Faculty of Science
Department of Computer Science

MSc Computer Science
MSc Digital Entertainment
MSc Human Computer Interaction
MSc Software Systems
MSc Data Science
MSc Data Science and Statistics
MSc Machine Learning and Autonomous Systems

Programme Handbook 2018/19

This Handbook is available online or in alternative formats.
Please contact facscipgtadmin@bath.ac.uk if required.

Contents

About this Handbook

This Handbook is intended for all students commencing a Computer Science master's degree in the academic year 2018/19.

Please note that the contents of this Handbook are accurate as of 24th September 2018 but that information may sometimes be subject to change after this Handbook has been issued. Your Director of Studies or Unit Convenor will inform you of any changes that will affect your programme or a particular unit. For further information about unit and programme changes, see the **Unit and programme changes** section in this Handbook.

While this Handbook signposts information about **regulations for student**s, it does not have regulatory status itself, and the Regulations available online (Regulations for Students: www.bath.ac.uk/publications/regulations-for-students and Assessment Regulations: www.bath.ac.uk/registry/nfa) are the most up-to-date and take precedence over the contents of this Handbook.

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, Dr Marina De Vos, for advice.

Welcome to the Faculty of Science

Welcome to the Faculty of Science at the University of Bath. I am delighted that you have chosen to pursue your postgraduate training with us. In some cases that means continuing from your previous studies at Bath, and you will be familiar with the campus and the staff. But for those of you electing to move to Bath from elsewhere, this will be an exciting new challenge. All of you will be embarking on a new phase in your lives and a move to a new style of thinking and learning inherent in postgraduate training; your Department and the Taught Programmes Team are here to facilitate this transition. Above all, we want you all to succeed in your chosen course or research project, and that it should be an enriching and enjoyable experience. So do attend the induction events to meet key colleagues from the Faculty and the Department, and to network with your peers. I look forward to meeting you all in the coming weeks.

Dr Alan Hayes, Associate Dean for Teaching & Learning

The Faculty of Science

There are 6 departments within the Faculty of Science – Biology and Biochemistry, Chemistry, Computer Science, Mathematical Science, Pharmacy and Pharmacology, and Physics. The Taught Programmes Team is responsible for supporting postgraduate students across all our Departments, and your key contact person in the team should be your first post of call for any queries you have relating to the organisation of your studies, such as unit selection, student records and coursework submissions:

Key Taught Programmes Team contact: Matthew Albertyn

The best way to get in contact with Matthew, is to email him via facscipgtadmin@bath.ac.uk.

Welcome to the Department of Computer Science

Welcome to the 2018-2019 academic session in the Department of Computer Science. We hope that you will have an enjoyable and worthwhile time with us. Do not hesitate to contact me if you have any questions regarding your course, experience any problems or simply want to have a chat about your course. I am looking forward to meeting you all in the months to come.

Please take some time to read through this handbook and familiarise yourself with the contents. In this handbook we highlight and summarise key information that most students need to know. It will often point to other information sources, which contain more detail for those who need it. Many of these sources will be provided on-line.

Please do not hesitate to come and talk to me, your personal tutor or the professional services if you experiences any difficulties that have an impact on your studies or student experience.

Dr Marina De Vos, Director of Studies

The Department

The Department began life in August 2001, emerging from the Computing Group of the Department of Mathematical Sciences. Priding itself on being research-led with strong interdisciplinary research and postgraduate teaching the Department continues to recruit new academic staff of an extremely high calibre. The Department also attracts a highly qualified student intake and frequently appears as a top UK Computer Science Department in the published League Tables.

The Department of Computer Science at the University of Bath has the highest quality staff and students engaged in leading edge research, teaching and learning.

The Computer Science Department is led by the Head of Department, Professor Eamonn O'Neill. The Head of Department 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.

Key Contacts

A full list of staff in the Department of Computer Science is available on the web at: http://www.bath.ac.uk/comp-sci/contacts/
Staff within the Department have a number of different roles, which are concerned with teaching, administration and research. The role-holders that you are most likely to come across in the course of your studies are as follows:

Director of Studies
The Director of Studies, Dr Marina De Vos, manages all aspects of the taught postgraduate programmes and has general oversight of the Department's postgraduate teaching activities. This includes the development of the curriculum and its delivery, quality management and enhancement, the operation of the assessment processes and student support. She is the person to contact if you need a coursework extension, or need to submit individual mitigating circumstances.

Personal Tutor
During induction week you will be assigned a Personal Tutor who will be the focus for academic advice and guidance throughout your time within the Department. Personal Tutors act as an interface to the central support services should financial, medical or other personal problems arise. Personal Tutors are not permitted to act as counsellors for non-academic issues, and will identify the appropriate individuals or services for you to access in such circumstances. This does not prevent you from accessing these services directly, but it is important that you keep your Personal Tutor informed of your circumstances so that you can be advised of any academic relief that might be available to you to help you in dealing with your other circumstances.

Unit Lecturers
A Unit Lecturer is a person who has been identified as having the responsibility for the delivery of all aspects of a Unit. This person will normally deliver the main lectures within a Unit and will normally have prepared the course materials to be delivered within the Unit. If you have problems with the running of a unit you should normally approach the Unit Lecturer about it in the first instance.

Unit Tutors
Unit tutors are postgraduate research students or research staff who are allocated the responsibility of delivering a number of tutorials or laboratory classes within a Unit. They will normally deliver material provided by the Unit Lecturer, and will provide a point of more personalised academic instruction. If

you need additional tutorial support for a unit, you should normally approach the Unit Tutor in the first instance - time will be set aside in most classes for such help.

Administrators
The PGT administrator, Matthew Albertyn, is responsible for coordinating postgraduate taught student support for Computer Science. Where students are taking units in common with undergraduate programmes, some aspects of that support will be dealt with by Susan Paddock, the Undergraduate Programmes Administrator, in the Department Office. If in doubt, please contact Matthew.

Department Coordinator
The Department Coordinator, Claudia Emery, is responsible for all aspects of the Department Office administrative support, and will be able to direct you to any help you require.
Chair of the Staff-Student Liaison Committee (SSLC)

The SSLC is a key location of staff-student contact for feedback and quality enhancement. The Chair of this committee has a key role in encouraging staff and student participation, in the representation of the concerns of SSLC to other committees, and in the communication of the work of SSLC to students and staff.

Research Areas of the Department

The Department prides itself on a range of interdisciplinary research with a strong theoretical basis. Our work is concerned with conceptual issues in computer science ranging from mathematical foundations through visual and cognitive processes to media technology, human-centered design and collaborative systems. Our academic staff have various disciplinary backgrounds and collaborate widely with researchers in other disciplines (including engineering, mathematics, social sciences, policy research and psychology) both local, national and international.

Although there are many connections between the themes, our main research themes are:
-Intelligent systems
-Human-Computer Interaction
-Mathematical Foundations
-Visual Computing

- ## Expectations

It is a University Regulation that you attend regularly. If circumstances are such that you are not able to do so, then please contact your Director of Studies to discuss your situation and agree an appropriate course of action.
See Regulation 3: www.bath.ac.uk/regulations

Some assessment relies on group work, so there is expectation that you can attend group meetings as scheduled by the group. Some units will have in-class tests, and unless coursework extensions are requested and granted, students are expected to be present.

For those on a programme with placement, you should attend all the placement sessions scheduled during your induction in Welcome Week.

- ## Resources

Communications

There are a number of mechanisms used to communicate to students. It is the student's responsibility to ensure that they are always contactable and that they make **regular** use of these mechanisms. The primary point of contact for students on taught Masters Courses is Matthew Albertyn, who is responsible for overseeing postgraduate taught student support through to graduation. As some taught Masters Courses have units in common with undergraduate programmes, you may need to address some queries with Susan Paddock, who supports our undergraduate programmes. If in doubt, please contact Matthew for advice.
Matthew Albertyn: facscipgtadmin@bath.ac.uk.
Susan Paddock: s.l.paddock@bath.ac.uk

Department Office (3 West 2.03)
Departmental information is available here. The Department Coordinator and Undergraduate Programme Administrator are also located here.

E-Mail
E-mail is the primary mechanism for communication with students. Your University e-mail account is the only account that is used for communications. You should ensure that your e-mail account does not become full of old messages - e-mail will be discarded in this case and you will not receive vital Department messages. Failure to receive or check your e-mail cannot be considered as a valid excuse. As well as using e-mail to contact students, staff expect students to make use of e-mail to contact them. Their e-mail addresses

are available on the Computer Science website: http://www.bath.ac.uk/comp-sci/contacts/
Your Bath email address has the format userid@bath.ac.uk Please make sure that your mailer also displays your name together with your email address.

Computing Resources

MSc (Computing) Laboratory

As MSc students of the Department of Computer Science, you have access to a computing laboratory. The MSc Laboratory is room 1 West 2.56 and 1 West 2.61. You will need your library card to gain access. The MSc Laboratory is only available to MSc students and staff of the Department. You must not allow friends from other programmes to enter or use the lab. This room is available for private or group study unless lab sessions are timetabled.
Not all units will schedule specific tutorial or lab times. Apart from guided exercise sheets, a number of units will have coursework that requires self-directed study (programming assignments, essay writing, reading articles, papers, books, finding information for yourself on the web) You are expected to be able to schedule your time appropriately to undertake any coursework or problem sheets. We do not generally allocate lab time because, as a postgraduate student with experience of working for a first degree, you should be able to direct your own learning and work and learn without the supervision of a tutor. Failure to utilise your study time to gain the necessary knowledge, practice and experience will inevitably lead to poor performance when you come to attempt the assessed coursework for the Unit.
Unit lecturers and/or unit tutors sometimes book extra laboratory/tutorial sessions for their units where they will be available to offer advice or help with problems. These sessions will be advertised in lectures, via Moodle or by email.
The MSc laboratory is open 24/7. Although the laboratory contains a good number of PCs it may become very crowded when coursework deadlines are close. It is therefore essential that you plan your time so that you start coursework as soon as they are set and do not leave them until the last minute. (This is equally true of coursework that requires use of a computer and coursework that requires reading and use of the library).
All computers on campus offer the same software.

