Department of Computer Sciences

Faculty of Science

UNIVERSITY OF
BATH

Undergraduate Programme Handbook 2020-21

CONTENTS

ABOUT THIS HANDBOOK

This is the 2020-21 Handbook for Computer Science students in 2020/21.

The contents of this Handbook are accurate at the time of publication [Oct 2020] but information contained within may sometimes be subject to change after this Handbook has been issued.

The Important Links and Information section of this Handbook includes links to information online about both the topics covered in this Handbook and other key topics. It is important that you familiarise yourself with the online information as well as the contents of this Handbook.

In August 2020 we wrote to you to explain how your programme has been adapted in response to COVID-19 safety measures and our 'Bath Blend' approach to learning and teaching for academic year 2020/21.

Information about the structure of your programme (which units you take when, which units are compulsory etc), as well as key unit information (including learning outcomes, synopsis and assessment), for the upcoming academic year can be found online in the Unit and Programme Catalogues (see **Unit and Programme Catalogues** in this Handbook and www.bath.ac.uk/catalogues). You will also receive details about unit content and assessment via the University's online learning environment, Moodle.

You will be informed, normally by your Director of Studies or Unit Convenor, of any further changes that will affect your programme or a unit. See also **Those students on the 'Study** Year Abroad' programmes are eligible to attend a European University to study Computer Science for a year within another institution and within another culture. This is a highly enriching experience, and the Department wholeheartedly supports those who wish to avail themselves of this opportunity. It is an appropriate route for those with good language skills. You may normally only attend institutions with which the Department has established exchange agreements under the EU's Erasmus programme.
If you are on the Study Year Abroad route, or would like to transfer to this route, you should talk to the Department's Overseas Studies and International Students Tutor.

During your overseas study period you will be expected to undertake the assessments for the units you study. You will be assessed under the regulations of the institute you are attending and the results, expressed in the European Credit Transfer System, then contribute towards your degree award.

Unit and programme changes 2020/21 in this Handbook.

You will be informed via announcements if any services offered by the University will need to be changed as a result of changing circumstances during 2020/21.

While this Handbook signposts information about regulations for students, it does not have regulatory status itself, and the Regulations available online (Regulations for Students:

http://go.bath.ac.uk/regulations and Assessment Regulations: www.bath.ac.uk/corporate-information/new-framework-for-assessment) are the most up-to-date and take precedence over the contents of this Handbook. It is your responsibility to take the time to familiarise yourself with the Regulations.

If in doubt about what applies to you, or if your circumstances change (for example if you are returning from a suspension of study, or transferring to a different programme) please contact your Director of Studies Mr John Benardis (Years 1 & 2) or Mr Zack Lyons (Years 3 & 4) for advice.

IMPORTANT LINKS AND INFORMATION

UNIVERSITY INFORMATION ONLINE

This Handbook is an accompaniment to important information available to all students on the University's website. It is expected that you will familiarise yourself with the online information signposted below.

If you cannot find the information you are looking for in this Handbook or on the web please contact your Director of Studies in the first instance.
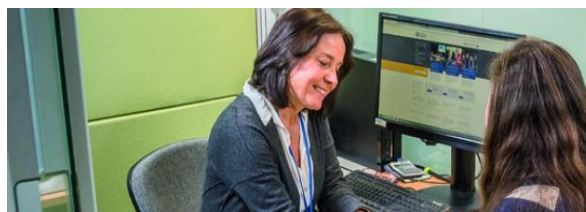
SUPPORTING YOU

Student Support Services
https://www.bath.ac.uk/professional-services/student-services/

SU Advice and Support Service
www.thesubath.com/advice

Equality, Diversity and Inclusion
https://www.bath.ac.uk/professional-services/equality-diversity-and-inclusion/

Advice for specific groups of students:
International students
www.bath.ac.uk/topics/visas
www.bath.ac.uk/guides/student-immigration-appointments-and-drop-in-sessions
www.bath.ac.uk/campaigns/studying-at-bath-as-an-erasmus-exchange-or-visiting-student
Care-leavers
https://www.bath.ac.uk/publications/university-and-leaving-care/
Estranged students
https://www.bath.ac.uk/publications/university-and-estranged-students/
Refugees
https://www.bath.ac.uk/publications/university-and-refugees/
Students with caring responsibilities
https://www.bath.ac.uk/publications/university-and-young-adult-carers/

Pregnancy and maternity
https://www.bath.ac.uk/guides/getting-advice-if-you-are-pregnant-while-studying-or-have-a-young-child/

CORE UNIVERSITY SERVICES / INFORMATION

Dissatisfaction with a University service or facility (Complaints)
www.bath.ac.uk/guides/student-complaints-policy-and-procedure

Health and Safety
www.bath.ac.uk/guides/student-health-and-safety
Be Safe on Campus information (COVID-19)
https://www.bath.ac.uk/campaigns/be-safe-on-campus-and-in-bath-during-the-covid-19-pandemic/

Library and Study Spaces
https://library.bath.ac.uk/home
www.bath.ac.uk/campaigns/where-you-can-study-on-campus-and-in-the-city

Skills Support and Development
http://go.bath.ac.uk/my-skills
www.bath.ac.uk/campaigns/get-ahead-with-skills-at-bath

Learning Technologies & IT Support
https://www.bath.ac.uk/professional-services/digital-data-and-technology/

Careers Service
www.bath.ac.uk/professional-services/careers-service

Data Protection
www.bath.ac.uk/guides/data-protection-guidance

Bullying, harassment and victimisation
https://www.bath.ac.uk/campaigns/report-and-

Disabilities, long-term illness, and specific learning difficulties
http://go.bath.ac.uk/disability-service

SUPPORTING YOUR LEARNING

Your Learning
www.bath.ac.uk/guides/your-learning
Bath Blend
Glossary
Year Dates and Timetables

Regulations for students
http://go.bath.ac.uk/regulations

Registration
www.bath.ac.uk/guides/registering-with-the-university

Withdrawing from or suspending your studies
www.bath.ac.uk/guides/suspending-your-studies-or-leaving-the-university

Placements
http://go.bath.ac.uk/placements-information-for-students

Personal Tutoring
www.bath.ac.uk/guides/personal-tutoring

Units and Programmes
www.bath.ac.uk/guides/about-units-and-programmes
Catalogues
Option choices
How your programme is reviewed and monitored

Student Representation and Engagement
www.bath.ac.uk/campaigns/student-engagement-shape-your-university

support/
SU Code of Practice and membership
www.bath.ac.uk/corporate-information/code-of-practice-for-the-students-union-su

Assessment
www.bath.ac.uk/guides/assessment-guidance-for-students
Assessment processes
Understanding your results
External examiners
Supplementary assessment

Academic Integrity
www.bath.ac.uk/campaigns/academic-integrity-training-and-test

Assessment Regulations
www.bath.ac.uk/corporate-information/new-framework-for-assessment
Definitions of assessment terms

Individual Mitigating Circumstances
www.bath.ac.uk/guides/reporting-individual-mitigating-circumstances-to-the-university

Academic Appeals
www.bath.ac.uk/guides/appealing-against-an-academic-decision

DEPARTMENT WELCOME 2020/21

It is a pleasure to welcome you as a new undergraduate member of the Department of Computer Science. We will do all we can to assist you to obtain the best degree result that you can achieve. This requires both you and us to contribute to a partnership between 'learner' and 'teacher' and to accept joint responsibility for making your undergraduate studies a success. Our part of the deal is to deliver taught material that is relevant, high quality and up-to-date in lectures, workshops, tutorials and seminars. In return, we

expect you to attend these classes and undertake parts of the programme through self-directed study.

We want you to enjoy student life in Bath - this includes both work and play! We hope you will look back on your time here as a key element in defining your future and that some of the friends you make over the coming years will remain close for the rest of your life.

This handbook contains important information about the Department of Computer Science and the University of Bath. It contains details of the teaching programme, examination procedures and requirements for qualification to progress to the next year of study. ***If you have any questions regarding procedural or other aspects of the course, please look in the handbook first you may well find the information you need.***

Most of the changeable information is located on the Department's Student Moodle site:

go.bath.ac.uk/csmoodle

To find the most up to date information about the content of your programme and any current unit options go to go.bath.ac.uk/catalogue and select the current year of study and Computer Science. Unit availability may change from year to year. During registration online (ROL), you are given a University username and password. This will allow you to access the Internet and the computer network for email and other computing services, including the Moodle virtual learning environment (**VLE**), from any of the computer stations on campus. It will also allow you to access free high quality Internet connectivity in all the wireless zones around the University.

ABOUT THE DEPARTMENT 2020/21

The Department of Computer Science attracts a highly qualified student intake and has built a reputation for excellent academic standards and highly sought-after graduates. The Department is located in 1 West at the Claverton Down campus.

The Department of Computer Science is part of the Faculty of Science. The Faculty exists as a unit for planning, financial management, and quality management purposes, led by the Dean of Faculty.

The primary committee of the Faculty of Science that relates to undergraduate students is the Faculty Board of Studies which has oversight of the quality management and enhancement activities of the Department, appoints the Director of Teaching, and approves the progression and degree awarding decisions of the Examination Boards of the Department. The Faculty Board of Studies includes student representation.

Many of the day-to-day management tasks of the University are devolved to each department, however, the University also maintains centralised support services for students. You should make good use of these facilities and they will be introduced in more detail later in this handbook.

ABOUT THIS HANDBOOK

The everyday information that you will need to know is contained within this handbook. The handbook is the distillation of essential information for students, and contains sections which are part of the framework of regulations. In particular, the chapters on Progression and Award of Degrees are considered to be regulations that the examination boards will use to decide whether you can progress at the end of each academic year and on the level of your final degree award. You should read those chapters very carefully.

KEY CONTACTS/STAFF LIST

Head of Department

The Computer Science Department is led by the Head of Department, Professor Mike Fraser, who directs all aspects of the department, operating through a number of nominated role-holders and through the deliberations of a number of committees. The following sections introduce some of these roles and committees.

Director of Studies

Day to day management and oversight of the taught programmes is provided by the Director of Studies, who is the person primarily responsible for the delivery of the curriculum, assessment processes, and student support, such as extensions of coursework deadlines or suspension of studies. The Director of Teaching is responsible for the development of the curriculum. Other role holders that undergraduate students are likely to come across are identified in following table:

Name	Role	Email prefix (@bath.ac.uk)
Prof Mike Fraser	Head of Department	mcf35
Dr Özgür Şimşek	Deputy Head of Department	os435
Dr Fabio Nemetz	Director of Teaching	mapfn
Dr John Benardis	Director of Studies – Year 1 and Year 2	ib322
Mr Zack Lyons	Director of Studies – Year 3, 4, 5 and Placements	zl221
Dr Marina De Vos	Director of Studies – Postgraduate Taught	cssmdv
Dr Bhagyashree Patil	Senior Tutor	bp397
Susan Paddock, Eleni Galanti	Undergraduate Programmes Administrator team	compsci-prog-admin
Claudia Emery, Cara Blair-Baggs	Department Co-ordinator team	comp-sci

Louise Oliver	Placements Manager	cm-placements
Dr Julian Padget	Study Abroad and Overseas Student Officer	masjap

ACADEMIC AND TEACHING STAFF IN THE DEPARTMENT

You will be taught by the following members of staff:

Name	Email address	Extension	Office number (1West)
Prof. Jason Alexander	jma73@bath.ac.uk		
Dr John Benardis	I.Benardis@bath.ac.uk		4.51
Dr Russell J Bradford	r.j.bradford@bath.ac.uk	6977	3.59
Dr Joanna Bryson	j.j.bryson@bath.ac.uk		
Mr K Cameron	k.cameron@bath.ac.uk	4762	3.53
Dr Neill Campbell	n.campbell@bath.ac.uk	5950	4.04
Dr Xi Chen	xc841@bath.ac.uk	6964	4.11
Dr Andrew Chinery	akc23@bath.ac.uk		
Dr Darren Cosker	d.p.cosker@bath.ac.uk	5356	4.03
Prof James H Davenport	j.h.davenport@bath.ac.uk	6181	4.53
Dr Marina De Vos	m.d.vos@bath.ac.uk	5053	3.61
Prof. Mike Fraser	mcf35@bath.ac.uk	3384	3.64
Dr Tim French	tsf28@bath.ac.uk		4.51
Dr Mohammad Golbabaee	m.golbabaee@bath.ac.uk	5162	3.60
Dr Alessio Guglielmi	a.guglielmi@bath.ac.uk	6274	4.55
Dr Tom Haines	t.s.f.haines@bath.ac.uk	3215	4.19
Prof Peter M Hall	p.m.hall@bath.ac.uk	6004	4.63
Dr Alan Hayes	a.hayes@bath.ac.uk	4489	3.65
Dr Willem Heijltjes	w.b.heijltjes@bath.ac.uk	5932	4.67
Dr Rachid Hourizi	r.hourizi@bath.ac.uk	5934	3.50
Dr Joanne Hyde	j.k.hyde@bath.ac.uk	4041	4.51
Dr Olga Isupova	oi260@bath.ac.uk	3934	4.50
Dr Simon Jones	s.l.jones@bath.ac.uk	5927	4.52
Dr Christina Keating	Ck435@bath.ac.uk		4.51
Dr James Laird	j.d.laird@bath.ac.uk	4483	4.64
Dr Wenbin Li	w.li@bath.ac.uk	3374	4.17
Dr Christof Lutteroth	c.lutteroth@bath.ac.uk	5507	4.15
Mr Zack Lyons	z.lyons@bath.ac.uk	4439	3.63
Prof Guy McCusker	g.a.mccusker@bath.ac.uk	3578	4.54
Dr Vinay Namboodiri	vpn22@bath.ac.uk	3217	4.05
Dr Fabio Nemetz	F.Nemetz@bath.ac.uk	6635	3.58
Prof Eamonn O'Neill	e.oneill@bath.ac.uk	3216	4.57
Dr Julian A Padget	j.a.padget@bath.ac.uk	6971	4.65
Dr Bhagyashree Patil	b.patil@bath.ac.uk	6996	4.14
Dr Thomas Powell	trjp20@bath.ac.uk	4085	4.61
Dr Ben Ralph	bdr25@bath.ac.uk		

Dr Christian Richardt	c.richardt@bath.ac.uk	3955	4.13
Dr Özgür Şimşek	o.simsek@bath.ac.uk	5928	4.61
Prof Nicolai N Vorobjov	n.n.vorobjov@bath.ac.uk	6104	3.62
Dr Leon Watts	l.watts@bath.ac.uk	3166	4.66
Dr Michael Wright	maew20@bath.ac.uk	6995	3.54
Dr Yongliang Yang	y.yang2@bath.ac.uk	6673	3.52

If you want to contact the department, and you don't know where to go or whom to see, your first point of contact should be the Administrator team: compsci-prog-admin@bath.ac.uk.

