of operations used in food manufacturing. Emphasis will be placed on the hygienic and legal requirements for the production of foods. The student, when working in a food factory, should have sufficient understanding to contribute, at managerial level, to a production team. The student should be able to contribute to the development of novel food products under factory time scales and limitations.

Learning Outcomes: To identify the key features required for the safe and profitable operation of food factories (factory design, services and legislation) • To compare design features and choose appropriate production approaches for the safe and profitable operation of food factories • To design a new food product and process in response to a defined brief within a short time frame • To present a new food product/food process (including marketing, packaging and production location).

Recommended background reading: Reading lists are provided by each staff member teaching in the module.

D235FR Trends in Food Research

Module Convenors: Dr David Gray David.Gray@nottingham.ac.uk

Module Details: Level 3 Autumn Semester, 10 credits

Pre-requisite(s): D223F0 Manufacture of Food (40 credits)

Co-requisite(s): None.

Expected Number of Students Taking Module: 60

Target Students: Food Science' and 'Nutrition and Food Science' students.

Availability to Exchange Students: Yes – but limited numbers

Summary of Content: This module will expose final year students to research and development in a number of areas of current academic interest within the Divisions of Food Sciences and Nutritional Sciences. This includes: flavour and texture measurements; sensory perception; properties of biopolymers; interfacial properties of selected materials, sustainable nutrition; salt reduction; anti-nutrients; engineering new food structures. Factors that initiate, shape, and direct this research, will be discussed and explored. Exercises in proposal writing, experimental design, statistical analysis and data presentation, along with insights into the process of carrying out an undergraduate research project will prepare students for their final semester.

Module Activities:

- Description of current research within food science (mini research symposia)
- Selection of research project (mid-semester)
- Write a research proposal based on the final year research project you have just selected
- Research skills tutorials

Timetable: Typically two one-hour timetabled sessions per week: sixteen hours of lectures, and three hours of tutorials with project supervisor; three hours dedicated to identifying all reagents/methods/equipment required for the research project in the Spring. Personal timetables will be available to all students via www.nottingham.ac.uk/studentservices

Module Structure:

1. Introduction
Factors that affect the direction of food related research (industry and academia)
2. Mini-Symposia on Current Research Activities
 - a. Subcellular Organelles as Novel Food Ingredients – David Gray
 - b. Innovative Manufacture/Product Design – Tim Foster
 - c. Sustainable Nutrition - Andy Salter
 - d. Anti-nutrients – Angie Swali
 - e. Biopolymers and Macromolecules – Steve Harding
 - f. Sensory Science and Consumer Behaviour – Rebecca Ford
 - g. Texture of Foods – Andrew Rosenthal
 - h. Food Engineering – Bettina Wolf
 - i. Flavour Measurement and Perception – Ian FiskThe mini-symposia will introduce the students to particular areas of research. Researchers leading these sessions will:

- explain the driving forces that shaped their research, for example: personal interest; inspiration; chance meetings; funding agency priorities; Government policy; industrial priorities
 - give clear indications of the nature of the project work/titles on offer to students
 - where appropriate, provide insights into certain advanced technology/tools used in a specific research area
3. Assessment (Individual)
- Write a short research proposal (2000-2500 words, not including references) based on the research you have chosen for your final year project (spring semester). The proposal should set the scene of your work, offer a compelling case for the work to take place, and outline the methods that will be employed to meet the objectives. The research proposal needs to be well-referenced, and technical terms need to be defined. After justifying the work, you need to articulate an overall aim followed by a list of objectives. The methods/experimental approach you will use to meet the objectives should then be described.
 - Assessment Weighting: 1x Written Research Proposal 100%
4. Reinforce Research Specific Skills
- Kate Millar lecture entitled 'Science and Society'; this will cover the area of 'ethics and research'
 - Tutorials on literature searching, experimental design, statistical analysis, data presentation and manuscript/dissertation writing
 - Student-led insights into the process of carrying out an undergraduate research project

Aims: To stimulate an interest in the importance of research in the fields of Food Science and Nutrition, to explore the range of factors that shape this endeavour, and to reinforce skills required to successfully tackle the research project in the Spring Semester.