Reporting Problems with the PCs in the MSc Laboratory

The PCs in the MSc lab are all connected to the Computing Services network, and are used in exactly the same way as the Computing Services PCs in the library. Thus, problems with software packages (such as Microsoft Office not working correctly) should be reported to the Computing Services Help Desk in the Library.
However, the actual PCs are owned by the Department of Computer Science, so any problems with the hardware (such as broken monitors or mice) or with PCs

not starting up correctly (e.g. not able to display the Computing Services login window), should be reported to the Computer Science Computer Support Staff, who are in the Department Office (email support@cs.bath.ac.uk).

Buying your own PC

If you do not currently own a computer and want to purchase a new PC, 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

If you are able to obtain a place within a University residence you will find that each room is equipped with a network point that you can plug your PC into. Details on how to configure your PC to use the Computing Services network and how to configure your e-mail software and web-browser to operate through the Computing Services network are all available from the intranet:
www.bath.ac.uk/bucs/networking/

Further help and advice is available to you from the Computing Services Helpdesk (also located within the library) should you run into difficulties:
http://www.bath.ac.uk/bucs/help/helpdesk/contactus/

Operating Systems

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. Computing Services lab computers run Windows 7. The university has a site-licence for a number of Windows software packages. More details on these can be found on: www.bath.ac.uk/bucs/tools/software/

The campus computer shop in the Library has favourable deals for software and hardware. For more details, see:
www.bath.ac.uk/bucs/services/itpurchasing/

E-Mail

The university is using Microsoft exchange for its email and calendar services. This is supported through Outlook and Outlook Web App. It is possible to use the service on Mac and Linux as well. It is also possible to read mail and access your calendar on your smartphone.

For further details see: www.bath.ac.uk/bucs/email/

Productivity Software

The standard productivity software used within Bath University is Microsoft Office Pro (the standard versions are currently Office 2007 or Office XP). This is

normally an expensive product, but the Computing Services Shop offers a special cut-price deal for full-time Bath University students. You should consult the Computing Services Shop for further details.
LibreOffice is free open source 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. They are available for download from: http://www.libreoffice.org/

• Your MSc programme: General

The academic year is divided into two 14-week semesters, with each semester consisting of 11 weeks of teaching followed by a 2- or 3-week assessment period. A unit is an assessable block of study which may be in the form of a lecture course or an approved project. A single unit (6 credits) should correspond to approximately 120 hours of study time. In the case of a lecture unit this usually comprises 12-24 one-hour lectures, plus 10 one-hour problem classes/tutorials/practical classes and an element of private study. For units on the MSc in Digital Entertainment, teaching is frontloaded, i.e. most of the teaching will take place in the first two weeks followed by weeks dedicated to working on projects.

For further information on Assessment Regulations, please look at section 10 of this handbook or go to http://www.bath.ac.uk/registry/nfa/nfaar-pgt.pdf

Unit Choices and Structure of the Programme

Students must take a total of 90 credits for the award of MSc. 60 credits in taught units and 30 credits in the project.
There is an opportunity for students to select their units online. This will be open from Thursday 27th September 10:15 to Wednesday 3rd October 5pm.

Unit and Programme Changes
If you wish to make changes to the optional units you have chosen for the current academic year you must request form **CC FORM B** (change of unit) from the Faculty Office and discuss it with your Personal Tutor and the Director of Studies.
Similarly, if you wish to change programme you must request form **CC FORM C** (change of programme within faculty/school) from the Faculty Office and discuss it with your Personal Tutor and the Director of Studies.

Unit and Programme Catalogues

The online Unit and Programme Catalogues provide details of the structure of taught programmes offered by the University and of the content of their component units, for the current academic year and for previous years. Please see the website for dates when the Catalogue for the next academic year will be available online. The Catalogues also provide links to the University's assessment regulations, showing how these are applied to programmes of study.

Please note that the content of the programme descriptions in the specific programme sections are correct at the time of production of this Handbook and that programmes and units may be subject to reasonable change (see **Unit and Programme Changes** below).

Current versions of unit and programme descriptions are available via the online Unit and Programme Catalogues: www.bath.ac.uk/catalogues

• Your MSc Programme: MSc in Computer Science

Programme code	TSCM-AFM39
Programme title	MSc Computer Science
Award type	Postgraduate Taught
Award title	**MASTER OF SCIENCE IN COMPUTER SCIENCE**
Mode of Attendance	Full-time
Length	1 year
State any designated alternative programme(s)	PG Dip Computer Science
Approving body and date of approval	

Educational aims

The MSc Computer Science programme reflects a systems view of Computer Science. Grounded in an understanding of its representational models and methodologies, it provides a strong theoretical foundation, and builds this into the practice of Computer Science so both aspects are fully integrated in the understanding and creation of computer systems. The programme leads into

advanced and emerging areas of Computer Science, encouraging students to apply their learning to discovery and experimentation in research areas that reflect the research interests of the Department.

Learning outcomes

Knowledge and understanding

- Demonstrate knowledge and understanding of the mathematical and theoretical underpinnings of computing, computability and computer languages, their application in building models at various levels of abstraction, and their importance in reasoning, communication and systems development;
- Identify, apply, critique and adjust 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;
- Demonstrate the ability to evaluate and critique the technical, societal and management dimensions of computer systems;
- Demonstrate a critical understanding of professional, legal, social, cultural and ethical issues related to computing and an awareness of societal and environmental impact;
- Understand how the quality of development and software solutions to problems can be measured and objectively assessed
- Undertake an individual innovative (research or developmental) project and complete it to a professional standard;
- Understand and show critical awareness of the current state and future directions of technological advances.

Intellectual Skills

- Demonstrate understanding of essential facts, concepts, principles and theories relating to Computer Science, and their relationship to one another;
- Apply formal and rigorous methods of description to the specification, documentation, implementation and verification of systems;
- Integrate and critically evaluate information and data from a variety of sources in order to gain a coherent understanding of theory and practice;
- Demonstrate an ability to engage in a peer review process that involves the critical review of papers, software and proposals, coupled with positive advice for improvement.
- Critically analyse and evaluate existing systems and approaches to solving problems;
- Critically analyse, evaluate and reflect upon own contributions;

- Define safe and valid solutions to problems in computer science and undertake research and/or development in a particular area of the discipline.

Professional Practical Skills

- Match appropriate professional software development methods to given software problems, and to deploy effectively the tools used for the construction and documentation of software solutions, with particular emphasis on understanding the whole process involved in the effective use of computers to solve practical problems;
- Work effectively as part of a team in the analysis,, design and development of software-based systems;
- Consider alternative models of problems and apply practical and theoretical understanding to select appropriate, possibly innovative, solutions;
- Present succinctly rational and reasoned arguments using appropriate conceptual tools to address a given systems problem;
- Understand and apply relevant ethical, legal and professional standards in the context of computer systems development.
- Make creative and innovative decisions in computer science research or development of a computer system.

Transferable/Key Skills

- Utilise directed problem solving and analytical skills in a wide variety of practical situations;
- Undertake decision making and evaluation in complex situations;
- Work effectively as part of a team and appreciate the key roles involved;
- Acquire skills and information needed for continuing professional development;
- Manage small-medium sized projects with resource and time constraints;
- Manage one's own learning and development including time management and organisational skills;
- Evaluate systems in terms of general and specific quality attributes and the possible trade-offs within a given problem.
- Managing a larger software/research project to completion
- Critical assessment of their own work through the dissertation project. Feedback is provided through the regular meetings with a supervisor.

MSc dissertation

- To apply high-level research in practice, by conducting a defined research project in their specialist subject and use a wide range of research techniques relevant to the specialist subject
- To achieve critical awareness of research literature and its application to current developments in the subject
- To be able to identify the tasks to be completed in a research project proposal, plan a scheme of work, and complete the project to a professional standard;
- To assemble and create the necessary analysis, design and development tools, carry out the development of the solution of a technical problem in computer science, and evaluate the effectiveness of the solution against common standards of quality;
- To demonstrate the successful completion of these tasks in a well-structured and coherently written dissertation. This will include a discussion of the research outcomes of the work, and future directions.

Part	Stage	Normal period of study for this Mode	Unit code	Unit title	Unit status	Credits	Taught, or Dissertation/ project credits
4	**1**	**Semester 1**	CM50109	Software engineering	Compulsory Unit	12	T
4	**1**	**Semester 1**	CM50259	Databases	Compulsory Unit	3	T
4	**1**	**Semester 1**	CM50260	Foundations of computation	Compulsory Unit	6	T
4	**1**	**Semester 1**	CM50261	Research seminar	Compulsory Unit	3	T
4	**1**	**Semester 1**	CM50258	Principles of programming	Compulsory Unit	6	T
4	**1**	**Semester 2**	CM50175	Research project preparation	Compulsory Unit	6	T
4	**1**	**Semester 2**	CM50262	Functional programming	Compulsory Unit	6	T
4	**1**	**Semester 2**	CM40149	Collaborative systems	Optional Unit	6	T
4	**1**	**Semester 2**	CM40179	Entrepreneurship	Optional Unit	6	T
4	**1**	**Semester 2**	CM50150	Interactive communication design	Optional Unit	6	T

4	**1**	**Semester 2**	CM50205	Theory of human computer interaction	Optional Unit	6	T
4	**1**	**Semester 2**	CM50209	Security and integrity	Optional Unit	6	T
4	**1**	**Semester 2**	CM50210	Cryptography	Optional Unit	6	T
4	**1**	**Semester 2**	CM50230	Intelligent control and cognitive systems	Optional Unit	6	T
4	**1**	**Semester 2**	CM50263	Artificial intelligence	Optional Unit	6	T
4	**1**	**Semester 2**	ZZ00001	Director of Studies approved unit	Optional Unit	6	T
4	**2**	**Dissertation**	CM50170	Dissertation	Compulsory Unit	30	P

Please choose 3 if the optional units to complete your unit selection

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	60 / 90 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 90 credits	All assessment: Appendix 11

- **Your MSc Programme: MSc in Data Science (with or without placement)**

Programme code	TSCM-AFM45 TSCM-AWM45
Programme title	MSc Data Science MSc Data Science incorporating placement
Award type	Postgraduate Taught
Award title	**MASTER OF SCIENCE IN DATA SCIENCE**
Mode of Attendance	Full-time
Length	1 year 2 years
State any designated alternative programme(s)	PG Dip Data Science PG Cert Data Science
Approving body and date of approval	

Educational aims

The key educational aim is to equip the participating student with the core knowledge and skill-set that is required to undertake a career in data science (across a broad employer base), or to progress into a research role in the field. Delivery is focused on providing the most relevant knowledge in three key areas – scientific foundations, analytic methodology, and software technology – alongside the provision of extensive hands-on practical experience.