You can access and update any aspect of your student record, such as address or phone number, using the University's student record system SAMIS: https://samis.bath.ac.uk

Forms obtainable from SAMIS can be completed and sent to the Administrator team for signature and action. This includes forms for transferring programmes, suspending or withdrawing attendance and changing unit choices, which is only to be done in exceptional cases.

WHO SHOULD I CONTACT?

 The following is a quick guide about who to contact in the department about different circumstances:

Department Administrator Team

- To inform of a period of illness - you should have a Doctor's note if you are absent due to illness for more than five days;
- To obtain forms to apply to change to a different unit or to change a programme of study;
- To identify problems with access to labs or computer equipment that have not been resolved by contact with Computing Services;
- To resolve timetable clashes or other timetable problems;

- To resolve examination timetable errors or problems;
- To assist with disability advice and extra support for exams;
- For any other general enquiry.

Unit Tutor

- To review and amplify lecture content;
- To discuss and clarify tutorial content;
- To seek additional tutorial support;
- To obtain advice on the completion of a coursework assessment.
- To resolve issues within the delivery of tutorials.

Unit Convenor(s)

- To discuss and clarify lecture content;
- To obtain advice on additional reading, lab work or exercises;
- To identify areas of a lecture or the lecture notes that are unclear;
- To obtain advice on practice examination questions;
- To obtain further feedback on performance within coursework assessment;

- To resolve problems within the delivery of a tutorial where approaching the Unit tutor has not resolved the problem;
- To identify problems within the delivery of the lectures or assessment for the Unit.

Personal Tutor
- To obtain feedback on your overall academic performance to date;
- To obtain advice and signposting when making unit choices;
- To identify and discuss personal, financial or medical problems which may affect your academic performance or your ability to successfully complete your programme of studies. In these cases, your Personal Tutor can help signpost you to see other professionals to help with the circumstances. Your Personal Tutor can advise you on mitigating the impact on your academic work but is not authorised to provide financial, medical or personal counselling;
- To identify sources of additional academic support;
- To obtain advice on the suitability of a particular programme of studies;
- To obtain academic references for placements or employment.

Director of Studies
- To obtain advice on University or Department procedures or regulations;
- To identify problems within a unit which the Unit Convenor has not satisfactorily addressed;
- To identify and discuss personal, financial or medical problems which you are unable to bring to your Personal Tutor;
- To discuss issues within the pastoral support provided by your Personal Tutor;
- To discuss academic issues that you are unable to raise with your Personal Tutor, such as if they are your Unit Convenor or supervisor;
- To discuss transfer from one programme to another, whether programmes within the Department or to programmes managed by other Departments;
- To discuss suspension or withdrawal from a programme of studies.

Director of Teaching
- To resolve issues within running of academic courses where approaching the Director of Studies has not resolved the problem;
- To resolve academic issues that you are unable to raise with your Director of Studies, such as if they are your Unit Convenor or Personal Tutor;
- To resolve pastoral support issues that you are unable to raise with the Senior Tutor, such as if they are your Unit Convenor or Personal Tutor.

Faculty Placements Team
- To obtain information on placement opportunities;
- To discuss an application for a placement;
- To inform about changes of circumstance whilst on placement;
- To discuss problems with the placement whilst on placement.

Study Abroad and Overseas Students Officer
- To discuss and arrange study abroad;
- For all Personal Tutor support during a period of study abroad.

In many cases these individuals will direct you on to other people that you must see. For example, in cases of medical problems you will always be advised to go to the Medical Centre if you have not already done so, in cases of personal problems you will often be advised to utilise the counselling services, and in cases of learning difficulties you will normally be advised to consult the Student Disability Advice Team. We encourage you to familiarise yourself with these University provided facilities and utilise them without first consulting department members where appropriate.

Email

Email is the primary mechanism for communication between the Department and students. Your University email account is the only account that is used for communications. It is important that you monitor your University email account regularly to ensure that you receive vital messages about the Department or your units. Failure to receive or check your email cannot be considered as a valid excuse. As well as using email to contact students, staff expect students to make use of email to contact them.

Teams

Microsoft Teams is a hub for collaborative working, whether it be sharing and editing documents, holding online meetings or taking part in group chats. Teams integrates with many of the other Office 365 applications such as Word.

During your studies you will be automatically enrolled into two core Teams. The first team that you are going to be enrolled in is you programme year team. There, different channels will be used for announcements and general communication that are relevant to each cohort. The second core team that you are going to be enrolled in is your Personal Tutor team. In this Team all students assigned to a Personal Tutor will receive useful information and will potentially have group pastoral support meetings. Apart from those teams you will be enrolled or asked to enrol in a variety of teams, such as for specific units, that will be used to support teaching and learning as well as other aspects of your University experience.

ABOUT YOUR PROGRAMME

UNITS

Degree courses involve the study of a requisite number of *units*. A unit is an assessable block of study, which may be in the form of a lecture course or an approved project. A *p*rogramme is an identified set of units leading to a named award. Each programme will contain units that you are required to take - *mandatory units*. There may be units that you are required to choose between - *optional units*. You are allowed to undertake a small number of units beyond those included in the programme – *free or extra curricula units*. For a degree to be awarded the right number and combination of units have to be studied. The programmes are constructed so that students following a prescribed programme will complete the right number of units at each level. Details of available units for each programme are given in a Programme/Unit Catalogue.

Each Unit is delivered at a certain academic *level*. For Undergraduate units, these are Levels 1, 2 and 3 - equating roughly to the expected academic performance of a student in Years 1,

2 and 3 (respectively) of their studies. MComp students will study units at levels 4 and 5 in their final year. The Level of a unit is identified in its *Unit Code*. For example, the unit code CM10194 specifies the following: CM - the unit is managed by Computer Science; 1 - the unit is at Level 1; 0194 - this is the unit identifier which will be unique within the Department.

In 2020/21, your learning will be based on 3 components, which the University calls "The Bath Blend". A unit will typically provide 2 hours of timetabled live online learning sessions per week, along with online materials such as pre-recorded lectures, readings, and curated resources. You are expected to use further time in personal study and working on your assessed coursework. You will typically study five units per semester and should dedicate around 8 hours per week per unit.

> Note: Some degree programmes include units that are delivered by other Departments. These units are managed and assessed under the rules of the department that delivers the units - it is up to each student to familiarise themselves with the different requirements of the department delivering each unit.

Each unit is *credit-rated*. This means that the successful completion of a unit will provide you with a number of *credits*. Each unit is normally worth 6 credits. A unit might actually be a *double unit*, in which case it will be worth 12 credits and will usually require 16 hours of study per week. Occasionally you will find a unit that is a *half unit*, worth 3 credits and requiring 4 hours of study per week.

Unit Specifications

Each unit that is provided within the University of Bath is described within a *Unit Specification*, examples of which are accessible from the Programme and Unit Catalogue: www.bath.ac.uk/catalogues

The Unit Specification identifies the aims and objectives of the unit, the key skills supported within the unit, and the learning outcomes that students taking the unit should achieve and which they will be assessed against. It also identifies the pre-requisite units which a student must have received credit for before attempting the unit.

Optional Units

In the early years of your study you will be expected to take a compulsory set of units that ensures foundational material is presented to all students. Later in your degree, you will be given a range of optional units to choose from so that you can focus your studies in particular topics.

Free/Extra-curricular Units

In addition to the specified programme for the year, you are also permitted to take **one** 6 credit unit or, equivalently, **two** 3 credit units. These *free/extra-curricular units* will not count for progression nor towards the degree but they will be included on your transcript of achievement. Using this option you can select to study a language, learn more about Business or Education, or sample an area unrelated to your current studies. Units you may choose are identified as *Generally Available Units*, and these are listed in the *Catalogue of*

Generally Available Units. Any additional units *must* be approved by the Director of Studies or Director of Teaching.

Selecting Your Units

In order to be included for assessment on any unit you need to be *enrolled* on that unit. Many of the units you study are compulsory units, and by enrolling on a programme you are automatically enrolled on those units. You will be asked to select your optional units when options become available to you. You will be required to select optional units using an online form, which is typically in April/May of the preceding academic year. You will be contacted around this time with more information.

To find out more about unit contents when selecting units you should consult the Programme/Unit Catalogue for the relevant year. Note that some units may not run every year, so you should always check the most up-to-date information.

> Note: The University cannot guarantee to timetable any selected optional units for you. Every effort will be made to accommodate your choice, but if a timetable clash cannot be resolved you may have to set aside the optional unit.

Many units also have pre-requisite requirements - you must have studied and gained credit in each of the specified pre-requisite units in order to study that unit. You will not be allowed to study a Unit for which you do not have the pre-requisite knowledge.

Failure to complete the unit selection process may prohibit enrolment in the following year, and will certainly lead to constraints in the choices available because timetabling will already have been completed. Failure to select appropriate options will mean that you will not be enrolled on those options. *If insufficient credits are completed in any academic session, you may not be permitted to proceed until sufficient credits are made up in the*

> **Note**: Although the Department will endeavour to ensure that all students have selected an appropriate programme of studies, the selection and completion of an appropriate programme of studies remains the responsibility of the student.

following academic year. No student can be awarded a degree until sufficient credits at each level are completed.

Learning and Teaching

A unit is managed by a *convenor* (see the section on Responsibilities and Roles), who will normally have created the course material and who delivers the lectures for the unit. The Unit convenor is responsible for the quality of all aspects of the delivery of the unit.

It is vital that you address any misunderstandings or confusion as early as possible. Lecture topics tend to build on earlier material. Failure to resolve areas of confusion can prevent you from making any progress later on. Students who get into this situation are rarely able to resolve the problems

before examination time, limiting their potential examination performance.

Tutor Support

Many units will have a *tutor*, who is often a postgraduate researcher from within the Department. Tutors work closely with the unit convenors and assist with the delivery of the unit.

Some classes will provide material that you should prepare in advance, such as reading. It is important that you complete this work before attending the class, because the learning that takes place within the class will be dependent on the understanding gained from the material. Failure to complete this work could severely limit the time available for tuition for the group as a whole. If, because of illness or other personal reasons, you are unable to complete the work you should still attend the class. In such cases it would be appropriate to warn the tutor that you have not completed the work before the session begins so that the tutor can take this into account.

You should not feel afraid or embarrassed to ask questions in class. It is likely that many others have the same questions but are hesitant to ask for help. By seeking help you are therefore likely to be helping the whole group. If the lecturer or tutor believes that others in the group have already understood the particular point, they may spend time aside with you to work on the problem or recommend a separate meeting to go through material.

Personal Study

As the preceding sections indicate, University teaching is not represented by just the timetabled sessions. It is also, and possibly primarily, within your individual study that supports these timetabled sessions. It is important to get used to setting aside time within each week to complete this additional personal study. The best way to do this is to add time slots to your personal timetable in which you timetable yourself to do the additional study required for each unit. Having set aside this time, you must then ensure that you use this time each week.

In your personal study, you should ensure that you keep ahead with any additional reading that is required. You will find that much of the information found within the additional reading is needed in the coursework assessment. If the reading is left until too late you will end up with too much to do when the coursework assessment is set. Reading ahead will help prevent the build-up of work in the busy assessment periods of each semester.

Completing Assessments

All units include assessments to demonstrate that students have satisfied the learning outcomes of the unit. Some units use a combination of coursework and examination assessment. Where this is the case, the weighting of the results achieved within the examination and the coursework elements of the assessment is identified within the Unit Specification.

The conduct of assessment is discussed in more detail within the Assessment chapter - it is very important that you read and understand the contents of that chapter.

PROGRAMME CHANGES

In order to complete any programme change you must complete a "CC Form". These are CC Form B (Change of Unit), CC Form C (Change of Programme), and CC Form D (Interdepartmental Change of Programme), all of which are available from the student

records system SAMIS. Once the details have been entered into the form, you need to send these to the programme administrator. Any changes *must* be approved by the Directors of Studies for both the programme you are leaving and the programme into which you wish to transfer.

In the first four weeks of their first year of study students may change the subject area of their degree to a related programme (e.g. BSc Computer Science with Mathematics to BSc Computer Science) *provided* that their programme of study satisfies the appropriate rules and regulations and subject to the approval of the Director of Studies. Any student interested in transferring should contact the Director of Studies.

Students may also apply to transfer from one degree format to another (e.g. from a 3-year BSc degree course to a 4-year BSc with Industrial Placement). Preparations for placements or overseas study take place throughout the year, so you should apply within the first four weeks of study. Applications may be declined if you have missed important preparatory work. The application should state to which programme (3-year BSc, BSc with Industrial Placement, BSc with Overseas Study) you wish to transfer.

Any student on the sandwich course for whom an industrial placement cannot be found will automatically transfer to the 3-year degree course or may, exceptionally, be permitted to suspend attendance for that year of study.