Learning Outcomes: On successful completion of this module, students will be able to:
Knowledge and Understanding

- Demonstrate an appreciation of the context for, and the driving forces that shape, research in food science

Intellectual Skills

- Devise a plan of work based on a particular area of research and/or development

Transferable/Key Skills

- Analyse and present data effectively
- Write a coherent research proposal
- Manage time efficiently and work to deadlines

D235F9 Food Flavour and the Physiology of Perception

Module Convenor: Dr RA Ford

Module Assessment Period: Autumn, assessed by end of autumn semester.

Target Students: Food Science D610 and Food Science and Nutrition B4D6.

Total credits: 10

Level: 3

Pre-requisite(s): D224FE Sensory Evaluation

Number of Places: 30

Timetable: Personal timetables will be available to all students via www.nottingham.ac.uk/studentservices

Summary of Content:

This module will expose final year students to basic chemistry, physics and physiology of food flavour perception from both a chemistry and sensory perspective. This includes: aroma perception, taste perception, texture perception and also the physiological and psychological factors contributing to perception. Factors affecting human variation in sensory perception will be discussed and explored. Content will be delivered through taught lectures and hands on practical's and self-directed learning.

Lecture Programme: Lecture programmes will be given to Students at the beginning of module.

Practical Class Programme:

Lecture 1 per week, 2 hours, centrally.

Practical 1 per week, 1 hour, centrally.

Tutorial 1 per week, 4 hours, centrally.

Assessment:

Coursework 1 50% poster (A0 poster, 1 poster per group, 500 words)

Oral 50% oral presentation (15-20 minutes)

Aims and Objectives:

To introduce key principles behind flavour perception and develop the skills to apply these to real world industry challenges. To stimulate an interest in the importance of research in the field of Food Science, to explore the range of factors that shape this endeavour, and to reinforce skills required to successfully tackle the research project in the Spring semester.

Learning outcomes:

On successful completion of this module, students will be able to: Knowledge and Understanding:

- Explain how the senses work together to influence flavour perception and how these can be measured in response to food industry challenges.
- Choose and justify methods of measuring flavour and texture in the context of topical food industry challenges.

Intellectual Skills:

- Design and present realistic solutions to food industry challenges

Transferable/Key Skills - the ability to:

- Reflect on own ability to manage time and contribution to the group.
- Critically evaluate the quality/effectiveness of a proposed solution to meet the needs of a food industry challenge.

Recommended Reading/Resources:

Poster printing and access to poster boards for display during assessment (poster symposium)

30 MyNottingham Terminology

The University of Nottingham is introducing a new student records system across its campuses in the UK, Malaysia and China. Students will access the new system through a web portal called **MyNottingham**.

When **MyNottingham** is launched in the UK it will introduce some new terminology that you will need to understand and become familiar with. The guide below has been developed to help prepare you for this change. You will receive more information about MyNottingham and what this means for you before we launch the system to UK students.

MyNottingham Language	Current Language	Definition	Examples
Academic Plan	Course or Programme of Study	An approved plan of study that provides a coherent learning experience and leads to a qualification.	BSc Nursing – Adult; Chemical Engineering MEng; Music and Philosophy BA; Brewing Science MSc; Law with French and French Law BA.
Accommodation	Reasonable adjustment	Learning adjustments for a student's particular circumstances (not a reference to living accommodation).	Alternative examination arrangements.
Advisee	Tutee/ Student	A student receiving advice from a tutor, supervisor or advisor.	N/A.
Career	No direct equivalent	Qualification level.	Undergraduate, Postgraduate.
Class	No direct equivalent	An umbrella term for specific units of teaching.	Lectures, seminars or labs.
Course	Module	A self-contained, formally-structured unit of study, with a coherent and explicit set of learning outcomes and assessment criteria.	Applied Ethics, Advanced Financial Economics, Biochemistry of Disease, Public Health and Epidemiology.
eDocs	No direct equivalent	Electronic document repository for documents that are uploaded and attached to a student record	Evidence in support of an extenuating circumstances claim etc.
Financial Aid	No direct equivalent	An umbrella term for any scholarships, stipends or other funding awards given to students.	Core bursaries, Aspire scholarships, industry scholarships etc.
Session	No direct equivalent	A specific teaching period, usually one semester but other defined teaching periods may exist.	Autumn Semester, Spring Term etc.
Term	Academic Year	A defined period of time, refers to the academic year, which runs from September to August.	September 2017 to August 2018.