Learning Outcomes

Knowledge and understanding

- Explain the core underlying statistical context that applies to the processing and modelling of data,
- Implement low-level data science functionality in a relevant programming language,
- apply a range of modern analytic methodologies, notably machine learning techniques, using relevant software libraries,
- Describe and demonstrate the processes involved in the effective practice of data science, from initial data handling through to presentation of output.
- Critically evaluate the relevance, reliability and robustness of analytic results,

- Discriminate between analytic techniques, summarise underlying concepts and justify applicability to data in varied contexts,
- Assess where and how to use relevant high-level software libraries and systems for data storage, management and processing.
- Undertake an individual project, demonstrating originality in the application and/or development of data science methodology.

Intellectual Skills

- Demonstrate the mathematical skills necessary for applying analytic models to data,
- Translate high-level analytic objectives into data scientific processes appropriate to given objectives.
- Express the essential principles of, and motivation for, a probabilistic approach to data science,
- Explain the importance of recognising and quantifying uncertainty in data analysis,
- Undertake review of relevant literature, assessing the applicability and capability of data scientific methods described therein.
- Critically evaluate current research in data science, applying and modifying new methodologies.

Professional Practical Skills

- Set up a baseline software environment for the practice of data science centred upon a relevant programming language,
- Implement general-purpose programming tasks using a relevant language,
- Apply core numerical, statistical and analytic libraries designed for data science and related applications,
- Handle, manage and analyse data in the context of legal, ethical and professional considerations.
- Deploy a large-scale analytic software solution in a relevant scenario and critically assess the consequent rationale, features and limitations,
- Informatively communicate numerate output using summaries, charts, tables and visualisations.
- Write a structured technical report coherently summarising the varied output of an individual project.

Transferable/Key Skills

- Address generic data-driven problems in a programmatic manner,
- Effectively communicate technical material in written form.
- Deliver an effective oral presentation of technical material,
- Manage time in a project delivery context.

- Undertake project work demonstrating a significant degree of individual initiative in both its specification and organisation.

MSc dissertation

- To apply high-level research in practice, by conducting a defined research project in their specialist subject and use a wide range of research techniques relevant to the specialist subject
- To achieve critical awareness of research literature and its application to current developments in the subject
- To be able to identify the tasks to be completed in a research project proposal, plan a scheme of work, and complete the project to a professional standard;
- To assemble and create the necessary analysis, design and development tools, carry out the development of the solution of a technical problem in computer science, and evaluate the effectiveness of the solution against common standards of quality;
- To demonstrate the successful completion of these tasks in a well-structured and coherently written dissertation. This will include a discussion of the research outcomes of the work, and future directions.

Teaching/learning methods:

Transferable skills are developed through a number of different activities. Although they are not all explicitly taught, these skills are learnt throughout the programmes, which are structured and delivered in such a way as to promote the development of the above skills. The software engineering unit explicitly promotes the team working and team management skills.

Many of the units within each of the programmes require written work to be carried out by the students, such as worked solutions to problems, technical essays, and laboratory and project reports, and regular feedback is given to students on their written work within these units, in order to develop their powers of expression as well as their technical understanding. Oral communication skills are developed primarily within problems classes, tutorials, laboratory and project units.

Assessment methods:

The skills 1-7 are assessed mainly through coursework where students have to present their work as code, reports or presentation or as a viva-voce examination. Feedback is provided for all coursework. Skills 8-9 are gained

through the dissertation project. Feedback is provided through the regular meetings with a supervisor.

MSc Data Science (without placement)									
Part	**Stage**	**Normal period of study for this Mode**	**Unit code**	**Unit title**	**Unit status**	**Credits**	**DEU**	**SRU**	**Taught, or Dissertation/ project credits**
4	**1**	**All Year**	CM50266	Applied data science	Compulsory Unit	12			T
4	**1**	**Semester 1**	CM50264	Machine learning 1	Compulsory Unit	6			T
4	**1**	**Semester 1**	CM50267	Software technologies for data science	Compulsory Unit	12			T
4	**1**	**Semester 1**	XX50215	Statistics for data science	Compulsory Unit	6			T
4	**1**	**Semester 2**	CM50175	Research project preparation	Compulsory Unit	6			T
4	**1**	**Semester 2**	CM50265	Machine learning 2	Compulsory Unit	6			T
4	**1**	**Semester 2**	CM50268	Bayesian machine learning	Optional Unit	6			T
4	**1**	**Semester 2**	CM50269	Neural computation	Optional Unit	6			T
4	**1**	**Semester 2**	CM50270	Reinforcement learning	Optional Unit	6			T
4	**2**	**Dissertation**	CM50170	Dissertation	Compulsory Unit	30			P

Please choose 2 of the optional units to complete your unit selection

Assessment weightings and decision references

Stage	Weighting within programme	NFAAR-PGT decisions reference See NFAAR-PGT information at: www.bath.ac.uk/registry/nfa
Stage 1	60 / 90 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 90 credits	All assessment: Appendix 11

MSc Data Science (with placement)

Part	Stage	Normal period of study for this Mode	Unit code	Unit title	Unit status	Credits	DEU	SRU	Taught, or Dissertation/ project credits
4	**1**	**All Year**	CM50266	Applied data science	Compulsory Unit	12			T
4	**1**	**Semester 1**	CM50264	Machine learning 1	Compulsory Unit	6			T
4	**1**	**Semester 1**	CM50267	Software technologies for data science	Compulsory Unit	12			T
4	**1**	**Semester 1**	XX50215	Statistics for data science	Compulsory Unit	6			T
4	**1**	**Semester 2**	CM50175	Research project preparation	Compulsory Unit	6			T
4	**1**	**Semester 2**	CM50265	Machine learning 2	Compulsory Unit	6			T
4	**1**	**Semester 2**	CM50268	Bayesian machine learning	Optional Unit	6			T
4	**1**	**Semester 2**	CM50269	Neural computation	Optional Unit	6			T
4	**1**	**Semester 2**	CM50270	Reinforcement learning	Optional Unit	6			T

4	**1**	**Dissertation**	CM50250	Placement	Compulsory Unit	60			TSC
4	**2**	**Dissertation**	CM50170	Dissertation	Compulsory Unit	30			DPC

Please choose 2 of the optional units to complete your unit selection

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	120 / 150 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 150 credits	All assessment: Appendix 11

Your MSc Programme: MSc in Digital Entertainment (with our without placement)

Programme code	TSCM-AFM37 TSCM-AWM37
Programme title	MSc Digital Entertainment MSc Digital Entertainment incorporating placement
Award type	Postgraduate Taught
Award title	**MASTER OF SCIENCE IN DIGITAL ENTERTAINMENT**
Mode of Attendance	Full-time
Length	1 year 2 years
State any designated alternative programme(s)	PG Dip Digital Entertainment
Approving body and date of approval	

Educational aims

Digital entertainment and visual understanding have increasingly become an important area within computer science. The speciality comprises work in both computer graphics and computer vision, and builds on the already successful EngD programme, providing outstanding candidates with an intensive training and a research programme. The programme provides graduates with the technical, business and personal development competencies needed by both industry and the senior research managers of the future. Successful graduates will have the ability to innovate and implement new ideas in practice. They will be able to demonstrate research skills, technical competence and the thought and synthesis expected of masters level candidates.

The programme aims to:

- Provide candidates with experience of rigorous research and development with leading edge technologies in a business context;
- Develop competencies which equip candidates for a range of roles in industry;
- Work in conjunction with the existing EngD programme, Centre for Digital Entertainment (an EPSRC funded Industrial Training Centre (ITC)).
- Equip students with the primary research and critically evaluative skills to continue engaging with and contributing towards the body of knowledge of a particular technical discipline, industrial sector or multidisciplinary theme.
- Provide candidates with the skills to critically analyse problems from the Digital Entertainment domain and be able to identify, develop and apply the appropriate mathematical, technical and algorithmic concepts and techniques required to formulate a solution.
- Expose students to the leading-edge concepts and developments in the field of Digital Entertainment.

This MSc will provide candidates with a technically-underpinned, research-rich, taught MSc. Employer-led skills are embedded within the programme. Outstanding candidates will have the opportunity of progressing onto the Eng.D. programme. The programme is designed to increase those skills and competencies required by industry.

The taught component of the programme comprises Masters level units in technical subjects. The purpose of the taught units is to equip candidates with the knowledge and expertise required by the industry and the research and analytical skills required to undertake a research project. The research project will be strongly aligned with the Department's internationally recognised Centre for Digital Entertainment.

The core units adopt a "problem based learning" approach to teaching, providing the students with a firm footing in problem solving with technology. The approach also develops the students' research, theoretical and analytical skills.

The proposed teaching approach has been formed by the flipped classroom concept in which traditional lectures are replaced with laboratories and tutorials the content of which focuses upon directed work that students undertake outside of the classroom.

The directed work consists of setting the students tasks to undertake. The tasks are pertinent and relevant to the body of knowledge that underpins the related research centre. To complete each task the student needs to engage with the research literature and/or implement a solution to a given problem. Weekly structured laboratories and tutorials provide the student with academic support in addition to providing regular feedback on progress.

Each unit starts with an intense, lecture-based, introduction to its theoretical underpinning before embarking upon the problem-based learning activities.

This approach fosters independent learning from the outset.