> **Note**: Following authorisation by the Director of Studies of any change of programme the student concerned must inform their funding authority of the change. It is the student's responsibility to ensure that their funding authority is willing to provide funding for any additional years of study required as a result of a transfer or repeat of year.

FINAL YEAR PROJECT

The individual project, (or research project for final year MComp students) is an important component of the undergraduate degree programmes within the Department of Computer Science. It is the primary opportunity for you to demonstrate the range of knowledge and skills acquired during your programme of studies.

A complete project handbook can be accessed on the Moodle page of this unit, which you will be enrolled on at the start of the year.

The project spans the academic year. The assessment for the unit is split between a demonstration of progress and a final project submission. Students are asked to choose their project at the start of the year on the unit's Moodle page, from a list of project topics suggested by members of staff or students can come up with their own proposal. In the latter case, approval has to be obtained from the project coordinator and a member of staff has to agree to supervise this project.

Given the importance of this unit, a number of waypoints have been set up to keep students on track with the work involved. During the first semester you will be asked to submit a project proposal and literature review. While this is mainly for feedback purposes, failing to submit a satisfactory document could result in you not being allowed to progress to the second semester.

> **Note**: The Department makes routine use of plagiarism detection software.

> **Note**: The Department reserves the right to call a student in for a viva-voce examination on the project in cases of a mark dispute and where the External Examiner deems further investigation to be necessary. You must make yourself available for a possible viva-voce examination after the completion of the final year examination process.

Throughout the project there are various ways of obtaining feedback regarding your progress. Your supervisor will be more than happy to discuss your progress at any of the supervisory meetings. More formal feedback points are available when the project proposal, literature review, and demonstration of progress are being marked. The first two are ideal points to obtain detailed feedback on your academic writing style. Feedback will either be provided via Moodle together with the marks, or during a supervisory session. Do not hesitate to contact your supervisor to get more detailed feedback at any stage of the project.

By providing drafts of the materials you are going to submit well in advance, you give your supervisor the opportunity to go through the material and provide you with detailed feedback. However, do note that your supervisor is neither your spell-checker nor your editor. Nor can you expect them to give you any detailed feedback if you give them the draft a day before the deadline, a week is more appropriate. If that is proving difficult, you could try to warn them of a late draft submission. That way they might be able to free some of their time to read your document. Remember, most supervisors are looking after several students.

Given the importance of the project, it is vital that students manage their project well throughout the year. All students will receive a project handbook and additional information through lectures and supervision.

PROGRAMME AIMS AND LEARNING OUTCOMES 2020/21

The aims of the Department of Computer Science build upon the mission statement of the University "to deliver world-class research and teaching, educating our students to become future leaders and innovators, and benefiting the wider population through our research, enterprise and influence."

BSc Computer Science

The Programme Aims are:

- to provide a stimulating and supportive environment which encourages students to be creatively and critically receptive and responsive to new ideas and to develop towards their full academic potential;
- to provide a strong conceptual and theoretical understanding that will enable students to evaluate, adapt, create and utilise appropriate methods, theories and techniques in the face of changing technology;
- to develop in students the ability to evaluate, select and apply appropriate models, methods and technologies in the comprehension, manipulation and development of complex computer-based systems;
- to provide students with a broad and balanced foundation of knowledge, theoretical underpinning and practical skills in artificial intelligence;
- to expose students to established and emerging theories, methods and techniques and challenging problems that take them towards the edge of current knowledge;
- to develop critical, analytical and interpersonal skills that prepares students to become active professionals and contribute to the intellectual life of society;

The 'with industrial placement' route includes the following additional aims:

- to provide practical experience in an industrial or commercial environment applying knowledge and skills gained within their studies;
- to develop personal skills, including communication skills (oral and written), planning and time management, problem solving and analytical skills, decision-making skills, and have gained confidence in their own ability to appraise new information critically and operate as a part of a team;
- to have acquired an understanding of the general structure of an organisation and of the contribution of an individual to the aims and objectives of an organisation.

The 'with study year abroad' route includes the following additional aims:
- to develop in students the ability to work effectively in a culture different from that of the U.K.;
- (where appropriate) to develop the ability to operate at a scientific level in a second language.

The Programme Learning Outcomes are:

Knowledge and understanding	- To recognise and distinguish between selected canonical forms of computer hardware and operating systems architecture, understand the use of hardware and software abstractions in describing and exploring systems architectures, both local and distributed, and understand how hardware and software combine to create computer systems; - To identify the lifecycle of software development and the complexities of modern software systems, and recognise the need for modelling, abstraction, description and management techniques to control the process of development of software systems; - To understand the mathematical and theoretical underpinnings of computing and computability, its application in building models at various levels of abstraction, and its importance in reasoning, communication and systems development; - To understand scientific principles underlying Artificial Intelligence and to apply a range of methods in artificial intelligence, including machine learning techniques.
Intellectual skills	- The communication of complex ideas and concepts through the application of appropriate analysis and design techniques at many levels of abstraction; - The ability to manage small-medium sized projects with resource and time constraints; - The ability to learn independently and transfer knowledge into unfamiliar situations in a spirit of critical enquiry; - The ability to evaluate systems in terms of general and specific quality attributes and the possible trade-offs within a given problem.
Transferrable/key skills	- The communication of complex ideas and concepts through the application of appropriate analysis and design techniques at many levels of abstraction; - The ability to manage small-medium sized projects with resource and time constraints; - The ability to learn independently and transfer knowledge into unfamiliar situations in a spirit of critical enquiry; - The ability to evaluate systems in terms of general and specific quality attributes and the possible trade-offs within a given problem.

BSc Computer Science and Mathematics

The Programme Aims are:

- to provide a stimulating and supportive environment which encourages to be creatively and critically receptive and responsive to new ideas and to develop towards their full academic potential;
- to provide a strong conceptual and theoretical understanding that will enable students to evaluate, adapt, create and utilise appropriate methods, theories and techniques in the face of changing technology;
- to provide a broad mathematical foundation combined with the depth of pure mathematics required to develop and evaluate new or advanced software technologies;
- to expose students to established and emerging paradigms, methods and technologies and challenging problems that take them towards the edge of current knowledge;
- to develop critical, analytical and interpersonal skills that prepare students to become active professionals and contribute to the intellectual life of society;

The 'with industrial placement' route includes the following additional aims:

- to provide practical experience in an industrial or commercial environment applying knowledge and skills gained within their studies;
- to develop personal skills, including communication skills (oral and written), planning and time management, problems solving and analytical skills, decision-making skills, and have gained confidence in their own ability to appraise new information critically and operate as a part of a team;
- to have acquired an understanding of the general structure of an organisation and of the contribution of an individual to the aims and objectives of an organisation.

The `with study year abroad' route includes the following additional aims:

- to develop in students the ability to work effectively in a culture different from that of the U.K.
- (where appropriate) to develop the ability to operate at a scientific level in a second language.

The Programme Learning Outcomes are:

Knowledge and understanding	- to provide a stimulating and supportive environment which encourages to be creatively and critically receptive and responsive to new ideas and to develop towards their full academic potential; - to provide a strong conceptual and theoretical understanding that will enable students to evaluate, adapt, create and utilise appropriate methods, theories and techniques in the face of changing technology; - to provide a broad mathematical foundation combined with the depth of pure mathematics required to develop and evaluate new or advanced software technologies; - to expose students to established and emerging paradigms, methods and technologies and challenging problems that take them towards the edge of current knowledge; - to develop critical, analytical and interpersonal skills that prepare students to become active professionals and contribute to the intellectual life of society; The 'with industrial placement' route includes the following additional aims: - to provide practical experience in an industrial or commercial environment

	applying knowledge and skills gained within their studies; • to develop personal skills, including communication skills (oral and written), planning and time management, problems solving and analytical skills, decision-making skills, and have gained confidence in their own ability to appraise new information critically and operate as a part of a team; • to have acquired an understanding of the general structure of an organisation and of the contribution of an individual to the aims and objectives of an organisation. The `with study year abroad' route includes the following additional aims: • to develop in students the ability to work effectively in a culture different from that of the U.K. • (where appropriate) to develop the ability to operate at a scientific level in a second language.
Intellectual skills	• To understand the essential facts, concepts, principles and theories relating to computer science and their relationship to one another. • To demonstrate skill in mathematical reasoning, manipulation and calculation. • To be able to capture models of existing systems and devise models for the purpose of comprehension, communication and prediction. • To apply appropriate mathematical techniques to the development of advanced software solutions. • To apply formal and rigorous methods of expression to the specification, documentation, implementation and validation of programs. • To be able to construct proof and demonstrate proficiency in selected methods of mathematical proof.
Professional Practice Skills	• To be able to contribute to the software development lifecycle in the production of usable, reliable and timely solutions; • To be able to consider alternative models of problems and apply practical, theoretical and mathematical understanding to select appropriate solutions; • To appreciate the relationship between fundamental concepts of mathematics and their application in computer science; • To be able to succinctly present rational and reasoned arguments that address a given problem; • To be able to select and utilise appropriate software tools for the construction, documentation and validation of computer applications.
Transferrable/key skills	• To be able to contribute to the software development lifecycle in the production of usable, reliable and timely solutions; • To be able to consider alternative models of problems and apply practical, theoretical and mathematical understanding to select appropriate solutions; • To appreciate the relationship between fundamental concepts of mathematics and their application in computer science; • To be able to succinctly present rational and reasoned arguments that address a given problem; • To be able to select and utilise appropriate software tools for the construction, documentation and validation of computer applications.

BSc Computer Science with Business

The Programme Aims are:

- to provide a stimulating and supportive environment which encourages students to be creatively and critically receptive and responsive to new ideas and to develop towards their full academic potential;
- to provide a strong conceptual and theoretical understanding of computer science that will enable students to evaluate, adapt, create and utilise appropriate methods, theories, techniques and business practices in the face of changes in technology;
- to develop in students understanding of the business context and so develop, specify, select and/or develop appropriate and effective business systems;
- to expose students to established and emerging paradigms, methods and technologies and challenging problems that take them towards the edge of current knowledge;
- to develop critical, analytical and interpersonal skills that prepares students to become active professionals and contribute to the intellectual life of society;

The 'with industrial placement' route includes the following additional aims:

- to provide practical experience in an industrial or commercial environment applying knowledge and skills gained within their studies;
- to develop personal skills, including communication skills (oral and written), planning and time management, problems solving and analytical skills, decision-making skills, and have gained confidence in their own ability to appraise new information critically and operate as a part of a team;
- to have acquired an understanding of the general structure of an organisation and of the contribution of an individual to the aims and objectives of an organisation.

The `with study year abroad' route includes the following additional aims:

- to develop in students the ability to work effectively in a culture different from that of the UK.
- where appropriate) to develop the ability to operate at a scientific level in a second language.

The Programme Learning Outcomes are:

| Knowledge and understanding | To recognise and distinguish between selected canonical forms of computer hardware and operating systems architecture, understand the use of hardware and software abstractions in describing and exploring systems architectures, both local and distributed, and understand how hardware and software combine to create computer systems; To understand the mathematical and theoretical underpinnings of computability, its application in building models at various levels of abstraction, and its importance in reasoning, communication and systems development;. To understand the key functions of business, and the contribution of appropriate information systems to the development of organisations. To identify the lifecycle of software development and the complexities of modern software systems, and recognise the need for management and methodological techniques to control the process of development of software systems; To understand and critically evaluate a range of approaches to the study of management, organisations, and behaviour within business organisations. To identify the importance of the human and system interfaces in the development of business systems. In the case of students whose degree programme incorporates a placement, |

	they should also be able to:
	• demonstrate an understanding of the general structure of their employing organisation, and of the particular significance of the work that they have undertaken;
	• apply knowledge and skills gained at the university to a work programme in a professional context;
	• demonstrate enhanced professional and practical skills commensurate with the placement project undertaken;
	• demonstrate enhanced personal skills in the following areas: communication, both oral and written, planning, time management, appraisal of new information, problem solving, decision making, relating to others and working as part of a team.
	In the case of students whose degree programme incorporates a study year abroad, they should also be able to:
	• work effectively in a culture different from that of the UK and operate at a scientific level in the language of the country concerned;
	• demonstrate increased self-confidence and maturity through living in a new environment and culture.
	(These points will also apply to those students whose degree programme incorporates a placement within an organisation located outside the UK).
Intellectual skills	• To understand the essential facts, concepts, principles and theories relating to computer science and their relationship to one another.
	• To gain understanding of business organisation and so develop the ability to interpret business situations.
	• To understand management functions within business, their information requirements and the inter-relationship of management roles in the development of organisations.
	• The ability to capture models of existing systems and devise models of new information systems for the purpose of comprehension, communication, and prediction
Professional Practice Skills	• To be able to contribute to all areas of the system development lifecycle in the production of usable, reliable and timely solutions.
	• To be able to consider alternative models of problems and apply practical and theoretical understanding to select appropriate solutions.
	• The ability to apply knowledge of the business context to business systems problems and identify appropriate, cost effective and timely solutions.
	• The ability to select and utilise appropriate practical methods, models, techniques and tools for the specification, design, construction, documentation and validation of computer-based systems;
	• To understand and be able to apply relevant ethical, legal and professional standards in the context of business practice and computer systems development
	•
Transferrable/key	• To be able to contribute to all areas of the system development lifecycle in the

skills	production of usable, reliable and timely solutions.
	• To be able to consider alternative models of problems and apply practical and theoretical understanding to select appropriate solutions.
	• The ability to apply knowledge of the business context to business systems problems and identify appropriate, cost effective and timely solutions.
	• The ability to select and utilise appropriate practical methods, models, techniques and tools for the specification, design, construction, documentation and validation of computer-based systems;
	• To understand and be able to apply relevant ethical, legal and professional standards in the context of business practice and computer systems development

BSc Computer Science and Artificial Intelligence

The Programme Aims are:

- to provide a stimulating and supportive environment which encourages students to be creatively and critically receptive and responsive to new ideas and to develop towards their full academic potential;
- to provide a strong conceptual and theoretical understanding that will enable students to evaluate, adapt, create and utilise appropriate methods, theories and techniques in the face of changing technology;
- to develop in students the ability to evaluate, select and apply appropriate models, methods and technologies in the comprehension, manipulation and development of complex computer-based systems;
- to provide students with a broad and balanced foundation of knowledge, theoretical underpinning and practical skills in artificial intelligence;
- to expose students to established and emerging theories, methods and techniques and challenging problems that take them towards the edge of current knowledge;
- to develop critical, analytical and interpersonal skills that prepares students to become active professionals and contribute to the intellectual life of society;

The 'with industrial placement' route includes the following additional aims:
- to provide practical experience in an industrial or commercial environment applying knowledge and skills gained within their studies;
- to develop personal skills, including communication skills (oral and written), planning and time management, problem solving and analytical skills, decision-making skills, and have gained confidence in their own ability to appraise new information critically and operate as a part of a team;
- to have acquired an understanding of the general structure of an organisation and of the contribution of an individual to the aims and objectives of an organisation.