31 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

*marking schemes may change 2017/18, students will be notified of any changes

Appendix 1

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

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

- 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.
- The qualitative criteria include consideration of :
 - Student's knowledge of subject; depth, relevance and quality of answer.
 - Evidence of reading / study beyond regurgitation of standard taught material.
 - Independent or critical thinking / originality etc.
 - The quality of presentation - structure of answer, the use of sections; diagrams etc., general neatness etc.

Appendix 3

CLASS	%	QUALITATIVE ASSESSMENT CRITERIA - GENERAL GUIDELINES FOR POSTERS
First		
A1	100	a. Excellent use of headings, text appropriate size, figures and diagrams clear and well-labelled, very easy to follow progression of poster theme.
A2	90	b. Visually very attractive and creative.
A3	80	c. Factually very accurate and informative with clear evidence of extensive knowledge of published literature.
A4	73	d. All relevant aspects of own data presented, where inclusion is appropriate.
Upper Second		
B1	68	a. Good use of headings, text of appropriate size, some loss of figure clarity or slight errors in labelling, easy to follow progression of poster theme.
B2	65	b. Visually quite attractive and creative.
B3	62	c. Factually accurate and informative with some evidence of knowledge of published literature.
		d. Most relevant aspects of own data presented, where inclusion is appropriate
Lower Second		
C1	58	a. Adequate use of headings, text a little too small, figures not clear and inadequately labelled, more difficult to follow progression of poster theme.
C2	55	b. Visually unstimulating.
C3	52	c. Some factual inaccuracies with only limited evidence of knowledge of published literature.
		d. Several aspects of own data omitted, where inclusion is appropriate.
Third		
D1	48	a. Very poor use of headings, text too small or hand-written, figures unclear and unlabelled, no obvious progression of poster theme.
D2	45	b. Visually unattractive and dull.
D3	42	c. Many factual inaccuracies with very limited evidence of knowledge of published literature.
		d. Most of own data omitted, where inclusion is appropriate.
Soft Fail		
E	35	a. No headings used and poster somewhat disorganised.
		b. Visually unattractive and dull.
		c. Inaccurate with virtually no evidence of knowledge of published literature.
		d. None of own data included.
Fail		
F1	25	a. No headings used and poster very disorganised and difficult to understand.
		b. Visually very unattractive and dull.
		c. Inaccurate with no evidence of knowledge of published literature.
		d. None of own data included.
Fail		
F2	10	A few lines of relevant material presented
Fail		
F3	0	No poster presented

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 :

- Structure and organisation of the poster.
- Visual impact and attractiveness.
- Accuracy and completeness of the content.
- Where appropriate, inclusion of students' own experimental data.

Appendix 4

QUALITATIVE ASSESSMENT CRITERIA - GENERAL GUIDELINES FOR ORAL PRESENTATIONS		
CLASS	%	
First		
A1	100	a. Clearly audible, well-paced presentation delivered without obviously reading from notes in the time allocated. Addressed to the audience.
A2	90	b. Very well-planned with a clear logical structure focused on the topic being presented. Excellent introduction and summary.
A3	80	c. Excellent use of visual aids which are easy to read and understand. Main points of slides clearly explained.
A4	73	d. Content of presentation very well-researched with relevant data where appropriate. Response to questions asked indicates thorough understanding.
Upper Second		
B1	68	a. Clearly audible, well-paced presentation delivered with some reading from notes in the time allocated. Mainly addressed to the audience.
B2	65	b. Quite well-planned with logical structure focused on topic being presented. Good introduction and summary.
B3	62	c. Good use of visual aids which are quite clear to read and understand. Good attempt to explain main points of slides.
		d. Content of presentation quite well-researched with relevant data where appropriate. Response to questions asked indicates good understanding.
Lower Second		
C1	58	a. Audible presentation which may be too fast or too slow. Tendency to read from notes and to address floor or ceiling. May be outside time allocated
C2	55	b. Some flaws in structure and not always focused on the topic being presented. Weak introduction and summary.
C3	52	c. Adequate use of visual aids which are not always easy to read and understand. Little attempt to explain main points of slides.
		d. Some omissions in literature research and little relevant data presented. Response to questions asked indicates incomplete understanding.
Third		
D1	48	a. Difficult to hear. Too fast or too slow. Read from notes and little attempt to address the audience. Outside allocated time.
D2	45	b. Poorly-structured, rambling presentation which strays from topic being presented. Very weak introduction or summary.
D3	42	c. Poor visual aids which are difficult to read and understand. Poor explanation of main points of slides.
		d. Little evidence of literature research and no data presented. Response to questions indicates poor understanding.
Soft Fail		
E	35	a. Mumbled, halting presentation. Much too fast or too slow. No attempt to address audience and well outside allocated time.
		b. No discernible structure to presentation with some relevant material. No introduction or summary.
		c. Very poor visual aids. No explanation of main points of slides.
		d. Poor literature research and no data presented. Response to questions shows serious weakness in understanding.
Fail		
F1	25	a. Extremely difficult to hear presentation and well outside allocated time.
		b. No discernible structure and very little relevant material. No introduction or summary.
		c. No visual aids used.
		d. Little evidence of research. Response to questions shows minimal understanding.
Fail		
F2	10	Very minimal attempt to give a presentation.
Fail		
F3	0	Failed to give a presentation.