Learning outcomes

Knowledge and understanding

- Understand and have a critical awareness of the current state and future directions of technological advances in the areas of visual understanding, computer animation and machine learning.
- Understand how the quality of development and software solutions to problems can be measured and objectively assessed.
- Have a deep understanding of the relevance, advantages and problems in one of the major fields of digital entertainment such as visual understanding, computer animation or machine learning.
- Undertake a research project and complete the project to a post graduate masters standard.
- Demonstrate research outcomes, analyse the results and be able to indicate potentially fruitful future directions.

Intellectual skills

- Recognise and distinguish the fundamental concepts, principles and theories of a major area within the Digital entertainment and visual understanding, domain.
- Draw on a comprehensive and detailed knowledge of that area.

- Define safe and valid solutions to problems in a specific area of Digital entertainment and visual understanding and undertake research in that area.
- Integrate and evaluate information and data from a variety of sources in order to gain a coherent understanding of theory and practice.
- Critically analyse and evaluate innovative approaches to solving problems and advancing the state of the art in the associated fields of Digital Entertainment.

Professional practical skills

- Make creative and innovative decisions in the design and implementation of Digital entertainment and visual understanding, based software-based systems.
- Match appropriate professional software development methods to given software problems, and to deploy effectively the tools used for the construction and documentation of software solutions, with particular emphasis on understanding the whole process involved in the effective use of computers to solve practical problems in Digital entertainment and visual understanding.
- Work effectively as part of a team in the analysis, design and development of software-based systems.
- Assemble and create the necessary analysis, design and development tools, carry out the development of the solution of a technical problem in computer science, and evaluate the effectiveness of the solution against common standards of quality;
- Demonstrate the successful completion of these tasks in a well-structured and coherently written dissertation, which will include a discussion of the research outcomes of the work, and future directions.

Transferable key skills

- Utilise directed problem solving and analytical skills in a wide variety of practical situations.
- Undertake decision making and evaluation in complex situations.
- Work effectively as part of a team and appreciating the key roles involved.
- Acquire skills and information needed for continuing professional development.
- Manage their own learning and development including time management and organisational skills.

- Identify the tasks to be completed in a research project proposal, plan a scheme of work, and complete the project to a professional standard;

MSc dissertation

- To apply high-level research in practice, by conducting a defined research project in their specialist subject and use a wide range of research techniques relevant to the specialist subject
- To achieve critical awareness of research literature and its application to current developments in the subject
- To be able to identify the tasks to be completed in a research project proposal, plan a scheme of work, and complete the project to a professional standard;
- To assemble and create the necessary analysis, design and development tools, carry out the development of the solution of a technical problem in computer science, and evaluate the effectiveness of the solution against common standards of quality;
- To demonstrate the successful completion of these tasks in a well-structured and coherently written dissertation. This will include a discussion of the research outcomes of the work, and future directions.

MSc Digital Entertainment (without placement)									
Part	**Stage**	**Normal period of study for this Mode**	**Unit code**	**Unit title**	**Unit status**	**Credits**	**DEU**	**SRU**	**Taught, or Dissertation/ project credits**
4	**1**	**Semester 1**	CM50244	Computer animation and games I	Compulsory Unit	6			T
4	**1**	**Semester 1**	CM50248	Visual understanding 1	Compulsory Unit	6			T
4	**1**	**Semester 1**	CM50264	Machine learning 1	Compulsory Unit	6			T
4	**1**	**Semester 1**	XX50215	Statistics for data science	Compulsory Unit	6			T
4	**1**	**Semester 1**	CM50200	Mobile and pervasive systems	Optional Unit	6			T

4	**1**	**Semester 1**	CM50206	Intelligent agents	Optional Unit	6				T
4	**1**	**Semester 1**	ZZ00001	Director of Studies approved unit	Optional Unit					
4	**1**	**Semester 2**	CM50175	Research project preparation	Compulsory Unit	6				T
4	**1**	**Semester 2**	CM50245	Computer animation and games II	Optional Unit	12				T
4	**1**	**Semester 2**	CM50247	Visual effects	Optional Unit	12				T
4	**1**	**Semester 2**	CM50249	Visual understanding 2	Optional Unit	12				T
4	**2**	**Dissertation**	CM50170	Dissertation	Compulsory Unit	30				P

Please choose 1 of the optional units in Semester 1 and 2 of the optional units in Semester 2 to complete your unit selection

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	60 / 90 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 90 credits	All assessment: Appendix 11

MSc Digital Entertainment (with placement)										
Part	**Stage**	**Normal period of study for this Mode**	**Unit code**	**Unit title**	**Unit status**	**Credits**	**DEU status**	**SRU status**	**Taught, or Dissertation/ project credits**	**Notes**
4	**1**	**Semester 1**	CM50244	Computer animation and games I	Compulsory Unit	6			T	
4	**1**	**Semester 1**	CM50248	Visual understanding 1	Compulsory Unit	6			T	
4	**1**	**Semester 1**	CM50264	Machine learning 1	Compulsory Unit	6			T	
4	**1**	**Semester 1**	XX50215	Statistics for data science	Compulsory Unit	6			T	
4	**1**	**Semester 1**	CM50200	Mobile and pervasive systems	Optional Unit	6			T	
4	**1**	**Semester 1**	CM50206	Intelligent agents	Optional Unit	6			T	
4	**1**	**Semester 1**	ZZ00001	Director of Studies approved unit	Optional Unit					
4	**1**	**Semester 2**	CM50175	Research project preparation	Compulsory Unit	6			T	
4	**1**	**Semester 2**	CM50245	Computer animation and games II	Optional Unit	12			T	
4	**1**	**Semester 2**	CM50247	Visual effects	Optional Unit	12			T	
4	**1**	**Semester 2**	CM50249	Visual understanding 2	Optional Unit	12			T	
4	**1**	**Dissertation**	CM50250	Placement	Compulsory Unit	60			T	
4	**2**	**Dissertation**	CM50170	Dissertation	Compulsory Unit	30			P	

Please choose 1 of the optional units in Semester 1 and 2 of the optional units in Semester 2 to complete your unit selection

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	120 / 150 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 150 credits	All assessment: Appendix 11

- ## Your MSc Programme: MSc in Human Computer Interaction (with or without placement)

Programme code	TSCM-AFM19 TSCM-AWM31
Programme title	MSc Human Computer Interaction MSc Human Computer Interaction incorporating placement
Award type	Postgraduate
Award title	**MASTER OF SCIENCE IN HUMAN COMPUTER INTERACTION**
Mode of Attendance	Full-time
Length	1 year 2 years
State any designated alternative programme(s)	PG Dip Human Computer Interaction
Approving body and date of approval	

Educational aims

Interactive systems pose significant design and research challenges for computer science. They must be flexible, usable and safe. Innovative approaches are required that build on established human-computer interaction principles, to meet the needs of the next generation of computer users and to address emerging requirements for new forms of interactive system.

These degrees provide theoretical, empirical, practical and system perspectives on the design and evaluation of the technological and social context of interactive systems. In particular, it focuses on Human-Computer Interaction design and usability evaluation.

Specific Aims

- To provide students with the knowledge, techniques and skills necessary to undertake professional work or research on interactions between people and technologies;
- To give a foundation in design issues arising from the individual usage of interactive technologies and classes of user and their background and experience.
- To equip students with critical analysis skills for examining contexts of ICT usage, and professionally communicate findings;
- To account for the interaction between ICT developments and their cognitive, social, contextual and cultural settings.

Generic Aims

- To enable students to establish a coherent body of computer science knowledge within a theme specialised in system and informational terms, such that they have the skills necessary to become practitioners in this field of computer science or to move into a research or academic career.
- To provide a framework within which students may select, deploy and evaluate relevant scientific and engineering techniques to contemporary computer science problems.
- To equip students with a set of abilities for assessing the impact of an information system's principles, for the design and development on the system's usage and for the conceptualization of information.
- To enable graduates to contribute to a broad range of work in the development, design, deployment and integration of systems into their target application contexts.
- To contribute to the rapidly growing communication and information technology industries.
- To give some appreciation of the professional, ethical and legal obligations of a practitioner, and to understand the interaction between these developments and their social, contextual and cultural effect.

- To develop individual research skills by using and developing primary source material.
- To generate in students an enthusiasm for the application of computer science in science, industry and commerce.

Learning outcomes

Knowledge and understanding

- An understanding of the relevance, advantages and problems with the advanced use of computers and the human and technical aspects of such usage.
- An understanding and critical awareness of the current state and future directions of technological advances in computer science, and an appreciation of how current research directions might influence computer technology.
- To be able to undertake a research project and complete the project to a professional standard.
- To be able to demonstrate research outcomes, analyse the results and be able to indicate potentially fruitful future directions.
- An understanding of how the quality of development and software solutions to problems can be measured and objectively assessed.
- An appreciation of the ethical and legal obligations of a computer practitioner.

Intellectual skills

- The ability to recognise and distinguish the fundamental concepts, principles and theories of human-computer interaction;
- The ability to draw on a comprehensive and detailed knowledge of human-computer interaction;
- The ability to define safe and valid solutions to interactive system design problems, and aid in the development of research activity;
- The ability to integrate and evaluate information and data from a variety of sources in order to gain a coherent understanding of theory and practice;
- The ability to critically analyse and evaluate innovative approaches to designing and evaluating interactive systems.

Professional practical skills

- The ability to make creative and innovative decisions in the design and implementation of software-based systems.
- The ability to match appropriate professional software development methods to given software and research problems, and to deploy effectively the tools used for the construction and documentation of software solutions, with particular emphasis on understanding the

whole process involved in the effective use of computers to solve practical problems.
- The ability to work effectively as part of a team in the analysis, design and development of software-based systems.

Transferable key skills
- Utilising self-directed problem solving and analytical skills in a wide variety of practical situations.
- Decision making and evaluation in complex situations.
- Working effectively as part of a team and appreciating the key roles involved.
- Independently acquiring skills and information needed for continuing professional development.
- Managing one's own learning and development including time management and organisational skills.