The 'with study year abroad' route includes the following additional aims:
- to develop in students the ability to work effectively in a culture different from that of the U.K.;
- (where appropriate) to develop the ability to operate at a scientific level in a second language.

The Programme Learning Outcomes are:

| Knowledge and understanding | • To recognise and distinguish between selected canonical forms of computer hardware and operating systems architecture, understand the use of hardware and software abstractions in describing and exploring systems architectures, |

	both local and distributed, and understand how hardware and software combine to create computer systems;
	• To identify the lifecycle of software development and the complexities of modern software systems, and recognise the need for modelling, abstraction, description and management techniques to control the process of development of software systems;
	• To understand the mathematical and theoretical underpinnings of computing and computability, its application in building models at various levels of abstraction, and its importance in reasoning, communication and systems development;
	• To understand scientific principles underlying Artificial Intelligence and to apply a range of methods in artificial intelligence, including machine learning techniques.
Intellectual skills	• To be able to demonstrate understanding of essential facts, concepts, principles and theories relating to Computer Science, and their relationship to one another; • The ability to capture models of existing systems and devise models of new computer-based systems for the purpose of comprehension, communication, and prediction; • The ability to use specialist tools and techniques to specify, design and implement AI systems.
Professional Practice Skills	• To be able to contribute to all areas of the system development lifecycle in the production of usable, reliable and timely solutions; • To be able to consider alternative models of problems and apply practical and theoretical understanding to select appropriate, possibly innovative, solutions; • The ability to succinctly present rational and reasoned arguments using appropriate conceptual tools to address a given systems problem; • The ability to select and utilise appropriate practical methods, models, techniques and tools for the specification, design, construction, documentation and validation of computer-based systems; • To understand and be able to apply relevant ethical, legal and professional standards in the context of computer systems development.
Transferrable/key skills	• The communication of complex ideas and concepts through the application of appropriate analysis and design techniques at many levels of abstraction; • The ability to manage small-medium sized projects with resource and time constraints; • The ability to learn independently and transfer knowledge into unfamiliar situations in a spirit of critical enquiry; • The ability to evaluate systems in terms of general and specific quality attributes and the possible trade-offs within a given problem.

MComp Computer Science

The Programme Aims are:

- to provide a stimulating and supportive environment which encourages students to be creatively and critically receptive and responsive to new ideas and to develop towards their full academic potential;

- to provide a strong conceptual and theoretical understanding that will enable students to evaluate, adapt, create and utilise new methods, theories and techniques in the face of changing technology;
- to develop in students the ability to research, evaluate, select and apply appropriate models, methods and technologies in the comprehension, manipulation and development of complex computer-based systems;
- to expose students to established and emerging theories, methods and technologies and challenging problems that enable them to move beyond the edge of current knowledge;
- to develop critical, analytical and interpersonal skills that prepares students to become active professionals and contribute to the intellectual life of society;
- to provide research training and experience of issues in a research stream.

The 'with industrial placement' route includes the following additional aims:

- to provide practical experience in an industrial or commercial environment applying knowledge and skills gained within their studies;
- to develop personal skills, including communication skills (oral and written), planning and time management, problems solving and analytical skills, decision-making skills, and have gained confidence in their own ability to appraise new information critically and operate as a part of a team;
- to have acquired an understanding of the general structure of an organisation and of the contribution of an individual to the aims and objectives of an organisation.

The 'with study year abroad' route includes the following additional aims:

- to develop in students the ability to work effectively in a culture different from that of the U.K.
- (where appropriate) to develop the ability to operate at a scientific level in a second language.

The Programme Learning Outcomes are:

Knowledge and understanding	- To recognise and distinguish between selected canonical forms of computer hardware and operating systems architecture, understand the use of hardware and software abstractions in researching, describing and exploring systems architectures, both local and distributed, and understand how hardware and software combine to create computer systems in an entrepreneurial and business context; - To critically evaluate the various lifecycles of software development and the complexities of modern software systems, and critically appraise the need for modelling, abstraction, description and management techniques to control the process of development of software systems, especially novel ones; - To critically engage with the mathematical and theoretical underpinnings of computing, computability and computer languages, its application in building models at deep and significant levels of abstraction, and its importance in reasoning, communication and systems development; - To critically evaluate the human and system interface at all levels of computing - systems, information and presentation, and apply concepts, methods and tools in the evaluation, design and development of interactive systems; - To understand the research process and the choice of appropriate experimental design and analysis methods in the investigation of hypotheses. In the case of students whose degree programme incorporates a placement, they should also be able to:

	- demonstrate an understanding of the general structure of their employing organisation, and of the particular significance of the work that they have undertaken; - apply knowledge and skills gained at the university to a work programme in a professional context; - demonstrate enhanced professional and practical skills commensurate with the placement project undertaken; - demonstrate enhanced personal skills in the following areas: communication, both oral and written, planning, time management, appraisal of new information, problem solving, decision making, relating to others and working as part of a team. In the case of students whose degree programme incorporates a study year abroad, they should also be able to: - work effectively in a culture different from that of the UK and operate at a scientific level in the language of the country concerned; - demonstrate increased self-confidence and maturity through living in a new environment and culture. (These points will also apply to those students whose degree programme incorporates a placement within an organisation located outside the UK).
Intellectual skills	- To be able to demonstrate an understanding of essential facts, concepts, principles and theories relating to existing and novel Computer Science and their relationship to one another; - The ability to capture models of existing systems and devise models of new computer-based systems for the purpose of comprehension, communication, and prediction; - The application of formal and rigorous methods of expression to the specification, documentation, implementation and verification of systems, including the risk and entrepreneurial context; - The ability to work at research level, including drafting research proposals, and evaluate and implement ideas at an advanced level, and present the results.
Professional Practice Skills	- To be able to contribute to all areas of system research and development lifecycle in the production of usable, reliable and timely solutions; - To be able to consider alternative models of problems and apply practical and theoretical understanding to select appropriate and innovative solutions; - The ability to succinctly present rational and reasoned arguments that address a given systems problem, including commercial and/or scientific risk assessment and management where appropriate; - The ability to critically analyse a problem and hence select and utilise appropriate techniques and tools for the construction, documentation and validation of computer applications, both existing and being researched; - To understand and be able to apply relevant ethical, legal and professional standards in the context of computer systems research and development, and to recognise the risks involved; - To be able to critically evaluate research literature and apply new ideas to a research topic.

Transferrable/key skills	• The communication of complex ideas and concepts through the application of appropriate analysis and design techniques at many levels of abstraction.
	• The ability to manage small-medium sized development and research projects with resource and time constraints.
	• The ability to learn independently and transfer knowledge into unfamiliar situations in a spirit of critical enquiry, and to present these findings.
	• The ability to critically evaluate systems in terms of general and specific quality attributes and the possible trade-offs within a given context, considering relevant risks and entrepreneurial aspects.
	• The ability to evaluate new ideas and apply them in different research contexts.
	• The ability to present ideas to a critical audience.

MComp Computer Science and Mathematics

The Programme Aims are:

- to provide a stimulating and supportive environment which encourages students to be creatively and critically receptive and responsive to new ideas and to develop towards their full academic potential;
- to provide a strong conceptual and theoretical understanding that will enable students to evaluate, adapt, create and utilise new methods, theories and techniques in the face of changing technology;
- to develop in students the ability to research, evaluate, select and apply appropriate models, methods and technologies in the comprehension, manipulation and development of complex computer-based systems;
- to provide a broad mathematical foundation combined with the depth of pure mathematics required to develop and evaluate new or advanced software technologies;
- to expose students to established and emerging theories, methods and technologies and challenging problems that enable them to move beyond the edge of current knowledge;
- to develop critical, analytical and interpersonal skills that prepares students to become active professionals and contribute to the intellectual life of society;
- to provide research training and experience of issues in a research stream.

The 'with industrial placement' route includes the following additional aims:

- to provide practical experience in an industrial or commercial environment applying knowledge and skills gained within their studies;
- to develop personal skills, including communication skills (oral and written), planning and time management, problems solving and analytical skills, decision-making skills, and have gained confidence in their own ability to appraise new information critically and operate as a part of a team;
- to have acquired an understanding of the general structure of an organisation and of the contribution of an individual to the aims and objectives of an organisation.

The 'with study year abroad' route includes the following additional aims:

- to develop in students the ability to work effectively in a culture different from that of the U.K.
- (where appropriate) to develop the ability to operate at a scientific level in a second language.

The Programme Learning Outcomes are:

Knowledge and understanding	• To demonstrate knowledge and understanding of and critically evaluate the fundamental concepts, principles, theories and results of mathematics and take some areas of mathematics to a higher level
	• To critically engage with the mathematical and theoretical underpinnings of computing, computability and computer languages, its application in building models at deep and significant levels of abstraction, and its importance in reasoning, communication and systems development;
	• To construct and critically appraise the meaning of complicated statements using mathematical notation and language.
	• To state and prove key and deep theorems from selected branches of mathematics.
	• To understand a range of programming techniques and their underpinning models so as to be able to select appropriate tools for the development of robust and challenging mathematical software systems.
	In the case of students whose degree programme incorporates a placement, they should also be able to:
	• demonstrate an understanding of the general structure of their employing organisation, and of the particular significance of the work that they have undertaken;
	• apply knowledge and skills gained at the university to a work programme in a professional context;
	• demonstrate enhanced professional and practical skills commensurate with the placement project undertaken;
	• demonstrate enhanced personal skills in the following areas: communication, both oral and written, planning, time management, appraisal of new information, problem solving, decision making, relating to others and working as part of a team.
	In the case of students whose degree programme incorporates a study year abroad, they should also be able to:
	• work effectively in a culture different from that of the UK and operate at a scientific level in the language of the country concerned;
	• demonstrate increased self-confidence and maturity through living in a new environment and culture.
	(These points will also apply to those students whose degree programme incorporates a placement within an organisation located outside the UK).
Intellectual skills	• To understand the essential facts, concepts, principles and theories relating to existing and novel computer science and their relationship to one another.
	• To demonstrate and independently develop skill in mathematical reasoning, manipulation and calculation.
	• To be able to capture models of existing systems and devise models for the purpose of comprehension, communication and prediction.
	• To research and apply appropriate mathematical techniques to the development of advanced software solutions.
	• To apply formal and rigorous methods of expression to the specification, documentation, implementation and validation of programmes, including the

	• risk and entrepreneurial context • To be able to construct proofs and demonstrate proficiency in selected and novel methods of mathematical proof. •
Professional Practice Skills	• To be able to contribute to the software research and development lifecycle in the production of usable, reliable and timely solutions; • To be able to consider alternative models of problems and research and apply practical, theoretical and mathematical understanding to select appropriate solutions; • To develop an understanding of the relationship between fundamental concepts of mathematics and their application in computer science; • To be able to succinctly present rational and reasoned arguments that address a given problem, including commercial/scientific risk assessment and risk management where appropriate; • To be able to research, select and utilise appropriate software tools for the construction, documentation and validation of computer applications.
Transferrable/key skills	• The communication of complex ideas and concepts through the application of appropriate analysis and design techniques. • The ability to manage small-medium sized research and development projects with resource and time constraints. • The ability to research and learn independently and transfer knowledge into unfamiliar situations in a spirit of critical enquiry. • The ability to critically evaluate systems in terms of general and specific quality attributes and the possible trade-offs within a given context, considering relevant risks and entrepreneurial aspects. • The ability to evaluate new ideas and apply them in different research contexts. • The ability to present ideas to a critical audience.

MComp Computer Science and Artificial Intelligence

The Programme Aims are:

- to provide a stimulating and supportive environment which encourages students to be creatively and critically receptive and responsive to new ideas and to develop towards their full academic potential;
- to provide a strong conceptual and theoretical understanding that will enable students to evaluate, adapt, create and utilise appropriate methods, theories and techniques in the face of changing technology;
- to develop in students the ability to evaluate, select and apply appropriate models, methods and technologies in the comprehension, manipulation and development of complex computer-based systems;
- to provide students with a broad and balanced foundation of knowledge, theoretical underpinning and practical skills in artificial intelligence;
- to expose students to established and emerging theories, methods and techniques and challenging problems that take them towards the edge of current knowledge;
- to develop critical, analytical and interpersonal skills that prepares students to become active professionals and contribute to the intellectual life of society;
- to provide research training in Artificial Intelligence.

The 'with industrial placement' route includes the following additional aims:

- to provide practical experience in an industrial or commercial environment applying knowledge and skills gained within their studies;
- to develop personal skills, including communication skills (oral and written), planning and time management, problems solving and analytical skills, decision-making skills, and have gained confidence in their own ability to appraise new information critically and operate as a part of a team;
- to have acquired an understanding of the general structure of an organisation and of the contribution of an individual to the aims and objectives of an organisation.