- 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.
- The qualitative criteria include consideration of :
 - Presentation of talk; audibility, speed, use of notes, addressed to audience, time keeping.
 - Organisation of talk; logical coherent progression with introduction and summary.
 - Use of visual aids; clarity and explanation of salient points.
 - Research and response to questioning; evidence of extensive reading, presentation of own data (where relevant), evidence of wider understanding.

Appendix 5

CLASS	%	QUALITATIVE ASSESSMENT CRITERIA - RESEARCH PROJECT EXPERIMENTAL WORK
First		
A1	100	a. Extremely independent and able to work with minimal direct supervision. Shows a great deal of initiative and perseverance when things go wrong.
A2	90	b. Very well organised; able to plan time in laboratory/field with minimal assistance.
A3	80	c. Technically extremely competent; learns new methods quickly with minimal training.
A4	73	d. Excellent critical ability and able to appreciate limitations of techniques used.
Upper Second		
B1	68	a. Able to work independently with little direct supervision. Shows some initiative and perseverance.
B2	65	b. Well organised; able to plan time in laboratory/field with little assistance.
B3	62	c. Technically competent; learns new methods quite quickly when given training.
		d. Some critical ability and appreciation of limitations of techniques used.
Lower Second		
C1	58	a. Needs quite close supervision and shows little initiative. Tendency to give up too quickly when things go wrong.
C2	55	b. Quite well organised but needs considerable help to plan experiments and time spent in laboratory/field.
C3	52	c. Technically quite competent, but liable to make mistakes is not supervised closely. Slow at learning new techniques.
		d. Limited critical ability and little appreciation of limitations of techniques used.
Third		
D1	48	a. Little or no ability to work independently. Shows very little initiative. Liable to give up when things go wrong.
D2	45	b. Poorly organised; unable to plan time in laboratory/field without direct instruction.
D3	42	c. Technically incompetent. Liable to make mistakes even when supervised closely. Very slow at learning new techniques.
		d. Virtually no critical ability or appreciation of limitations of techniques used.
Soft Fail		
E	35	a. No ability to work independently. Minimal effort put into work.
		b. Poorly organised and liable to miss planned work sessions.
		c. Technically very incompetent. Often makes mistakes, even when closely supervised. Extremely slow at learning new techniques.
		d. No critical ability or appreciation of limitations of techniques used.
Fail		
F1	25	a. Rarely does any experimental work.
		b. Very likely to miss planned work sessions.
		c. Often makes errors when carrying out simple procedures.
		d. No critical ability or appreciation of limitations of techniques used.
Fail		
F2	10	Very minimal laboratory/field work attempted.
Fail		
F3	0	No laboratory/field work attempted

- 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.
- The qualitative criteria include consideration of :
 - Independence and initiative. Perseverance when work does not go according to plan.
 - Organisational ability; can the student plan their use if time effectively and efficiently?
 - Technical ability; can the student carry out work competently and learn new techniques quickly
 - 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