MSc dissertation
- To apply high-level research in practice, by conducting a defined research project in their specialist subject and use a wide range of research techniques relevant to the specialist subject
- To achieve Critical awareness of research literature and its application to current developments in the subject
- To be able to identify the tasks to be completed in a research project proposal, plan a scheme of work, and complete the project to a professional standard;
- To assemble and create the necessary analysis, design and development tools, carry out the development of the solution of a technical problem in computer science, and evaluate the effectiveness of the solution against common standards of quality;
- To demonstrate the successful completion of these tasks in a well-structured and coherently written dissertation. This will include a discussion of the research outcomes of the work, and future directions.

MSc Human Computer Interaction (without placement)									
Part	**Stage**	**Normal period of study for this Mode**	**Unit code**	**Unit title**	**Unit status**	**Credits**	**DEU**	**SRU**	**Taught, or Dissertation/ project credits**
4	**1**	**Semester 1**	CM50109	Software engineering	Compulsory Unit	12			T

4	**1**	**Semester 1**	CM50121	Safety critical systems	Compulsory Unit	6			T
4	**1**	**Semester 1**	CM50123	Networking	Optional Unit	6			T
4	**1**	**Semester 1**	CM50200	Mobile and pervasive systems	Optional Unit	6			T
4	**1**	**Semester 1**	XX50134	Quantitative methods 1: introduction to quantitative methods	Optional Unit	6			T
4	**1**	**Semester 1**	ZZ00001	Director of Studies approved unit	Optional Unit				
4	**1**	**Semester 2**	CM40179	Entrepreneurship	Compulsory Unit	6			T
4	**1**	**Semester 2**	CM50150	Interactive communication design	Compulsory Unit	6			T
4	**1**	**Semester 2**	CM50175	Research project preparation	Compulsory Unit	6			T
4	**1**	**Semester 2**	CM40149	Collaborative systems	Optional Unit	6			T
4	**1**	**Semester 2**	CM50205	Theory of human computer interaction	Optional Unit	6			T
4	**1**	**Semester 2**	CM50209	Security and integrity	Optional Unit	6			T
4	**1**	**Semester 2**	ZZ00001	Director of Studies approved unit	Optional Unit				
4	**2**	**Dissertation**	CM50170	Dissertation	Compulsory Unit	30			P

Please choose 2 of the optional units in Semester 1 and 2 of the optional units in Semester 2 to complete your unit selection

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	60 / 90 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 90 credits	All assessment: Appendix 11

MSc Human Computer Interaction (with placement)									
Part	**Stage**	**Normal period of study for this Mode**	**Unit code**	**Unit title**	**Unit status**	**Credit**	**DEU**	**SRU**	**Taught, or Dissertation/ project credits**
4	**1**	Semester 1	CM50109	Software engineering	Compulsory Unit	12			T
4	**1**	Semester 1	CM50121	Safety critical systems	Compulsory Unit	6			T
4	**1**	Semester 1	CM50123	Networking	Optional Unit	6			T
4	**1**	Semester 1	CM50200	Mobile and pervasive systems	Optional Unit	6			T
4	**1**	Semester 1	XX50134	Quantitative methods 1: introduction to quantitative methods	Optional Unit	6			T
4	**1**	Semester 1	ZZ00001	Director of Studies approved unit	Optional Unit				
4	**1**	Semester 2	CM40179	Entrepreneurship	Compulsory Unit	6			T
4	**1**	Semester 2	CM50150	Interactive communication design	Compulsory Unit	6			T

4	**1**	Semester 2	CM50175	Research project preparation	Compulsory Unit	6			T
4	**1**	Semester 2	CM40149	Collaborative systems	Optional Unit	6			T
4	**1**	Semester 2	CM50205	Theory of human computer interaction	Optional Unit	6			T
4	**1**	Semester 2	CM50209	Security and integrity	Optional Unit	6			T
4	**1**	Semester 2	ZZ00001	Director of Studies approved unit	Optional Unit				
4	**1**	Dissertation	CM50250	Placement	Compulsory Unit	60			T
4	**2**	Dissertation	CM50170	Dissertation	Compulsory Unit	30			P

Please choose 2 of the optional units in Semester 1 and 2 of the optional units in Semester 2 to complete your unit selection

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	120 / 150 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 150 credits	All assessment: Appendix 11

- **Your MSc Programme: MSc in Software Systems (with or without placement)**

Programme code	TSCM-AFM21 TSCM-AWM35
Programme title	MSc Software Systems MSc Software Systems incorporating placement
Award type	Postgraduate Taught
Award title	**MASTER OF SCIENCE IN SOFTWARE SYSTEMS**
Mode of Attendance	Full-time
Length	1 year 2 years
State any designated alternative programme(s)	PG Dip Software Systems
Approving body and date of approval	

Educational aims

The design and implementation of complex software systems offers a significant challenge. The need to deliver large, reliable systems with the desired capability is a challenging engineering task. Practitioners need to develop stable and clear system requirements, deliver with software engineering skills, and, in particular, to apply established design techniques, including formal methods, to large complex systems.

These degrees provide theoretical, practical and system-wide perspectives on the design and development of software systems with particular emphasis on the engineering of systems for safety and security, the use of design techniques such as reuse, genericity, inheritance, delegation, and network issues. These concepts of software systems development will be of interest in industry, business and software engineering research.

Specific Aims

- To provide students with the knowledge, techniques and skills necessary to become practitioners or researchers in the field of software development.
- To give a foundation in professional standards of analysis, design, implementation, testing and documentation in software development.
- To give an appreciation of the use of computers as part of larger systems, and the technical aspects of such usage.

- To give an appreciation of the current state and future directions of technological advances in areas of computer science.
- To give an understanding of the legal, professional and ethical issues involved in the development of software systems.

Generic Aims

- To enable students to establish a coherent body of computer science knowledge within a theme specialised in system and informational terms, such that they have the skills necessary to become practitioners in this field of computer science or to move into a research or academic career.
- To provide a framework within which students may select, deploy and evaluate relevant scientific and engineering techniques to contemporary computer science problems.
- To equip students with a set of abilities for assessing the impact of an information system's principles, for the design and development on the system's usage and for the conceptualization of information.
- To enable graduates to contribute to a broad range of work in the development, design, deployment and integration of systems into their target application contexts.
- To contribute to the rapidly growing communication and information technology industries.
- To give some appreciation of the professional, ethical and legal obligations of a practitioner, and to understand the interaction between these developments and their social, contextual and cultural effect.
- To develop individual research skills by using and developing primary source material.
- To generate in students an enthusiasm for the application of computer science in science, industry and commerce.

Learning outcomes

Knowledge and understanding

- An understanding of the relevance, advantages and problems with the advanced use of computers and the human and technical aspects of such usage.
- An understanding and critical awareness of the current state and future directions of technological advances in computer science, and an appreciation of how current research directions might influence computer technology.
- To be able to undertake a research project and complete the project to a professional standard.
- To be able to demonstrate research outcomes, analyse the results and be able to indicate potentially fruitful future directions.

- An understanding of how the quality of development and software solutions to problems can be measured and objectively assessed.
- An appreciation of the ethical and legal obligations of a computer practitioner.

Intellectual skills

- The ability to choose and apply appropriate rigorous methods to the development of advanced experimental or research-based software solutions.
- The ability to make critical evaluations of the design, implementation and usage of advanced software-based systems.
- The ability to recognise and distinguish the fundamental concepts, principles and theories of complex software systems and their development.
- The ability to recognise connections between different areas of computer science when developing experimental or software solutions.
- The ability to draw on a comprehensive and detailed knowledge of software design and development.
- The ability to define safe and valid solutions to a wide range of general software system design problems, and aid in the development of research activity.
- The ability to integrate and evaluate information and data from a variety of sources in order to gain a coherent understanding of theory and practice for software system design and development.
- An understanding of how software interacts as part of larger systems.
- The ability to critically analyse and evaluate innovative approaches to designing and evaluating complex software systems.

Professional practical skills

- The ability to make creative and innovative decisions in the design and implementation of software-based systems.
- The ability to match appropriate professional software development methods to given software and research problems, and to deploy effectively the tools used for the construction and documentation of software solutions, with particular emphasis on understanding the whole process involved in the effective use of computers to solve practical problems.
- The ability to work effectively as part of a team in the analysis, design and development of software-based systems.

Transferable key skills

- Utilising self-directed problem solving and analytical skills in a wide variety of practical situations.
- Decision making and evaluation in complex situations.

- Working effectively as part of a team and appreciating the key roles involved.
- Independently acquiring skills and information needed for continuing professional development.
- Managing one's own learning and development including time management and organisational skills

MSc dissertation

- To apply high-level research in practice, by conducting a defined research project in their specialist subject and use a wide range of research techniques relevant to the specialist subject
- To achieve critical awareness of research literature and its application to current developments in the subject
- To be able to identify the tasks to be completed in a research project proposal, plan a scheme of work, and complete the project to a professional standard;
- To assemble and create the necessary analysis, design and development tools, carry out the development of the solution of a technical problem in computer science, and evaluate the effectiveness of the solution against common standards of quality;
- To demonstrate the successful completion of these tasks in a well-structured and coherently written dissertation. This will include a discussion of the research outcomes of the work, and future directions.