The 'with study year abroad' route includes the following additional aims:

- to develop in students the ability to work effectively in a culture different from that of the U.K.
- (where appropriate) to develop the ability to operate at a scientific level in a second language.

The Programme Learning Outcomes are:

Knowledge and understanding	- To recognise and distinguish between selected canonical forms of computer hardware and operating systems architecture, understand the use of hardware and software abstractions in researching, describing and exploring systems architectures, both local and distributed, and understand how hardware and software combine to create computer systems in an entrepreneurial and business context; - To critically evaluate the various lifecycles of software development and the complexities of modern software systems, and critically appraise the need for modelling, abstraction, description and management techniques to control the process of development of software systems, especially novel ones; - To critically engage with the mathematical and theoretical underpinnings of computing and computability, its application in building models at deep and significant levels of abstraction, and its importance in reasoning, communication and systems development; - To critically engage with the scientific principles underlying Artificial Intelligence; to implement and critically evaluate a range of methods in artificial intelligence, including machine learning techniques. - To understand the research process and the choice of appropriate experimental design and analysis methods in the investigation of hypotheses.
Intellectual skills	- To be able to demonstrate understanding of essential facts, concepts, principles and theories relating to Computer Science, and their relationship to one another; - The ability to capture models of existing systems and devise models of new computer-based systems for the purpose of comprehension, communication, and prediction; - The ability to use specialist tools and techniques to specify, design, implement and critically evaluate AI systems. - The ability to work at research level, including drafting research proposals, and evaluate and implement ideas at an advanced level, and present the results.
Professional Practice Skills	- To be able to contribute to all areas of system research and development lifecycle in the production of usable, reliable and timely solutions; - To be able to consider alternative models of problems and apply practical and theoretical understanding to select appropriate and innovative solutions; - The ability to succinctly present rational and reasoned arguments that address

	a given systems problem, including commercial and/or scientific risk assessment and management where appropriate;
	• The ability to critically analyse a problem and hence select and utilise appropriate techniques and tools for the construction, documentation and validation of computer applications, both existing and being researched;
	• To understand and be able to apply relevant ethical, legal and professional standards in the context of computer systems and artificial intelligence research and development, and to recognise the risks involved;
	• To be able to critically evaluate research literature and apply new ideas to a research topic.
Transferrable/key skills	• The communication of complex ideas and concepts through the application of appropriate analysis and design techniques at many levels of abstraction. • The ability to manage small-medium sized development and research projects with resource and time constraints. • The ability to learn independently and transfer knowledge into unfamiliar situations in a spirit of critical enquiry, and to present these findings. • The ability to critically evaluate systems in terms of general and specific quality attributes and the possible trade-offs within a given context, considering relevant risks and entrepreneurial aspects. • The ability to evaluate new ideas and apply them in different research contexts. • The ability to present ideas to a critical audience.

PROGRAMME DESCRIPTION: STRUCTURE OF YOUR PROGRAMME

The structure for your programme year for 2020/21 can be found in the 2020/21 Unit and Programme Catalogues (see below). This is where you find important information on which units you are taking in which semester and if any units are 'designated essential units' (DEUs) that you must pass.

The content of the Programme Catalogues is correct at the time of publication. Programmes and units may be subject to reasonable change (see also **Those students on the 'Study** Year Abroad' programmes are eligible to attend a European University to study Computer Science for a year within another institution and within another culture. This is a highly enriching experience, and the Department wholeheartedly supports those who wish to avail themselves of this opportunity. It is an appropriate route for those with good language skills. You may normally only attend institutions with which the Department has established exchange agreements under the EU's Erasmus programme.
If you are on the Study Year Abroad route, or would like to transfer to this route, you should talk to the Department's Overseas Studies and International Students Tutor.

During your overseas study period you will be expected to undertake the assessments for the units you study. You will be assessed under the regulations of the institute you are attending and the results, expressed in the European Credit Transfer System, then contribute towards your degree award.

Unit and programme changes 2020/21 in this Handbook).

UNIT AND PROGRAMME CATALOGUES

This is where you will find details about all years of your programme as well as details about individual units for the current academic year.

The Catalogues also provide links to the relevant areas of the University's assessment regulations, showing how these are applied to this programme of study.

For the online Catalogues, please refer to **Important Links and Information** in this Handbook. See also the section in this Handbook on **Assessment.**

PROFESSIONAL BODY ACCREDITATION

The Department values its links with industry and professional practitioners. Accreditation by the *British Computer Society* (BCS) is a valuable demonstration of the quality and relevance of our provision. In order to achieve accreditation, the department is subject to an accreditation visit on average once every five years. Documentation required by the BCS is produced for this visit, identifying the programmes that are to be considered for accreditation and exemption, their curriculum content and key quality indicators. A panel of BCS members will visit the Department to consider the report and reflect on the quality of provision. As well as granting accreditation the panel will identify areas of weakness and highlight good practice.

DEPARTMENT SAFETY

Using Computers

Misuse or overuse of display screen equipment can give rise to Work Related Upper Limb Disorder (WRULD, often referred to as RSI), physical discomfort and eyestrain. The following general advice is given:

- Prevention is better than cure.
- Get good posture and correctly placed equipment now.
- Sit back in your chair, with back straight, head upright and chin in.
- Forearms should be approximately horizontal.
- The chair should give good lumbar support and feet should sit flat on the floor.
- The screen should be directly in front of the user (not to one side) and should not flicker.
- Ventilation should be effective and lighting should be suitable and sufficient.
- To prevent visual fatigue, do not work for more than 50 minutes at a screen before spending 10 minutes doing something completely different.

YOUR OWN COMPUTER

If you are able to afford your own computer, it would be a wise purchase for the time you are on the course. None of the software used within the degree programmes requires a very powerful computer, and so those on a tighter budget should find that an older second-hand computer or cheaper lower- specification new computer will suffice. If you do not currently own a computer and can afford to purchase a new computer, the *Computing Services Shop*, which is located within the Library, is able to supply computers (and computer components) at prices that are often lower than you would pay for equivalent machines on the high-street.

The following sections provide you with further information on how you can use your computer to access the University facilities whilst you study at the University.

Network Links

The Eduroam network is available to connect to from all University buildings. Details on network connections can be found here: https://bath.topdesk.net/

Further help and advice is available to you from the Computing Services Helpdesk (also located within the Library) should you run into difficulties: go.bath.ac.uk/oepd

The network link is high-speed, making it simple to download software that will be useful for you on the degree programmes.

Operating System

The academic staff within the Department of Computer Science make use of a variety of operating systems and software, depending on personal preference - Windows, MacOS, and Linux. If you need to decide which operating system to place on your own computer you will find that installing Microsoft Windows operating system will make life simpler because much of the software provided on the Computing Services network is aimed at these operating systems.

If you need to purchase a Microsoft operating system, Computing Services has a special cut-price deal available for students - you should consult the Computing Services Shop for more details.

Some units within the Computer Science department's programmes require the use of Linux. In these cases, the University Linux server is available to connect to without needing to install Linux on your machine.

No unit within the Computer Science department's programmes is wholly reliant upon a Windows-based product and some Computer Science students decide to go for the option of using Linux. Linux is free to download, provides a mature desktop environment, and is able to run file-compatible equivalents of most Microsoft software products. We recommend Ubuntu or SUSE Linux distributions.

Email Client

The standard email client is Microsoft Outlook, which can be accessed from any web-browser or downloaded as an app.

Productivity Software

The standard productivity software used within the University of Bath is Microsoft Office. This is normally an expensive product, but the Computing Services Shop provide Microsoft 365 pro plus free to all students.   Please see: www.bath.ac.uk/bucs/services/office365proplus.html for further details.

If you are running Linux, or you want an Office-compatible product for MacOS-X, Windows or Linux, then you should consider installing OpenOffice. This *free* multi-platform productivity software suite offers file-compatible equivalents of Microsoft Word, Microsoft Excel, Microsoft Draw and Microsoft PowerPoint, with a very similar look-and-feel to these Microsoft products. Available for download from: go.bath.ac.uk./nugv

Resources: Your Responsibilities

Although the University provides an extensive range of facilities, services and opportunities to support student learning, it is the responsibility of each student to access these resources. Unfortunately, it is not possible, nor desirable, to provide intensive individual support to each student. Part of the learning of being in a University environment is learning to assess your own study needs, and to access the learning support that is made available to you.

If you are unsure about what resources or services you should be accessing or how to access a resource, your Personal Tutor will be able to give you the appropriate guidance, assistance and advice.

Behaviour and Conduct

You are given the privilege of access to the network and PC provision of the University. However, there are responsibilities that come with this privilege. You should make sure you acquaint yourself with the "acceptable use" policy. If you fail to adhere to this policy, your access to the computer provision of the University may be withdrawn.

Data protection

The Data Protection Act 1998 concerns personal privacy and regulates how information about living individuals may be collected, used, retained and disclosed.

The Act applies to all personal data whether it is in manual or electronic format. Individuals are entitled to see all information kept about themselves.

As Computer Science students you are also subject to the Data Protection Act. You should ensure that you do not maintain data about other individuals without their knowledge, and that you comply with the principles of the Act for any such data that you maintain.

The University's Data Protection Guidelines may be accessed via the data protection website: go.bath.ac.uk/sox0

Weblogs, Chatrooms, etc.

As a Computer Science student we expect you to maintain the highest standards of conduct not only in the University but also on computer networks. If you host or participate in weblogs, chatrooms or use email, you should be aware that you are liable for any comments you make, even under the guise of another persona. You are not permitted to comment on individuals, the Department or the University in a manner that may bring the University into disrepute.

Programming Languages

Programming is an essential component of every computer science degree. Being able to write programs and discuss programming concepts is an absolute must. The British Computer Society considers programming a key skill and will not accredit degree programmes that do not have programming in them.

We believe it is important that students not only learn programming skills within a particular language but acquire the necessary skills for them to learn new programming languages. With new programming languages appearing, as a matter of speech, every

week, there is a good chance that the languages students are taught at university are not the languages that will be in vogue when they graduate, or used later in their careers, so being able to learn new programming languages is essential.

The ability to specify, design and write substantial programs for a computer is fundamental to computer science. The programmes we run in this Department are not I.T. programmes (it is not purely about the use and application of computers). Even if you intend to follow a career that does not involve computer programming an in-depth understanding of the problems involved in the construction of computer systems is extremely important.

The first year programming units are more than learning a programming language. We will look into problem solving techniques and provide you with the necessary concepts to teach yourself any programming language you want, and to compare different ones to find the one most suitable for a problem you need to solve. You will also study basic algorithms to solve common problems, general design and implementation strategies. More details on first year programming can be found in the pre-course material that was distributed and the unit pages of the two programming units (CM10227 and CM10228).

Building on the fundamental concepts of the first year, the second year introduces a variety of programming languages illustrating the various programming paradigms. Procedural, object -oriented, declarative and function paradigms are discussed using languages like C, C++, AnsProlog, Lisp, Haskell. The emphasis in studying these languages is to appreciate their similarities and differences and obtain further techniques in learning different programming formalisms. At the end of the second year, you should be able to independently learn any new programming language, describe its main features of different paradigms and languages, and be able to select the most appropriate language for the task at hand.

No new languages are taught in the final year. Students are expected to have mastered programming to a sufficient level that they can learn a new language independently when it is necessary for any of their units, especially the final year project.

VENDOR NEUTRALITY STATEMENT

The teaching team chooses the relevant teaching tool that best meets the requirements and demonstrates a specific topic rather than endorsing or maligning a particular product.

YOUR LEARNING

For 2020/21, the University has developed a blended learning approach called 'The Bath Blend' which combines in-person activities on campus, live interactive learning, and structured independent study.

The Bath Blend approach to programme delivery has been developed to be flexible in the face of possible changes in law, including measures on social distancing, which may occur through the course of this academic year.

Information on IT support and key software for this academic year is available online. Please refer to **Important Links and Information** in this Handbook.

YOUR TIMETABLE

Using MyTimetable, you can access your personal timetable and download it into an electronic calendar.

Your In-Person Teaching (IPT) day and Live Online Interactive Learning (LOIL) sessions will show in your timetable. Links to LOIL sessions can also be accessed through the relevant unit page on the University's online learning environment, Moodle.

When you start your units, you will be able to access associated online material at a time that suits your schedule.

MyTimetable updates regularly, so should there be a change to your timetable, it will be reflected in MyTimetable.

Full information is available online. Please refer to **Important Links and Information** in this Handbook.

PHYSICAL STUDY SPACE – 2020/21

As in previous years, you will be able to book study space on campus and in the city for individual or group study. Information on how to book, and the COVID-19 requirements, is available online. Please refer to **Important Links and Information** in this Handbook.

OPTION CHOICES

Information about how and when to choose your option units can be found online.
You will receive an email notification at the relevant point in the year when online unit selection is available. If you want to discuss your option choices, please contact your Director of Studies.

PLACEMENT SUPPORT

The University is committed to enhancing students' vocational outcomes and learning experiences by supporting placements. We have a dedicated placements team to support and guide you through the process of applying for, securing and successfully completing a placement.

The contact details for your Placements Manager and Placement Tutor can be found in the 'key contacts' section at the start of the handbook.

If you have any COVID-related concerns then please contact the placements team.

For some placements, there is a requirement for a Disclosure and Barring Service (DBS) check and you should liaise with the placement support team for further guidance.

Before going on placement you will receive a University Placement Handbook containing generic advice and information for whilst you are on placement. You will receive programme specific information directly from your Department.

If you are on a placement of one semester or longer in the UK you can normally expect to be visited by staff, in person or remotely, at least once during your placement. If you are on a placement overseas, staff will either visit, where practical, or arrange an alternative way of keeping in contact.