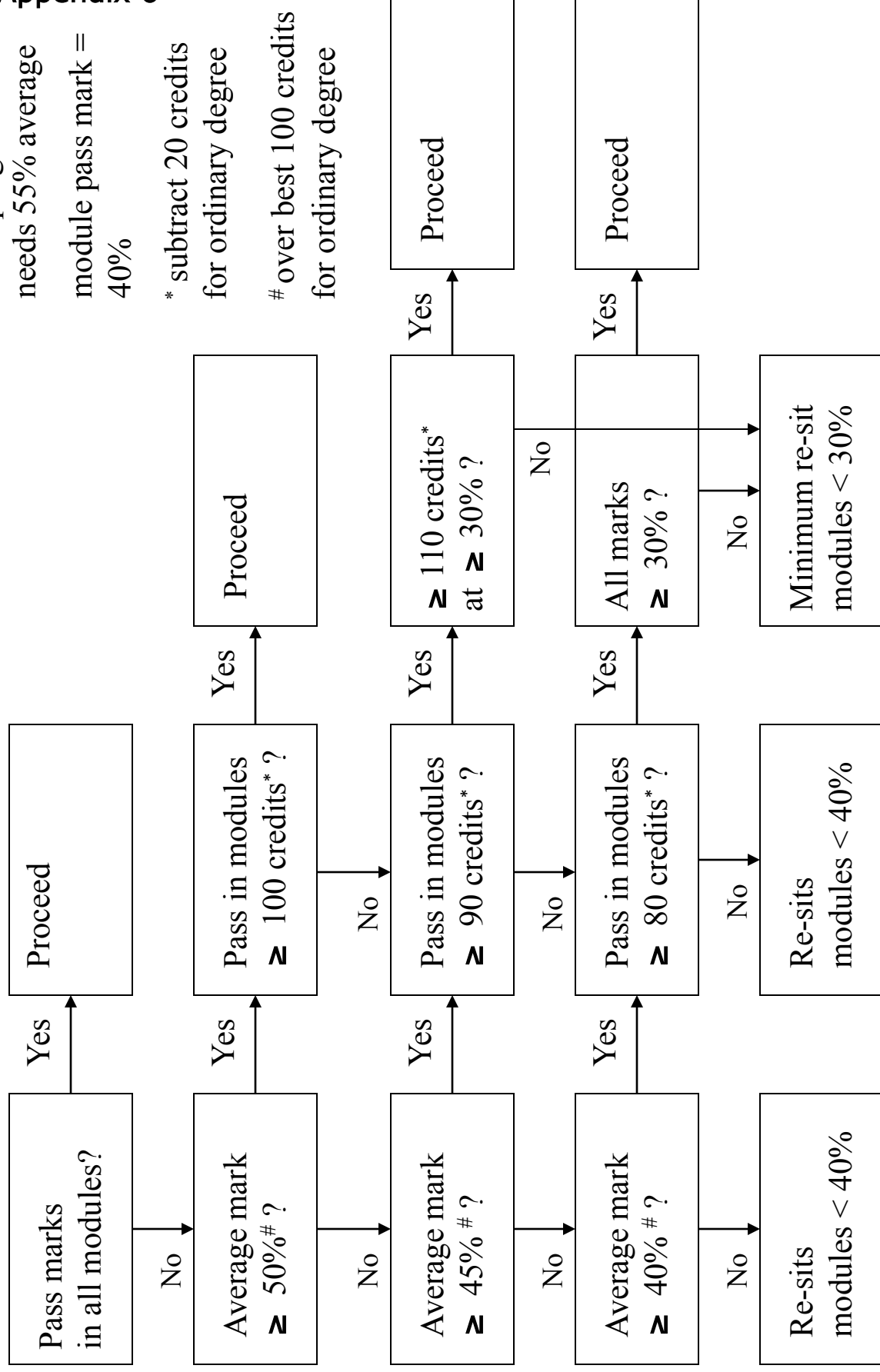
MSci prog to Part II

needs 55% average

module pass mark = 40%

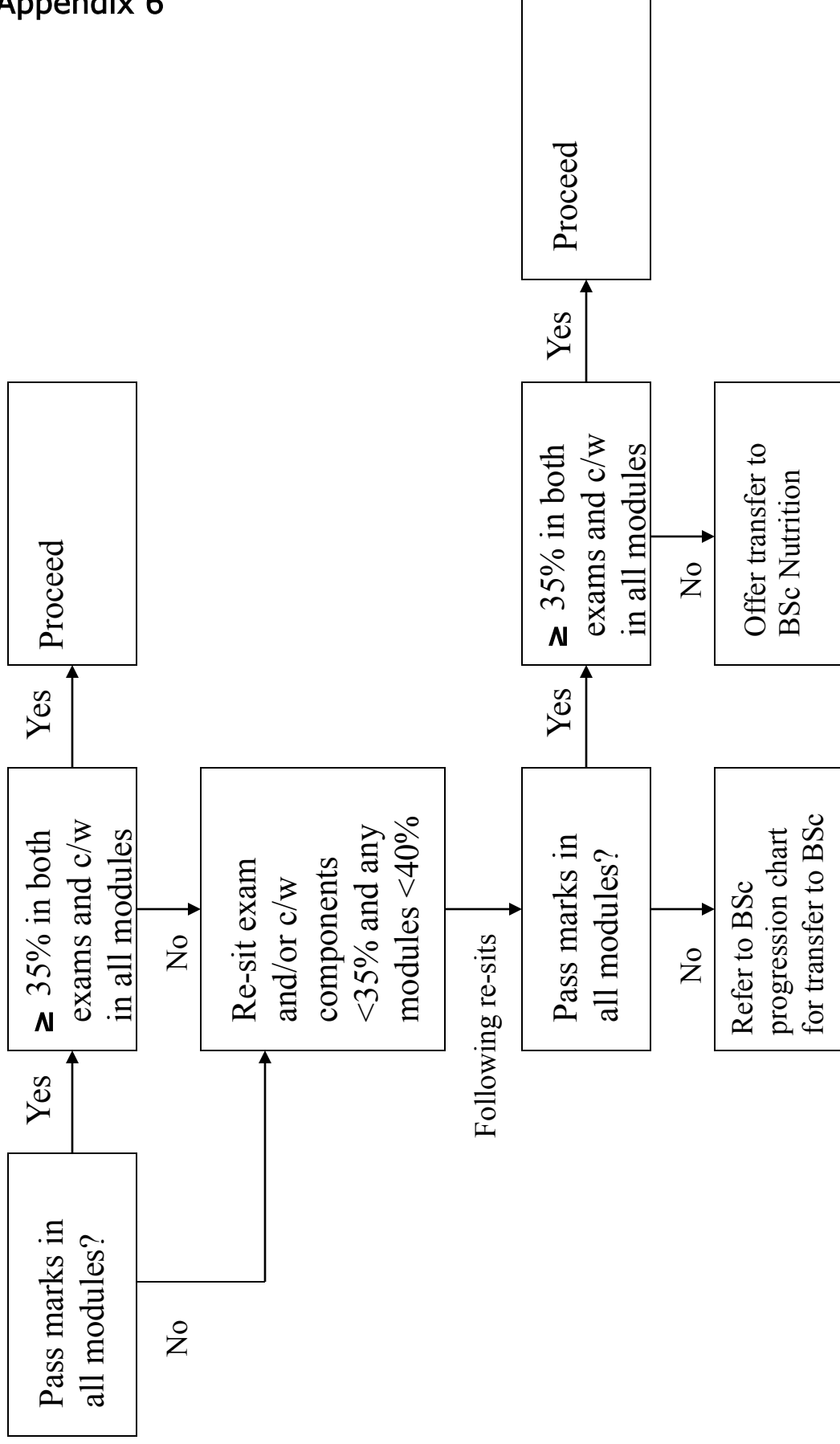
* subtract 20 credits for ordinary degree

over best 100 credits for ordinary degree



Progression and Compensation MNutr (to Parts II and III)

Appendix 6



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 . . .
1. The student should feel acknowledged, recognised and accepted within their school/department as an individual with distinct academic needs and preferences.	<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>
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>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. MNutr 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 lectures.</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>

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>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>
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>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>
15. Students being subjected to the academic offences procedure should receive clear information and advice.	<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>
16. Students should receive relevant health and safety guidance, especially in laboratory or workshop-based subjects.	<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>
17. Students should be directed in a timely and appropriate manner to	<p>The School's Study Skills Handbooks, Course Handbooks, Personal Tutor, Senior Tutor,</p>

Appendix 8

University support services for assistance with all of the above matters as necessary.	School Office staff and the Student Services Centre.
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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>

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