MSc Software Systems (without placement)										
4	**1**	**Semester 1**	CM50109	Software engineering	Compulsory Unit	12			T	
4	**1**	**Semester 1**	CM50121	Safety critical systems	Optional Unit	6			T	
4	**1**	**Semester 1**	CM50123	Networking	Optional Unit	6			T	
4	**1**	**Semester 1**	CM50206	Intelligent agents	Optional Unit	6			T	
4	**1**	**Semester 1**	ZZ00001	Director of Studies approved unit	Optional Unit					
4	**1**	**Semester 2**	CM40179	Entrepreneurship	Compulsory Unit	6			T	
4	**1**	**Semester 2**	CM50175	Research project preparation	Compulsory Unit	6			T	

4	**1**	**Semester 2**	CM40149	Collaborative systems	Optional Unit	6			T	
4	**1**	**Semester 2**	CM50209	Security and integrity	Optional Unit	6			T	
4	**1**	**Semester 2**	CM50210	Cryptography	Optional Unit	6			T	
4	**1**	**Semester 2**	CM50230	Intelligent control and cognitive systems	Optional Unit	6			T	
4	**1**	**Semester 2**	CM50263	Artificial intelligence	Optional Unit	6			T	
4	**1**	**Semester 2**	ZZ00001	Director of Studies approved unit	Optional Unit					
4	**2**	**Dissertation**	CM50170	Dissertation	Compulsory Unit	30			P	

Please choose 3 of the optional units in Semester 1 and 3 of the optional units in Semester 2 to complete your unit selection

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	60 / 90 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 90 credits	All assessment: Appendix 11

MSc Software Systems (with placement)									
Part	**Stage**	**Normal period of study for this Mode**	**Unit code**	**Unit title**	**Unit status**	**Credits**	**DEU**	**SRU**	**Taught, or Dissertation/ project credits**
4	**1**	**Semester 1**	CM50109	Software engineering	Compulsory Unit	12			T
4	**1**	**Semester 1**	CM50121	Safety critical systems	Optional Unit	6			T
4	**1**	**Semester 1**	CM50123	Networking	Optional Unit	6			T
4	**1**	**Semester 1**	CM50206	Intelligent agents	Optional Unit	6			T
4	**1**	**Semester 1**	ZZ00001	Director of Studies approved unit	Optional Unit				
4	**1**	**Semester 2**	CM40179	Entrepreneurship	Compulsory Unit	6			T
4	**1**	**Semester 2**	CM50175	Research project preparation	Compulsory Unit	6			T
4	**1**	**Semester 2**	CM40149	Collaborative systems	Optional Unit	6			T
4	**1**	**Semester 2**	CM50209	Security and integrity	Optional Unit	6			T
4	**1**	**Semester 2**	CM50210	Cryptography	Optional Unit	6			T
4	**1**	**Semester 2**	CM50230	Intelligent control and cognitive systems	Optional Unit	6			T
4	**1**	**Semester 2**	CM50263	Artificial intelligence	Optional Unit	6			T
4	**1**	**Semester 2**	ZZ00001	Director of Studies approved unit	Optional Unit				
4	**1**	**Dissertation**	CM50250	Placement	Compulsory Unit	60			T
4	**2**	**Dissertation**	CM50170	Dissertation	Compulsory Unit	30			P

Please choose 3 of the optional units in Semester 1 and 3 of the optional units in Semester 2 to complete your unit selection

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	120 / 150 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 150 credits	All assessment: Appendix 11

- ## Your MSc Programme: MSc in Data Science and Statistics (with or without placement)

Programme code	TSXX-AFM06 TSXX-AWM06
Programme title	MSc Data Science and Statistics MSc Data Science and Statistics incorporating placement
Award type	Postgraduate Taught
Award title	**MASTER OF SCIENCE IN DATA SCIENCE AND STATISTICS**
Mode of Attendance	Full-time
Length	1 year 2 years
State any designated alternative programme(s)	PG Dip Data Science and Statistics PG Cert Data Science and Statistics
Approving body and date of approval	

Educational aims

- The key educational aim is to equip the participating student with the core knowledge and skill-set that is required to undertake a career in data science and statistics (across a broad employer base), or to progress into

a research role in the field. Delivery is focused on providing the most relevant knowledge in three key areas – scientific foundations, analytic methodology, and software technology – alongside the provision of extensive hands-on practical experience.

Learning outcomes

Knowledge and understanding

- Explain the core underlying statistical context that applies to the processing and modelling of data,
- Implement low-level data science functionality in a relevant programming language,
- Apply a range of modern analytic methodologies, notably machine learning and statistical techniques, using relevant software libraries,
- Describe and demonstrate the processes involved in the effective practice of data science and statistics, from initial data handling through to presentation of output.
- Critically evaluate the relevance, reliability and robustness of analytic results,
- Discriminate between analytic techniques, summarise underlying concepts and justify applicability to data in varied contexts,
- Assess where and how to use relevant high-level software libraries and systems for data storage, management and processing.
- Undertake an individual project, demonstrating originality in the application and/or development of data science and statistical methodology.

In addition to the above, students completing the **MSc with placement** programme would be able to demonstrate:

- A knowledge of the processes and products associated with the placement undertaken;
- Ability to critically evaluate the difference between commercial products and academic outputs.

Intellectual skills

- Demonstrate the mathematical skills necessary for applying analytic models to data,
- Translate high-level analytic objectives into data scientific processes appropriate to given objectives.
- Express the essential principles of, and motivation for, a probabilistic approach to data science and statistics,
- Explain the importance of recognising and quantifying uncertainty in data analysis,
- Undertake review of relevant literature, assessing the applicability and capability of data scientific and statistical methods described therein.

- Critically evaluate current research in data science, and statistics applying and modifying new methodologies.

In addition to the above, students completing the **MSc with placement** programme would be able to:

- Apply research methods and results appropriate to a commercial setting.

Professional practical skills

- Set up a baseline software environment for the practice of data science and statistics centred upon a relevant programming language,
- Implement general-purpose programming tasks using a relevant language,
- Apply core numerical, statistical and analytic libraries designed for data science and related applications,
- Handle, manage and analyse data in the context of legal, ethical and professional considerations.
- Deploy a large-scale analytic software solution in a relevant scenario and critically assess the consequent rationale, features and limitations,
- Informatively communicate numerate output using summaries, charts, tables and visualisations.
- Write a structured technical report coherently summarising the varied output of an individual project.

In addition to the above, students completing the **MSc with placement** programme would be able to:

- Apply research methods and results appropriate to a commercial setting.

Transferable key skills

- Address generic data-driven problems in a programmatic manner,
- Effectively communicate technical material in written form.
- Deliver an effective oral presentation of technical material,
- Manage time in a project delivery context.
- Undertake project work demonstrating a significant degree of individual initiative in both its specification and organisation.

In addition to the above, students completing the **MSc with placement** programme would be able to:

- Explain the commercial impact of systems development proposals made as part of their placement work.
- Deal with confidentiality and intellectual property issues.

MSc dissertation

- To apply high-level research in practice, by conducting a defined research project in their specialist subject and use a wide range of research techniques relevant to the specialist subject
- To achieve critical awareness of research literature and its application to current developments in the subject
- To be able to identify the tasks to be completed in a research project proposal, plan a scheme of work, and complete the project to a professional standard;
- To assemble and create the necessary analysis, design and development tools, carry out the development of the solution of a technical problem in computer science, and evaluate the effectiveness of the solution against common standards of quality;
- To demonstrate the successful completion of these tasks in a well-structured and coherently written dissertation. This will include a discussion of the research outcomes of the work, and future directions.

MSc Data Science and Statistics									
Part	**Stage**	**Normal period of study for this Mode**	**Unit code**	**Unit title**	**Unit status**	**Credits**	**DEU**	**SRU**	**Taught, or Dissertation/ project credits**
4	**1**	**S1**	**XX50215**	Statistics for Data Science	Compulsory	6		n/a	**TSC**
		S1	**CM50264**	Machine Learning 1	Compulsory	6			**TSC**
		S1	**CM50267**	Software Technologies for Data Science	Compulsory	12			**TSC**
		AY	**CM50266**	Applied Data Science	Compulsory	12			**TSC**
		S2	**MA50261**	Research Project Preparation	Compulsory	6			**TSC**
		S2	**MA50260**	Statistical Modelling	Compulsory	6			**TSC**
		S2	**MA50258**	Applied Statistics	Compulsory	6			**TSC**
		S2	**MA50259**	Statistical Design of Investigations	Compulsory	6			**TSC**
		DIS	**MA50262**	Project/Dissertation	Compulsory	30	n/a		**DPC**

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	60 / 90 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 90 credits	All assessment: Appendix 11

MSc Data Science and Statistics incorporating placement

Part	Stage	Normal period of study for this Mode	Unit code	Unit title	Unit status	Credits	DEU	SRU	Taught, or Dissertation/ project credits
4	**1**	**S1**	XX50215	Statistics for Data Science	Compulsory	6		n/a	TSC
		S1	CM50264	Machine Learning 1	Compulsory	6			TSC
		S1	CM50267	Software Technologies for Data Science	Compulsory	12			TSC
		AY	CM50266	Applied Data	Compulsory	12			TSC
		S2	MA50261	Research Project Preparation	Compulsory	6			TSC
		S2	MA50260	Statistical	Compulsory	6			TSC
		S2	MA50258	Applied Statistics	Compulsory	6			TSC
		S2	MA50259	Statistical Design of Investigations	Compulsory	6			TSC
		DIS	CM50250	Placement	Compulsory	60			TSC
		DIS	CM50170	Project/Dissertation	Compulsory	30	n/a		DPC

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	120 / 150 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 150 credits	All assessment: Appendix 11

- **Your MSc Programme: MSc in Machine Learning and Autonomous Systems (with or without placement)**

Programme code	TSCM-AFM48 TSCM-AWM48
Programme title	MSc Machine Learning and Autonomous Systems MSc Machine Learning and Autonomous Systems incorporating placement
Award type	Postgraduate Taught
Award title	**MASTER OF SCIENCE IN MACHINE LEARNING AND AUTONOMOUS SYSTEMS**
Mode of Attendance	Full-time
Length	1 year 2 years
State any designated alternative programme(s)	PG Dip Machine Learning and Autonomous Systems PG Cert Machine Learning and Autonomous Systems
Approving body and date of approval	

Educational aims

The unique aspect of this programme is its combination of fundamental theoretical and computational knowledge with practical experience, industry relevant transferable skills and the application of specific industry standard tools and methods. The aim of this programme is to enhance the technical, scientific and innovation skills of graduates so that they can research, design and deploy technologies, products and processes which increase performance and efficiency

in the machine learning and autonomous systems industry sector. Students learn how to design, implement and evaluate "best in class" autonomous systems, using cutting edge tools and techniques, and integrate the software elements into real systems. This will include advanced machine learning techniques, a range of approaches to artificial intelligence and autonomous agents, systems integration and the use of industry standard tools and methods.