During the placement, you will be expected to complete the Personal Objectives and Learning Outcomes forms or equivalent (which helps you to structure your placement objectives and personal development) and the Goals, Objectives and Learning form (GOLF), where applicable, for assessing your performance against these objectives.

A re-induction activity will be conducted to welcome you back from placement and update you on any changes that may have occurred at the University during your time away.

Professional Placement
There are many benefits to be gained from a period in industry. Students can see how organisations work at first hand, obtain work experience, apply their academic skills in a working environment, acquire many new skills, and have a period away from the university that gives them time to consider their career options. Many students find that this period is beneficial to their studies when they return to the university, a fact borne out in the final year averages. You will be fully supported throughout the placements process by the Faculty Placements team and your Director of Studies for Placements (who provides academic oversight and assessment of the programme).

This section provides some introductory material to the placement year. For more information you should contact the Faculty Placements Manager, Louise Oliver (L.Oliver@bath.ac.uk)

First Year Placement Programme
The placements programme starts in the first year of your degree programme. You will be required to attend skills development sessions. This programme is employer-led and will provide you with an insight in how the skills you will gain through your studies will be transferred into the work place. During this programme you will complete specific activities related to the application and interview processes used widely throughout industry, whilst increasing your commercial awareness of the opportunities available to you at undergraduate and graduate level. This SORT (self-awareness, options, research, transition) programme is essential in your preparation for placement applications. All students must complete this programme to continue on the placements programme.

Finding your Placement
Most employers start accepting applications from September, but some will open from July at the end of your first year. Some interviews can arranged as early as October. All students are expected to start submitting applications at the start of the second year to ensure the best possible chance of securing a suitable placement.

During the second year of the placements degree programmes, students are required to attend the Placements Development Programme. This programme consists of activity based workshops. This builds upon the skills developed during the first year SORT

programme with particular focus on assessment centre activities, interview skills, networking and career development.

Competition for placements is now very intense. Gaining a place, even with the support of the professional placement staff, requires commitment. Your commitment to the scheme is vital. However, the effort required does reap its rewards. If you successfully secure a placement and use the opportunity well it can be a good indicator to a future employer of an applicant's capabilities, self-discipline and determination to succeed and may lead to a graduate offer.

The Department supports each potential placement student through the work of the Faculty Placements Manager (Louise Oliver). The Faculty Placements Manager will do her utmost to find and direct students towards appropriate placement opportunities, and will provide help and guidance in the creation of C.V.s, filling in application forms, interview technique, and guidance towards other University-provided training that may be helpful. All potential placement students will have immediate access to new placement opportunities, and will then be able to find out more information about the opportunities they are interested in through their placements Moodle course.

Companies are interested in finding the best candidates so it is up to the candidates to convince the employers that they are worth employing once the interviews opportunities arise. All students are expected to behave with the utmost professionalism and honesty in the application and interview process - the reputation of the University is very dependent upon the way in which the general public view students of the University. Students are required to accept the first offer they receive, unless there is mitigation not to do so. We are pleased to be able to provide employers with high-quality students, and are proud that in the past our placement rate has been very close to 100%.

In the past some students have tried to find their own placements. If students wish to make a specific application, they should approach the Faculty Placements Manager to discuss it as soon as possible. Not all employment provides a suitable industrial training experience to satisfy the academic requirements of the placement. The Faculty Placements Manager will therefore also assess the suitability of the work you would be likely to undertake before proceeding.

The Faculty Placements Manager will send information to the employer about the way in which the professional placement is organised so that the employer can decide whether they are able to meet the additional assessment requirements of the placement. Whilst on placement, each student must complete Personal Objectives and Learning Outcomes (POLO) forms. POLO1 is completed after the first month of the placement and POLO final at the end of the placement year. The POLO forms form a part of the formal Placement Report. The Placement Report also includes a technical report and learning reflection, and is submitted at the end of the placement year for assessment. Each student must also ask their placement employer to complete Goals Objectives and Learning Forms (GOLF) at the end of every quarter that reflect performance and progression. The student must organise a meeting to go through each GOLF report with their placement employer to discuss and set specific objectives. The GOLF reports must be submitted for assessment. The student must attend the Poster Event in Autumn to present a Poster on their placement experience. The placement assessment requirements provide further opportunities to develop and assess communication and written skills.

Although the great majority of placements will continue to be within the UK, for students who have a firm commitment to an overseas placement, it may be possible to seek a position on the Continent. Louise Oliver currently handles overseas placements. Clearly, when applying for a placement your Year 1 Examination results are vitally important. The best possible examination results are your most valuable asset. Employers offering attractive, well-paid placements are able to set high standards in the knowledge that a sufficient number of applicants will meet their requirements. The majority of employers are looking for students to achieve an average of 60% or higher in their first year of study.

When applying for a professional placement, the placements staff will provide the following help

- Induction into the placements process;
- Documentation to explain the placement and to help you understand the placements process;
- Advice and support during the production of your C.V. and draft covering letter;
- A mock interview to help you hone your interview skills;
- Regular updates of current placement opportunities;
- Up-to-date detailed information on current placement opportunities, available from the placements e-learning course.

You Are Responsible For

- Attending all Placement Development Sessions both in the first and second year of your programme;
- Creating a C.V. and completing the SORT programme by the Autumn term of your second year of studies;

- Providing the Faculty Placements Manager with all necessary information to aid them in their search for an appropriate placement;
- Regularly checking the placements opportunities via the placements e-learning course;
- Writing applications and sending them to employers;
- Attending all interviews that you are offered and presenting yourself and your abilities honestly, professionally and responsibly;
- Committing to complete the placement once a placement opportunity has been accepted.

> **Note**: The professional placement staff have no power to coerce employers into employing students - you will be employed only on merit.

When on the placement the placements staff will maintain regular contact with you to ensure you are kept up to date with news from the University and Department. A member of staff will also visit you during your placement, or arrange a conference/skype call if you are placed outside of the UK.

You Must:
- Ensure that you are in contact with the Faculty Placements Manager. The Faculty Placements Manager will be your first line of support if you have difficulties in your

placement, and will provide some of the assessment of your placement experience;

- Check, through the Faculty Placements Manager, that you are fulfilling the assessment requirements of the placement;
- Check, through the Faculty Placements Manager, that you are being given the opportunity to gain appropriate experience whilst on your placement.

You Are Responsible For

- Working to the best of your ability on the tasks your employer gives to you;

- Conducting yourself in a professional manner in your work activities;

- Maintaining contact with the University and Department throughout your placement by the provision of up-to-date address, phone-number and email information to the placements office and by promptly responding to email and written mail contacts from the University;

- Identifying and discussing with your employer any additional training or equipment requirements that will enable you to complete your job to the best of your ability;

- Satisfying the Health and Safety requirements of the University;

- Completing the assessment requirements of the placement (completing a personal objectives and learning outcome plan (POLO forms); producing a placement report at the end of your placement experience; presenting your placement experience to staff and students on your return);
- Ensuring employer reports (GOLF- Goal Objectives and Learning Forms) are completed;
- Contacting the Faculty Placements Manager as soon as possible if problems arise within the placement.

Assessment of Your Placement

The placement is monitored and/or assessed through four mechanisms:

1. POLO Forms – You are required to complete a personal objectives and learning outcomes plan for your placement year. The POLO forms for part of your formal Placement Report. You are required to complete an initial POLO (Personal Objectives and Learning Outcomes) form at the end of your first month on placement. This must include a clear descriptive overview of your role and responsibilities, including the area/department you work in and the function of the section within the organization, as this will act as the introduction to your placement report.

At the end of your placement you must complete the POLO final form. These forms must provide clear concise descriptions of your activities, and reflection on your personal development aims and experience gained. These will form the second part of your formal placement report.

2. Evaluation Reports - Your employer will complete a quarterly report (GOLF- Goal Objectives and Learning Forms), which is sent back to the University. This will allow the employer to identify any areas which need development. Your employer will use this as an opportunity to provide you with additional feedback. We will use this report as a guide to how well you are settling into your placement and how well you are fulfilling the

responsibilities you have been given. Any areas of concern will be raised with your Visiting Tutor who may visit a student more regularly in cases where problems exist.

3. Placement Report - You will produce this document at the end of your placement. This is a self-evaluation of your placement experience. The report will be read and assessed by The Director of Studies for Placements, who will also give you feedback on your report writing skills.

4. Poster Presentation - You will present the details of your report to staff and other placement students on your return to the University. This is an opportunity to design and produce a scientific/professional poster, as well as an excellent social occasion when those who have been on placement can share their experiences and meet up together after a year apart.

In considering whether a student has passed the placement experience the Placement Staff will consider whether they have completed the required placement term, have produced work which has satisfied the employer, and have satisfied the assessment requirements of the placement (Employer evaluations (GOLF), POLO forms, Report and Poster Presentation).

STUDENT EXCHANGE/STUDY ABROAD

Those students on the 'Study Year Abroad' programmes are eligible to attend a European University to study Computer Science for a year within another institution and within another culture. This is a highly enriching experience, and the Department wholeheartedly supports those who wish to avail themselves of this opportunity. It is an appropriate route for those with good language skills. You may normally only attend institutions with which the Department has established exchange agreements under the EU's Erasmus programme.

If you are on the Study Year Abroad route, or would like to transfer to this route, you should talk to the Department's Overseas Studies and International Students Tutor.

During your overseas study period you will be expected to undertake the assessments for the units you study. You will be assessed under the regulations of the institute you are attending and the results, expressed in the European Credit Transfer System, then contribute towards your degree award.

UNIT AND PROGRAMME CHANGES 2020/21

All programme and unit changes are managed through formal University processes. This is to ensure that changes are academically appropriate, properly supported and are done in a way that safeguards the interests of students.

In addition to the Bath Blend approach to delivery of your programme in 2020/21, which has already been put in place, it is possible that further changes to your programme may be required. These are more likely to be part of continual development aimed at enhancing your learning experience and maintaining high academic standards and quality. Such changes could be, for example, to update content to reflect latest developments in a

particular field of study, or to respond to student feedback on delivery and/or assessment. Students who would be affected by proposed changes are consulted about them, either via their Staff/Student Liaison Committee or directly, depending on the nature of the change.

As we have already experienced, it is sometimes necessary to make changes due to unforeseen or unavoidable circumstances. Outside of the global pandemic, this could be for reasons such as:

- the accrediting body requiring changes to be made to the course, or,
- being unable to run an option unit because too few students selected it.

When this happens, we always try to ensure that the impact on students is minimised and that those affected are informed of the changes at the earliest opportunity.

Information on how we assure the quality and standards of your programme of study is available online. Please refer to **Important Links and Information** in this Handbook.

GIVING FEEDBACK ON YOUR PROGRAMME TO THE UNIVERSITY

The University is committed to continually improving its practice and aims to engage students as active partners in their education (Education Strategy 2016-21). The three main ways in which your feedback will be sought will be through:

- Staff / Student Liaison Committees (SSLCs)
- surveys and evaluations
- the Students' Union.

Full information is available online. Please refer to **Important Links and Information** in this Handbook.

ASSESSMENT

Full information is available online. For signposts to important information on many aspects of assessment, please refer to **Important Links and Information** in this Handbook.

Any exam-based assessment during the 2020/21 academic year will be online. More information on assessment arrangements for this year, including online assessment, will be provided via the University webpages and updated as necessary.

Setting Coursework

Where a unit is assessed in part or whole through coursework assessment, the unit convenor is responsible for the setting of appropriate coursework. The coursework will be set so that the predicted effort required by a competent and diligent student is appropriate to the weighting of the coursework component of the total assessment of the unit. For example, units with 30% coursework assessment this will typically be 12 to 15 hours of effort. Some students will find that they need to put in additional study time in order to complete the assessment, whilst others will complete the assessment in less time.

A unit convenor may decide to divide the coursework into many parts. Normally the Coursework Specification will identify, for each part, the effort required to complete that part and the estimated time required to complete the whole assessment. The Unit

convenor may also require a "*final coursework submission*" in which the work of the various parts is gathered and submitted as a whole by a specified deadline.

The Director of Studies will examine the overall burden of the assessed coursework and ensure that the submission timetable across all the assessed coursework is appropriate.

Assessed Coursework

Coursework will normally identify the following:

- The date on which the coursework is to be handed out to students;
- The deadline date and time for the submission of completed coursework;
- The location and form of coursework submission;
- The proportion of the total coursework assessment that the coursework represents (if it is part of a multi-part coursework assessment);
- The conditions under which the coursework is to be attempted; for example, whether it is a group coursework (and the size of the group) or individual; whether the coursework is to be completed within tutorial or lab sessions or within the student's own study time; whether tutors, other lecturers or other students may be consulted;
- An identification of the Learning Outcomes for the Unit that are being assessed by the coursework (where this is not otherwise identified within the Unit Specification);
- A statement of the deliverables that constitute the expected coursework submission;
- A statement of the requirements necessary to achieve a mark which achieves a performance within stated mark or threshold boundaries; for example, in the 1st class, 2:1, 2:2 and 3rd class categories or (where more appropriate) a breakdown of the allocation of marks to appropriate components of the coursework assessment;
- A detailed and unambiguous specification of the problem to be tackled or the work required to complete the assessment.

SUBMISSION DEADLINES

All coursework is "set" (made available to students) by the convenor or unit tutors. Coursework will usually be available on Moodle. Apart from the case of illness, no student should be in a position to miss the setting of coursework for a unit and such a circumstance is not a permitted reason for a coursework deadline extension.

> **Note**: In the case of illness, it is the student's responsibility to check at the earliest opportunity for coursework that has been set and to obtain the corresponding coursework specification.

Working on Your Coursework

The time between the setting of coursework and the coursework submission deadline will be sufficient to complete the coursework within the additional study time allocated to each unit. You should therefore arrange your time away from timetabled classes carefully so that you are able to allocate the appropriate amount of time to each piece of coursework.