The programme will provide students with a whole systems approach, which takes into account the multiple criteria and stakeholders involved in the development of modern autonomous systems involving both human and non-human agents. Students will not only be taught to develop state-of-the art (software) techniques in the area of machine learning and autonomous systems but will also develop a skill set to enable them to analyse and evaluate the technical and resource aspects of the approach, tool, resource and process and be able to contrast with alternatives while taking into consideration ethical and social impact. The aim is accomplished through a complementary set of taught units and experience through applied design and research projects using systems platforms used widely in industry such as mobile devices, autonomous robots and systems, instantiated in a range of domains including aerospace and automotive applications.

The learning material is delivered using a range of selected pedagogic methods that enhance learning and teaching at Masters level. This includes face-to-face teaching mainly by academic staff and with input from industry, supplemented with flexible, interactive on-line learning and enquiry based learning, i.e. working in small groups, using case-studies to gain experience in solving industrially relevant problems, to reinforce subject knowledge and develop important professional skills. Through careful choice of activities and use of technologies, emphasis is placed on developing a closely-knit cohort of professionals. Learning is enhanced with guest speakers from industry and other organisations, tutorials and experimental work. Professional skills are embedded throughout the programme. Interdisciplinary team-work, effective communication, project management, networking, time and resource management are examples of these skills.
The units are assessed using a mixture of examination, coursework and lab-based assessments with formative assessment throughout the programme; tutorials, workshops and seminars will be used to provide ongoing feedback on progress.

Specific Programme Aims:

- To prepare students for a professional career in the autonomous systems industry at a level which requires the exercise of sound judgement, personal responsibility and initiative, and the ability to

make ethically and technically sound decisions in complex and unpredictable professional environments.

- To equip students with a detailed understanding of the principles of machine learning, autonomous systems and artificial intelligence, many aspects of which will be at, or informed by, the current boundaries of the discipline.
- To equip students with skills to systematically employ state of the art technical and engineering principles to produce original analyses of, and solutions to, autonomous systems design, implementation and evaluation problems.
- To provide an in-depth understanding of the operation, components and techniques of machine learning, autonomous systems and artificial intelligence.
- To enable students to work and lead successfully in multidisciplinary teams.

It is intended that all graduates will satisfy the UK SPEC (2010) Learning Outcomes to M Level and will have experienced a wide range of delivery and assessment strategies.

For the MSc with placement programme:
Students who have not achieved the minimum overall average of 50% across the taught units or are unable to find a suitable placement will have to transfer to the MSc without placement programme.
Students who fail the placement will be eligible to transfer to the MSc without placement.

Learning outcomes

Knowledge and understanding

- Systematic, detailed and critical understanding of machine learning, autonomous systems and their design ranging from well-established principles to new techniques, many of which are informed by The current boundaries of the discipline;
- Critical understanding of the uncertainty, ambiguity and limits of their knowledge and how these may affect analyses of, and solutions to, relevant real world problems;
- Knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations;
- A critical awareness of current problems and/or new insights most of which is at, or informed by, the forefront of autonomous systems design and machine learning;
- An understanding of concepts relevant to the discipline, some from outside computer science, and the ability to evaluate them critically

and to apply them effectively, including in systems development projects.

- Show an advanced level knowledge and understanding of a wide range of the practical technologies currently used in autonomous systems design;
- Show an advanced level of knowledge and understanding of current machine learning and artificial intelligence techniques and practices
- Demonstrate an ability to apply appropriate techniques taking into account the ethical, commercial and financial constraints that designers and developers may have to work under.
- Knowledge of the research literature relating to the individual project undertaken;
- An understanding of the interaction between the state of the art and the work completed by the student during their individual project.

In addition to the above, students completing the **MSc with placement** programme would be able to demonstrate:

- A knowledge of the processes and products associated with the placement undertaken;
- An understanding of the difference between commercial products and academic outputs.

Intellectual skills

- An ability to extend prior learning to an advanced level and apply this prior learning to problems at the advanced level;
- An awareness of the interplay between system level requirements and the design of specific subsystems.
- Critically reflect on one's own work, methods and practices within the context of the programme.
- Generate an innovative design for products, systems, components or processes to fulfil new requirements in autonomous system design;
- Apply the fundamental concepts and principles of machine learning and artificial intelligence to the solution of engineering and computer science problems in both familiar and in complex and unpredictable professional environments;
- Collect, analyse and critically evaluate information or research data in the form of arguments, assumptions and/or technical data (that may or may not be complete) in order to produce solutions to problems in machine learning and autonomous systems design that may either be of a routine nature or require the development of new and original techniques.
- Formulate a research project based upon the critical evaluation of research literature and/or analysis of existing systems or products;
- Conduct research activity independently;
- Analyse and critically report on their own work in the context of existing research.

In addition to the above, students completing the **MSc with placement** programme would be able to:

- Apply research methods and results appropriate to a commercial setting.

Professional practical skills

- Employ a range of established and new techniques to review and critically analyse information concerning theoretical and practical problems in the context of autonomous systems and machine learning, and to propose and implement solutions in a professional manner.
- An awareness of the need for a high level of professional and ethical conduct in systems design, development and evaluation;
- An awareness that system developers need to take account of the commercial and social contexts in which they operate;
- A knowledge and understanding of management and business practices, their limitations, and how these may be applied in the context of autonomous systems and machine learning;
- An awareness of relevant regulatory requirements governing professional activities in the context of autonomous systems and machine learning;
- An awareness of and ability to make general evaluations of risk issues in the context of autonomous systems and machine learning, including health and safety, environmental and commercial risk;
- An understanding of different roles within a systems development team and the ability to exercise initiative and personal responsibility which may be as a team leader or member;
- An understanding of methods for resolving complex machine learning and autonomous systems design issues, both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to both specialist and non-specialist audiences.
- Work independently to a deadline and pre-determined goal seeking advice where appropriate;
- Present results in a balanced way with appropriate comparisons to the work of others.

In addition to the above, students completing the **MSc with placement** programme would be able to:

- Apply commercial constraints to individual work activities.

Transferable key skills

- Complete work to pre-determined deadlines;
- Manage their own activities in the presence of multiple demands on their time.

- Show an understanding management and business practices, their limitations, and how these may be applied in the context of the particular specialisation;
- Demonstrate an awareness that systems development activities should promote sustainable development;
- Demonstrate the ability to apply quantitative techniques where appropriate;
- Plan, control and execute a project independently;
- Work effectively as a part of a team working to a common goal.
- Write balanced and succinct reports describing the student's work in the context of the state of the art;
- Critically compare the work of others managing disparity of information in a clear and coherent manner;
- Execute a significant research activity independently;
- Present work orally providing an appropriate and scientific justification of the work when questioned.

In addition to the above, students completing the **MSc with placement** programme would be able to:

- Explain the commercial impact of systems development proposals made as part of their placement work.
- Deal with confidentiality and intellectual property issues.

MSc dissertation

- To apply high-level research in practice, by conducting a defined research project in their specialist subject and use a wide range of research techniques relevant to the specialist subject
- To achieve critical awareness of research literature and its application to current developments in the subject
- To be able to identify the tasks to be completed in a research project proposal, plan a scheme of work, and complete the project to a professional standard;
- To assemble and create the necessary analysis, design and development tools, carry out the development of the solution of a technical problem in computer science, and evaluate the effectiveness of the solution against common standards of quality;
- To demonstrate the successful completion of these tasks in a well-structured and coherently written dissertation. This will include a discussion of the research outcomes of the work, and future directions.

MSc Machine Learning and Autonomous Systems (without placement)									
Part	**Stage**	**Normal period of study for this Mode**	**Unit code**	**Unit title**	**Unit status**	**Credits**	**DEU**	**SRU**	**Taught, or Dissertation/ project credits**
4	**1**	**Semester 1**	CM50272	Humans and Intelligent Machines	Compulsory Unit	6			TSC
4	**1**	**Semester 1**	CM50264	Machine learning 1	Compulsory Unit	6			TSC
4	**1**	**Semester 1**	XX50215	Statistics for data science	Compulsory Unit	6			TSC
4	**1**	**Semester 1**	EE50235	Autonomous Systems Engineering	Compulsory Unit	6			TSC
4	**1**	**Semester 1**	CM50206	Intelligent agents	Optional Unit	6			TSC
4	**1**	**Semester 1**	EE50237	Robotics Software	Optional Unit	6			TSC
4	**1**	**Semester 2**	CM50175	Research project preparation	Compulsory Unit	6			TSC
4	**1**	**Semester 2**	CM50230	Intelligent control and cognitive systems	Compulsory Unit	6			TSC
4	**1**	**Semester 2**	CM50265	Machine learning 2	Compulsory Unit	6			TSC
4	**1**	**Semester 2**	CM50268	Bayesian machine learning	Optional Unit	6			TSC
4	**1**	**Semester 2**	CM50269	Neural computation	Optional Unit	6			TSC
4	**1**	**Semester 2**	CM50270	Reinforcement learning	Optional Unit	6			TSC
4	**1**	**Semester 2**	CM50263	Artificial intelligence	Optional Unit	6			TSC
4	**2**	**Dissertation**	CM50170	Dissertation	Compulsory Unit	30			DPC

Please choose 1 of the optional units in Semester 1 and 2 of the optional units in Semester 2 to complete your unit selection

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	60 / 90 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 90 credits	All assessment: Appendix 11

MSc Machine Learning and Autonomous Systems (with placement)									
Part	**Stage**	**Normal period of study for this Mode**	**Unit code**	**Unit title**	**Unit status**	**Credits**	**DEU**	**SRU**	**Taught, or Dissertation/ project credits**
4	**1**	**Semester 1**	XX50215	Statistics for data science	Compulsory Unit	6			TSC
4	**1**	**Semester 1**	CM50264	Machine learning 1	Compulsory Unit	6			TSC
4	**1**	**Semester 1**	CM50206	Intelligent agents	Optional Unit	6			TSC
4	**1**	**Semester 1**	EE50237	Robotics Software	Optional Unit	6			TSC
4	**1**	**Semester 1**	CM50272	Humans and Intelligent Machines	Compulsory Unit	6			TSC
4	**1**	**Semester 1**	EE50235	Autonomous Systems Engineering	Compulsory Unit	6			TSC
4	**1**	**Semester 2**	CM50175	Research project preparation	Compulsory Unit	6			TSC