It is important *not* to leave the completion or the printout of your coursework submission until the last day. It is *very* common for there to be long print queues at coursework submission time and you should allow for possible mechanical breakdown or other causes of delay. All students are required to take this into account when allocating time to their coursework.

> **Note**: It is the student's responsibility to ensure that regular back-up copies of their coursework are made. Electronic or mechanical failure of computer equipment or loss of data are not acceptable grounds for a coursework deadline extension.

Whilst every effort will be made to reduce the build-up of workload in the coursework assessment period, it is inevitable that much of the coursework load will occur towards the end of each semester. Students are expected to manage their time carefully to balance the workload across the coursework assessment period.

> **Note**: The level of workload is not normally a permitted reason for an application for a coursework deadline extension.

In the rare cases where it becomes clear that the workload requirements of a coursework have been underestimated, the Director of Studies, in consultation with the Unit convenor, may agree to a modification to the coursework to reduce the workload requirements. Any such modification will be announced in the next lecture class for the unit and published through a notice on the student notice boards within the Computer Science Department.

In general you will be required to submit coursework electronically via Moodle. The unit convenor will always make it clear how, when and in what format work should be submitted and if you have any queries you should contact them. You cannot submit work by e-mail unless you are specifically asked to do so as part of the submission.

You are *required* to retain a copy of any coursework that you have submitted. Coursework is retained for scrutiny by internal and external examiners as a part of the quality assurance processes of the Department. In the rare case where a student may claim that a coursework was submitted and our submission records indicate that this was the case but no coursework has been marked for that student, the student will be required to produce the second copy for marking. Failure to submit a second copy on request may result in the award of zero for that coursework. Any coursework submitted by post that is not received will be deemed to have not been submitted and will normally be awarded a mark of zero unless you can produce formal proof of postage and you are able to provide a copy of the coursework immediately on request.

Group Coursework

Most coursework that is set is *individual* coursework. In this case no student may share information on the completion of their coursework that may breach the regulations on Plagiarism and Cheating.

> **Note**: Submitting work that is substantially similar to that of another student or that merely regurgitates the content of a textbook is highly likely to result in the accusation of cheating and may lead to severe penalties.

Where the coursework allows, you may consult tutors and lecturers for additional help and guidance but you must *always* acknowledge such help and the extent of any material used verbatim.

Some coursework is designated as *group* coursework. In such cases the Unit convenor will identify the required group size within the coursework specification and will manage the establishment of appropriate groups. Once a group is identified, the ability to work as a group towards the common goals set in the coursework specification is a key component of the assessment.

The allocation of workload between group members in a fair manner, the management of the individual deliverables and their integration, and the resolution of personal differences within the group are key to the success of the coursework. It is the group's responsibility to ensure the success of the group coursework through the full commitment of each member of the group. Where a group member does not satisfactorily complete the workload that has been previously allocated, the group members *must* raise the problem with the Unit convenor at an early stage. The Unit convenor will seek an appropriate resolution of the problem. Normally the coursework specification will identify the actions to be taken in the event of an unequal contribution of work to the group effort and how the matter will be resolved in the final allocation of marks to members of the group.

Within group coursework, no group has the right to exclude the work of one or more members from the submitted work of the group. Any attempt to prevent an individual from participating in the work of the group will normally lead to a considerable reduction in the marks allocated to the assessment of the group coursework as a whole.

LATE SUBMISSION OF COURSEWORK

To ensure fairness to all students, you will be expected to hand in all assessed coursework and dissertations/projects by a specified date and time, and there are penalties for submitting work after the specified deadline. If there are valid circumstances preventing you from meeting a deadline, your Director of Studies may grant you an extension to the specified submission date. Forms to request an extension are available from your Department. You will need to provide a description of the circumstances which you feel support your request. Your Director of Studies may ask you to produce supporting evidence.

Please note that:
- if you submit a piece of work after the submission date, and no extension has been granted, the maximum mark possible will be the pass mark
- if you submit work more than five working days after the submission date, you will normally receive a mark of 0 (zero), unless you have been granted an extension.

It is not usually possible to mark coursework anonymously if it is submitted after the deadline.

It is important that you speak to your Director of Studies as soon as possible if you become concerned about your submission deadlines.

See also the section in this Handbook on **Submission deadlines**.

WORD COUNTS

Written coursework tasks will normally have a word range or limit. This is in order to give an indication of the depth and detail of work required, and to ensure that students' submitted work is comparable. You will be required to declare the word count for your work when submitting it for assessment.

If you do not observe the given word range or limit for the coursework task, for example if you exceed the word limit, then a penalty will be applied. The penalty that would apply should be stated in writing when the assignment task is distributed. You should take note of what is included when calculating the total word count (e.g. whether or not contents pages, appendices, footnotes, bibliographies and other elements that are not part of the main text are included).

You should check with your Director of Studies if you have questions about word counts and penalties.

FEEDBACK ON ASSESSMENT

During your course, you will receive feedback on your assessed work. This feedback may take different forms, depending on the subject and type of assessment. You will be informed of the timing and nature of the feedback you will receive on each assessment, including whether the piece of work itself will be returned to you. For exam-type assessment, you may receive general feedback relevant to all who took the assessment rather than individual feedback. You can discuss feedback you receive on assessments alongside your performance and progress in your studies at meetings with your Personal Tutor.

Department of Computer Science Feedback Policy

Introduction

This document should be read in conjunction with the leaflet from the LTEO entitled

"Feedback: are you getting yours?"

All types of feedback are designed to help you with your learning, whether it is help as you are exploring new topics or feedback on how your learning is progressing. There are three types of feedback that each unit will normally provide you with. These are:

- Feedback during the unit
- Feedback after you have submitted an assignment
- Feedback after you have taken an examination

Feedback during the unit

Feedback that you receive whilst you are studying a unit is designed to help you with your learning. There are many forms in which this feedback can take place. Each unit will adopt a different method for giving you this type of feedback. This is because each unit is different and will need to ensure that the feedback you receive is linked to the learning activities that you have undertaken. For example, the way you receive feedback in a practical unit such as programming will be different to that which you receive in one that is theoretical such as discrete mathematics for computation. In addition to formal timetabled lectures, your

lecturer will be available for you to discuss and receive feedback on your progress. The way your lecturers will make themselves available to you will differ from person to person.

In general, your unit will direct you to undertake some work, the mark for which will not contribute to your overall grade. One example of such work is weekly lab exercises or work sheets. This work is designed to help you to learn and to feed back to you on your progress. You may receive a mark for the work you undertake, but it will not be used in calculating your overall grade for that unit.

Examples of the feedback that you will receive will normally include some/all of the following:

- Marked lab/work sheets returned with comments from your tutor
- In-lab/tutorial reviews of work/lab sheets that have been set
- Hands-on feedback during the support you receive in your laboratories and tutorials
- Verbal discussions with your tutor/lecturer clarifying any problems you have with your progress or the learning material
- Verbal discussions with your fellow students

Feedback after an assessed coursework assignment

Some of the units that you study will be assessed entirely through an examination, some entirely through coursework assignment(s) or some through a mixture of both. The reason for the variation is that each unit needs to assess different types of knowledge and skills. Some of these are more suited to an examination whilst others are more appropriately assessed by an assignment. In the context of feedback to you for any assignments that you submit a unit will normally adopt some /all of the following:

- Each assignment specification will contain details of assessment grade criteria which makes it clear what it is that the assignment is asking you to do and how the mark for the assignment is to be determined.
  - You will receive feedback within 15 working days of the submission deadline for an assignment (as long as you have submitted the work by the deadline).
  - The feedback will consist of a mark plus comments. These could be written on the script that you submit or communicated to you via Moodle.
  - Where a unit requires you to submit more than one assignment, wherever possible we will endeavour to give you feedback on the first before you are asked to attempt the second.

Feedback after examinations

- There will usually be generic feedback on exams available to all students, along the lines of saying which questions have been done well, what were common mistakes on the exam, and what are areas in which to concentrate in future.
- If an individual student has good reason for concern about his or her mark, e.g., because it is seriously out of line with marks in other units, the student may approach the unit leader to meet to go through his or her exam individually. Disappointment with a mark does not of itself constitute good reason. Marks are not changeable unless an obvious error in marking is uncovered. That is not at all

common. Note that an error might involve marking too easy rather than too hard, so your mark could go down.

Feedback from you to us

There are several mechanisms available for you to feed back to the Department any concerns that you have regarding your studies. These are:

- Staff Student Liaison Committee (SSLC). This is the formal committee through which the delivery of your course and its units are discussed with representatives elected by students from the student body. Your student representatives on this committee should ask you for your views on the course, represent these views at the committee and feed back to you on any action taken by the Department in response to the issues that you raised.
- Student Evaluation Questionnaires. At the end of the unit we will ask you for your views on how it has gone. A summary of the evaluations and the Department's response is presented to the SSLC.

- Verbal feedback to staff (academic staff, administrative staff, tutors, unit leaders, personal tutors, year tutors, Director of Studies and Director of Teaching).

ACADEMIC INTEGRITY

The University has a wide range of resources available to you to help you understand academic integrity and enhance your academic writing and practice.

It also has in place an Academic Integrity Test you are required to take and pass (the pass mark is 85% but you can take the test as many times as you need to). You will not be able to progress beyond the next progression point in your studies until you pass this test.

When you submit assessment, you will be expected to make a declaration that the work is your own and, where you have re-used your own work and/or used other sources of information, that you have referenced the material appropriately. The University uses a plagiarism detection service (currently Urkund), which searches the web and databases of reference material and content submitted by other students, to identify duplicated work. Where practical, all summative assessment is submitted to this service to check for similarities as an initial indicator of whether work has been plagiarised and an assessment offence committed.

Submission of your assessment to the Plagiarism Detection Service - Data Protection statement
The Plagiarism Detection Service complies with European Data Protection legislation. When you registered with the University, you gave it permission to process your personal data for a variety of legitimate purposes. This includes allowing the University to disclose such data

to third parties for purposes relating to your studies. The University, at its sole discretion, may submit the work of any student to the Plagiarism Detection Service (in accordance with Regulation 15.3e) and may make, or authorise third parties to make, copies of any such work for the purposes of:

1) assessment of the work
2) comparison with databases of earlier work or previously available works to confirm the work is original
3) addition to databases of works used to ensure that future works submitted at this institution and others do not contain content from the work submitted.

The University will not make any more copies of your work than are necessary, and will only retain these for so long as remains necessary, for these purposes.

Please note that, if at any time the University submits any of your work to the Plagiarism Detection Service, the service will be provided with, and will retain, certain personal data relating to you – for example, your name, email address, programme details and the work submitted. Such data may be transferred by the Plagiarism Detection Service to countries worldwide (some of which may not be governed by EU data legislation) in order for the work to be checked and an originality report generated in accordance with the proper workings of the Plagiarism Detection Service. Personal data is retained indefinitely by the Plagiarism Detection Service upon submission of work. You may ask for your personal data to be removed by contacting the University's Data Protection Officer.

Assessment offences – penalties
Any student who is found to have used unfair means in an assessment procedure will be penalised. 'Unfair means' here include cheating, fabrication, falsification, plagiarism, unfair collaboration or collusion. Penalties for use of unfair means may include failure of the assessment unit or part of a degree, with no provision for reassessment or retrieval of that failure. Proven cases of plagiarism or cheating can also lead to an Inquiry Hearing or disciplinary proceedings. Claims of inadvertence or ignorance will not be accepted as a basis for mitigation of a penalty.

If you are accused of an offence, the Students' Union's welfare services are available to support you. You have the right to appeal against the outcome of the investigation.

Important information on academic integrity, the Plagiarism Detection Service, assessment offences and penalties, and support, as well as the Academic Integrity Test itself, is available online. Please refer to **Important Links and Information** in this Handbook.

IF CIRCUMSTANCES IMPACT ON YOUR ASSESSMENT ATTEMPT

Individual Mitigating Circumstances (IMCs) are the conditions which temporarily prevent you from undertaking assessment or significantly impair your performance in assessment. As such, the measure of their severity is not about impact on you, but the impact on your affected assessment. Full information about IMCs is available online. Please refer to **Important Links and Information** in this Handbook. **It is strongly advised that you become familiar with the available guidance and related regulations.**

ASSESSMENT PROCESSES

Assessment and marking processes at the University are designed to ensure that assessment of your work is fair and consistent, and that academic standards are appropriate and comparable between the University and other higher education institutions. This is achieved in a number of ways.

Marking: Assessments you will complete during your programme are marked according to:

- *marking criteria (or assessment criteria)* - these are the knowledge, understanding and skills which it has been identified that students should demonstrate in the assessment and which are taken into account during marking. They are based on the learning outcomes being assessed
- *marking schemes* - these are detailed descriptions of how specific numbers of marks should be assigned against individual components of an answer within the assessment task
- *grade descriptors* - these are descriptions of the levels of achievement required in order to get a result within a given band of marks (e.g. 70% or more).

Anonymous marking: The University has adopted a principle of anonymous marking in order to protect students and staff from bias, and the perception of bias, in the marking process. It applies to all assessment where practicable. It is not possible to mark all coursework anonymously as in some types of assessment the student can be easily identified by the marker (e.g. presentations, group work, laboratory work) or it might not be practical, or in the student interest, to do so. You will be informed when your coursework is to be marked anonymously.

Moderation: Both the setting and the marking of assessments are independently checked through a process known as moderation to ensure that questions test the learning outcomes and are set at the right standard, and that marking is consistent and fair. Moderation is conducted by internal examiners and also by your External Examiner (see below).

Boards of Examiners: Assessment decision-making at the University is the responsibility of Boards of Examiners established at three levels: assessment outcomes go first to *Boards of Examiners for Units*, then *Boards of Examiners for Programmes*, then finally to *Boards of Studies*. Boards of Studies confirm decisions relating to student progression from one stage of the programme to the next and the final award. **The assessment marks you are given initially by markers are therefore provisional up until the point when they have been confirmed by the Board of Studies for your programme.** An official release date is set when your confirmed results will be made available to you via SAMIS (the University's student records system). An academic appeal can only be made in relation to a confirmed result (see the section in this Handbook on **Academic Appeals**).

Scaling: All marks for a unit are reviewed at a meeting of a Board of Examiners for Units which will verify that the assessment process has been conducted appropriately and that the marks are an accurate reflection of the standards achieved. A Board of Examiners can decide to recommend a change to the provisional marks, based on evidence that there was

a problem with the assessment which means the initial marks do not reflect the standards achieved by students. This adjustment is known as scaling and under these circumstances the marks of all affected students will be changed.

External Examiner: An External Examiner is someone from another University or professional organisation who is qualified and experienced in the field of study. At least one External Examiner is appointed for each programme or group of programmes. The role of External Examiner is an important one in assuring that assessment processes are fair, academic standards are appropriate, and supporting the development of your programme. External Examiners review draft assessment and samples of assessed work, and attend Boards of Examiners. They are members of Boards of Examiners.

Once a year, the External Examiners will provide a written report. University staff, including the Head of Department and Director of Studies, will look at these reports and a response will be made to the External Examiner's comments. External Examiner reports and responses are made available to students. Staff/Student Liaison Committees (SSLCs) also discuss External Examiner reports as part of routine monitoring activity.

The External Examiner(s) for your programme are:
- Dr Monika Seisenberger, Swansea University
- Dr Desmond Chambers, Galway University

It is not appropriate for students to make direct contact with External Examiners. If you are dissatisfied with the process or outcome of an assessment, and are considering whether to raise this either informally or formally, the sections of this Handbook on **Academic Appeals** and **Dissatisfaction with a University Service or Facility** (**Complaints**) give some more information about the University's procedures for student complaints and academic appeals. The University's mechanisms for student representation are designed to enable students to engage with the quality management process through which the University considers and responds to External Examiners' comments and suggestions.

Full information is available online. Please refer to **Important Links and Information** in this Handbook.

Prizes: The University's **Mary Tasker Award** is awarded annually to a member of the university's academic staff in recognition of excellence in teaching. Students are invited to nominate any of their lecturers for this award.

The **Chancellor's Prize** is open to all undergraduate and postgraduate students. Nominees should have demonstrated academic excellence together with a contribution to the life, academic reputations and general work of the university.

Within the Department of Computer Science the following prizes are currently available**:**

Nigel J Day Prize in Computing

Nigel J Day was an undergraduate in the then School of Mathematical Sciences who graduated in 1987. He was then employed as a Research Officer in the School until his death in 1988. His parents Mr and Mrs N Day have endowed a sum of money to provide this annual prize. The prize is awarded to that final-year undergraduate student, if any, who has demonstrated outstanding achievement in the practical aspects of computing, as

shown in project and assignment work during their final year. The award of the prize is determined by a committee consisting of the External and Internal examiners under the chairmanship of the Head of Department.

Computing Group Prize

This prize was established in 1985 by the Computing Group of the then School of Mathematical Sciences. The prize is awarded, on the basis of performance in the final year Computer Science units, to that undergraduate student (if any) who has shown outstanding ability in computing. The award of the prize is determined by a committee comprising the internal and external examiners under the chairmanship of the Head of Department.

Department of Computer Science Prize for Contribution to the Life and Reputation of the Department

This prize was established in 2002 by the Department of Computer Science. The prize is awarded to the final year undergraduate student who has, throughout their time within the Department, made an outstanding contribution to the development of the Department and its reputation within the University, nationally or internationally. The award of the prize is determined by a committee consisting of the External and Internal Examiners under the chairmanship of the Head of Department.

ASSESSMENT REGULATIONS

The University's New Framework for Assessment: Assessment Regulations: Phase 1 for first-degree programmes ('NFAAR-UG') specifies the rules governing students' progression from one stage of their programme to the next as well as for the award of degrees. The rules cover all areas of assessment, including supplementary assessment and the extent to which failure may be condoned.

Your programme is covered by the NFAAR-UG, so your work will be assessed according to its rules. If at any time you are in doubt about how NFAAR-UG provisions apply to your work, please consult your Director of Studies.

This section highlights areas of the University's assessment framework for the type of programme you are undertaking. It explains the regulations that govern your assessment and outlines how the University makes decisions concerning your progression through your programme and award. Complete information is available in the NFAAR-UG document.

The full NFAAR-UG, a student introduction to it, and definitions of terms used in it, are available online. Please refer to **Important Links and Information** in this Handbook.

YOUR PROGRAMME AND HOW YOU ARE ASSESSED

Within a programme of study, there are compulsory units (i.e. those units in a programme which must be taken by every student registered on the programme), and there may also be optional units (i.e. those units students may choose from a range of options).

In the Programme and Unit Catalogues, there are links to the relevant appendices of the NFAAR-UG which state exactly how the assessment rules operate for each stage of your programme.

There are some units that you must pass in order to progress to the next stage of your programme and to achieve the normal award for the programme at the end. Such units are called Designated Essential Units (DEUs). Failure in a DEU – even marginal failure – will prevent you from progressing (or completing) your programme.

Programmes are divided into a number of parts and stages. For full-time students, stages usually correspond to the year of study (so, for example, most first-year students will be in Stage 1 of their programmes).

Within each stage of a programme, the contribution of each unit's assessment to the calculation of the Overall Stage Average (OSA) is normally directly proportional to the credit-values of the unit concerned. Placement units form part of a stage and have a credit weighting. Some placement units carry marks and some are just pass/fail. Only enhanced placement units contribute to the Overall Programme Average (OPA) however.

The normal pass mark for a unit is 40%. In some units, you might need to achieve a threshold mark in one or more component assessments in order to pass the unit overall.

The rules differ slightly between 'Coexistent Master Programmes' (which lead to a Master's degree but have an associated programme leading to a Bachelor's degree) and other programmes.

If you fail a stage, you will be required either to repeat the entire stage or to transfer to a Designated Alternative Programme (DAP), if one exists, or if you fail very badly, to withdraw from the University. Where stage repeats are possible within the set limits, the repeating of any stage will be permitted once only.

At the end of each stage a Board of Examiners will decide whether you have passed the stage. The outcome will depend on both (1) your average mark in the stage and (2) the marks you obtain for each unit. Generally, if you pass each of your units (and, in a Coexistent Master programme, reach any OSA requirement set in addition), you will progress (or, after the final stage, be recommended for an award).

If you fail a large number of units (or, in a Coexistent Master programme do not reach any OSA requirement set in addition), you might fail the stage outright without any opportunity for supplementary assessment. (Further information on supplementary assessment is provided below.)

Particular rules apply to failure of units. They are as follows:

- if you fail any DEUs, you will have to undertake supplementary assessment - unless you have failed so many DEUs that you fail the stage outright

- if you fail any non-DEUs badly (i.e. achieve less than 35%), you will have to undertake supplementary assessment - unless you have failed so many units that you fail the stage outright
- if you fail only non-DEUs marginally (i.e. achieve 35%-39%), you might be able to progress without supplementary assessment. Whether you do progress will depend on the total credit value of the failed units and also on your OSA.

Your degree result is based on the calculation of your Overall Programme Average (OPA) based on the stages in Parts 2 and 3 of your programme. The contribution of each stage of the programme is set out in the Programme and Unit Catalogues. Stages in Part 1 are not included in the OPA calculation.

SUPPLEMENTARY ASSESSMENT

'Supplementary assessment' is the term normally used for an opportunity given to a student to retrieve failure before starting the next stage of a programme.

Academic year dates, including the supplementary assessment period, can be found online. See **Important Links and Information** in this Handbook.

Each unit's method of supplementary assessment is shown in the online Unit Catalogue.

More information on arrangements for the 2020/21 academic year will be provided via the University webpages and updated as necessary.

If you pass all your supplementary assessments, you will be able to progress onto the next stage of your programme.

The outcomes of failing a supplementary assessment are as follows:
- if you fail supplementary assessment in a DEU, you will fail the stage
- if you fail supplementary assessment in a non-DEU badly, you will fail the stage
- if you fail supplementary assessment in a non-DEU marginally, you might be able to progress; whether you may do so will depend on how many units you have failed (and in some cases also on your Overall Stage Average).

EXIT AWARDS – CERTHE AND DIPLHE

If you leave your programme early you may be eligible for a generic exit award, either a Certificate of Higher Education (CertHE) or a Diploma of Higher Education (DiplHE).

ACADEMIC APPEALS

If you wish to submit a request for an academic appeal you should refer to Regulation 17 (Conduct of Student Academic Reviews and Appeals), which outlines the process and grounds for an appeal against formal Board of Studies decisions.

You are also strongly advised to read the online guidance on Appeals provided by the Academic Registry.

Independent advice about academic appeals is offered by the Students' Union Advice and Support Centre.

Full information is available online. Please refer to **Important Links and Information** in this Handbook.

CORE UNIVERSITY INFORMATION

UNIVERSITY REGULATIONS FOR STUDENTS

All registered students of the University are subject to the University's Regulations for Students. The Regulations contain rules and other important information about being a student at the University of Bath, including regulations governing the payment of fees due to the University, student discipline, fitness to study and those governing attendance, conduct and progress in studies. They also form part of the formal contract between you and the University. **You are strongly advised to read them carefully as they contain a lot of important information.**

For a link to the full Regulations for Students, see **Important Links and Information** in this Handbook.

ACCESSING UNIVERSITY EMAIL

You will need to use your University username and password to access your University email account. Your username also forms your email address (**username@bath.ac.uk**).

The University will often communicate with you about a range of important matters requiring action from you, including registration, assessment, degree ceremonies, and matters such as tuition fees, via your University email account. It is a University regulation that you access your University email account regularly, even if you are out on placement or study abroad.

You therefore have a responsibility to ensure that your University email account can receive incoming mail and that you read your email regularly.

Once you graduate or withdraw from your course, you will receive an email stating exactly when your account will be closed. The email will give at least 30 days' notice.

STUDENTS' UNION MEMBERSHIP

All students registered with the University are automatically given membership of the Students' Union; however you have the right not to be a member. Information on opting out of this membership, and the Code of Practice for the Students' Union, are available online. Please refer to **Important Links and Information** in this Handbook.

DATA PROTECTION

The University's Data Protection Policy and Guidelines on Data Protection may be accessed via the data protection website (see **Important Links and Information** in this Handbook).

REGISTRATION STATUS

Note that only registered students may use the University's facilities, such as email, Moodle and the Library. You will be asked to register online at the start of your programme of study and then to re-register at the start of every academic year thereafter until you have completed your programme. It is a requirement that you register when asked to do so. Tuition fees for each academic year are payable at registration in full or in instalments.

Regulation 1.1 explains the requirement to register. Regulations 2.4 and 2.10 explain the consequences of non-payment of tuition fees.

ACADEMIC ENGAGEMENT MONITORING FOR TIER 4 STUDENTS

Guidance and requirements on academic engagement for students who are Tier 4 visa holders, including the University's **Academic Engagement Monitoring Policy for Tier 4 visa holders**, and information on when and how to request an authorised absence, are available online. Please refer to **Important Links and Information** in this Handbook.

CHANGE IN YOUR CIRCUMSTANCES

It is important to ensure that the University holds your correct, up-to-date, personal and academic details within SAMIS, the University's student records database. If you change your address – either your semester-time or home address – please update your details online (see **Important Links and Information** in this Handbook).

If you change your name, you will need to provide valid proof of the change. Please speak to your Department or Faculty/School administration, or Student Services, for advice on how to do this.

If you are considering suspending your studies, transferring from one programme to another, or withdrawing from your programme, please discuss your situation with your Director of Studies. They will be able to advise you on an appropriate course of action.

The financial implications of withdrawing from the University or suspending your studies can be significant. See **Important Links and Information** in this Handbook.

The Student Money Advice Team in Student Services and the Student Finance Office will be able to advise you on the implications for fees in your situation and on how to suspend any student funding you are receiving.

If you are an international student holding a Tier 4 visa, you should consult the advisers in the Student Immigration Service about the implications of suspending or withdrawing from your programme. See **Important Links and Information** in this Handbook.

You will need to register any change of academic circumstance, including a change of optional units, with the University. Please speak to your Department or Faculty/School administration who will advise you on how to do this.

DISSATISFACTION WITH A UNIVERSITY SERVICE OR FACILITY (COMPLAINTS)

We want to ensure that, if you have a problem concerning the University, it is resolved as quickly as possible. The University is committed to continuing review and improvement, and seeks regular feedback from students. There are student representatives on the University's formal decision-making committees who can raise issues so that they can be dealt with promptly. The University is also committed to providing an environment within which students are encouraged to raise any matters of concern in an informal manner as soon as they arise. This often removes the need for formal complaints.

It is expected that most complaints can be resolved at an early stage by discussing the matter informally at a local level. If you have a problem concerning the University, you should bring the matter to the attention of an appropriate member of staff, who will aim to resolve it by informal discussion. If you have attempted to resolve matters informally but are not satisfied with the outcome, you may elect to proceed to the next stage by submitting a formal complaint. You may also submit a formal complaint if the issue involved is too complex or serious for informal resolution.

If you do need to make a complaint, there are procedures in place to deal with it, outlined in the University's **Student Complaints Procedure**. These procedures are designed to ensure that your complaint will be dealt with in good faith and that you will not be penalised for complaining.

There are separate procedures for requesting a review of progression or award classification decisions. See the section in this Handbook on **Academic Appeals**.

The University recognises that making a complaint can be stressful. Students are therefore advised to seek advice and support before making a complaint, from Student Services, or from the Students' Union Advice and Support Centre, whose advice is independent of the University.

Full information is available online. Please refer to **Important Links and Information** in this Handbook.