4	**1**	**Semester 2**	CM50230	Intelligent control and cognitive systems	Compulsory Unit	6			TSC
4	**1**	**Semester 2**	CM50265	Machine learning 2	Compulsory Unit	6			TSC
4	**1**	**Semester 2**	CM50268	Bayesian machine learning	Optional Unit	6			TSC
4	**1**	**Semester 2**	CM50269	Neural computation	Optional Unit	6			TSC
4	**1**	**Semester 2**	CM50270	Reinforcement learning	Optional Unit	6			TSC
4	**1**	**Semester 2**	CM50263	Artificial intelligence	Optional Unit	6			TSC
4	**1**	**Dissertation**	CM50250	Placement	Compulsory Unit	60			TSC
4	**2**	**Dissertation**	CM50170	Dissertation	Compulsory Unit	30			DPC

Please choose 1 of the optional units in Semester 1 and 2 of the optional units in Semester 2 to complete your unit selection

Assessment weightings and decision references		
Stage	**Weighting within programme**	**NFAAR-PGT decisions reference** **See NFAAR-PGT information at:** **www.bath.ac.uk/registry/nfa**
Stage 1	120 / 150 credits	All assessment: Appendix 11 Programme progression requirement (PPR): 50%
Stage 2	30 / 150 credits	All assessment: Appendix 11

Further information
Section in this handbook on **Assessment**.
Definitions of assessment terms: www.bath.ac.uk/registry/nfa/nfaar-pgt-appendix-02.pdf

Your MSc Programme – common information for all programmes

Professional Body Accreditation

Our MSc Software Systems, MSc Human Computer Interaction and MSc Digital Entertainment are accredited by the BCS: The Chartered Institute for IT. Students successfully completing one of these courses will be awarded Partial Chartered IT Professional (CITP). We will go through (re-)accreditation this academic year with all our programmes. If successful, currently unaccredited programmes could have their accreditation back-dated. The department will keep you informed through SSLC.

Timetables

Programme and unit timetable information can be found online at: www.bath.ac.uk/timetable

You can also use MyTimetable to create a customised programme timetable that can be downloaded into an electronic calendar: www.bath.ac.uk/timetable/MyTimetable.htm

A printed copy of your semester 1 timetable will be provided in during induction.

Option choices

Information about how and when to choose your option units can be found at: www.bath.ac.uk/catalogues/information/students/online-unit-selection

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.

Placements

Many of the MSC programmes (Human Computer Interaction, Software Systems, Digital Entertainment, Data Science, Data Science and Statistics, Machine Learning and Autonomous Systems) offer the option to take a one year placement. The MSc with placement degree includes a one-calendar-year placement comprising 60 credits.

The objective of the placement is to explain the commercial impact of systems development proposals made as part of their placement work.

The department will facilitate introductions to potential companies via the Faculty placements office.
The placement will be assessed on a pass/fail basis. It is assessed by:

- Completed log book,
- Student Placement Report,
- Student placement
- presentation,
- Employer competence summary reports

All components needs to be successfully passed in order to pass the placement. Students who have not achieved the minimum overall average of 50% across the taught units or are unable to find a suitable placement will have to transfer to the MSc without placement programme.

Students who fail the placement will be eligible to transfer to the MSc without placement.

Submission Deadlines

Units with coursework will normally announce the schedule for coursework specification and submission during the first lecture of the semester. Submission deadlines are discussed with the director of studies to provide a spread off deadlines where possible. While every effort is made to spread the deadlines as much as possible, submission deadlines will naturally fall towards the end of the semester.

Where possible we try to avoid changing days but when needed deadlines can be moved. The unit leader will announce this during the lecture and post it on Moodle where applicable.

A significant proportion of coursework on the Masters will need to be submitted through Moodle, our e-learning platform. For paper-based coursework,
For paper-based coursework submissions, the Department of Computer Science uses special Coursework Boxes for submission of coursework. The Coursework Boxes for all Computer Science students are located in 1 West level 2.
Close to the submission date of a particular coursework, one or more of the individual posting slots will be labelled with the unit number and name, and the date and time of the coursework's hand-in deadline. All coursework must be submitted by posting it in the appropriate slot in the Coursework Boxes by the deadline identified on the coursework specification, unless otherwise specified by your Unit Lecturer.
If you need to submit after the original deadline (late submission or because of a deadline extension), submit your work at the faculty office.
When submitting paper-based coursework, all students are required to complete a copy of the Coursework Submission Form. Copies of this form can be obtained from the Department Office. The completed form must be bound securely into

the coursework submission as the first page of the coursework. These forms are used to ensure that all coursework has the required details to correctly identify the coursework to the student(s) who submitted it, and to provide a record of which students submitted coursework in each Unit.

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/plagiarism/collusion and may lead to severe penalties.

No coursework will be accepted that is not submitted securely bound. The only binding which is acceptable are forms of binding that allow all the content of each page to be read without having to remove any pages from the binding. **DO NOT** use plastic pockets or plastic covers to hold your coursework - where possible, a single staple should be used. Sections of coursework that are inappropriately bound may not be marked.

All paper-based submissions must be in printed or legible hand-written form - submission of part or all of the coursework on computer disk, CD-ROM, DVD or any other electronic or magnetic storage media is not acceptable unless specified as part of the coursework submission. Submission by e-mail is not acceptable unless specified as part of the coursework submission. If you are unable to be present within the Department to submit your coursework, you may submit the coursework by surface mail. Any coursework submitted in this manner must normally be posted in time to arrive by the deadline date, and should always be post-marked before the deadline for coursework submission. You are responsible for ensuring that any coursework submitted by mail is delivered safely and on time, by using a recorded delivery or courier service if appropriate.

Late submissions, without a deadline extension approved by the director of submission, will incur a penalty. Within 5 working days of the deadline, the mark will be capped to 40. After 5 working days the mark will be capped to 0.

You are required to retain a copy of any coursework that you have submitted. Most 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 on request.

Marking Criteria

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 examinations and, where practical, other assessment. 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).

All our MSc programmes require a 50% Taught Stage Average (the weighted average across all taught units) in order to progress onto the dissertation stage of programme. Students not meeting this requirement will be transferred to the PG Dip.

In compliance with NFA-PGT, all failed and non-condoned units need to be retrieved on a like-for-like basis.

Research Ethics

In adherence to university's Code of Good Practice in Research Integrity all students doing their dissertation project should discuss ethical implications with their project supervisor.

Further Study

If you like to continue your studies after a Master, you may want to consider studying for a PhD. Do not hesitate to contact your project supervisor, your current Director of studies (Dr. Marina De Vos) or our PhD admissions tutor (Dr. Kwang-in Kim) for further information.

Unit and programme changes

We continually look for ways to develop and improve our programmes. For example:

- It might be desirable to make some updates to the content of the curriculum to reflect the latest developments in a particular field of study
- A review of the assessments across a programme (including feedback received) might identify that changes to an assessment would better support student learning.

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.

In addition, it is sometimes necessary to make changes due to unforeseen or unavoidable circumstances. For example:

- The accrediting body for a programme may require changes to be made to it
- It may not be possible to run a particular unit because a member of teaching staff with specialist expertise leaves the University and we are unable to find a suitable replacement
- It may not be viable to run a particular optional unit in a given year because very few students select it.

In such cases, the University will always try to ensure that any impact on students is minimised and that students are informed of the changes at the earliest opportunity.

All programmes and unit changes are managed through a formal process set out by the University. The aim of this is to ensure that changes are academically appropriate and properly supported, take place in a timely manner, and safeguard the interests of students.

How Your Programme is Reviewed and Monitored

The University has in place a number of ways to ensure that programmes remain up-to-date, issues are dealt with and improvements made.

All programmes and units are monitored annually, looking at evidence for what is working well and identifying any actions that need to be taken. Taking account of student feedback, including feedback given through unit evaluation and other student surveys, is a key part of unit and programme monitoring.

Departments also conduct periodic reviews of their programmes. These provide an opportunity for in-depth review and development, involving input from students and from an adviser(s) external to the University.

• Assessment

Feedback to students on assessment

During your programme, you will normally receive feedback on assessed work. Feedback on assessments may take different forms, depending on your subject and the 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 formal written examinations, students may receive general feedback to the group 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.

The university has a policy of providing coursework feedback within three working weeks after submission. When this is impossible, the unit leader will notify the students. Individual feedback is normally provided either written on the submission, using a feedback sheet or via Moodle. While individual feedback is provided, some unit leaders will normally provide general feedback through Moodle or during a lecture. Students are encouraged to contact unit leaders if they would like further feedback or clarification.

Feedback does not restrict itself to comments on formal assessment. Lab sessions, (informal) discussions with lecturers and tutors, meetings with your project supervisor also give you the opportunity to get valuable feedback on your progress. If you are unsure on how you getting on with your unit/course, talk to your lecturer, tutors and/or personal tutor. Talk to us! Feedback does not need to written down to be valuable.

Academic Integrity: Training and Test

As a student registered on a University of Bath award, you are required to undertake the academic integrity training and pass the associated test. The academic integrity training aims to provide all students with a basic knowledge and understanding of good academic practice. This includes an understanding of plagiarism and other assessment offences, and skills necessary to reference your work appropriately.

The training and test are accessed from Moodle by clicking on the link entitled **'Academic Integrity Initiative'**: http://moodle.bath.ac.uk

If you have any access problems, then please contact Matthew Albertyn in the first instance.

When you have completed the training tutorial and are confident that you have understood it, you should undertake the test. To pass the test you will need to achieve a mark of 85%. You can take the test as many times as necessary until you pass.

If you do not pass the test, you will need to re-visit the training and/or look at the other guidance available to you (see: www.bath.ac.uk/asc/study-skills/academic-integrity.html) or as required by your Director of Studies, and then take the test again.

You will not be able to progress beyond the next progression point in your studies, irrespective of your programme marks, until you pass this test. Ultimately this means that, if you have not passed the test, you will not be able to receive your award. Your Director of Studies will be able to confirm when the next progression point occurs for your stage of your programme.

Further information
Academic integrity: www.bath.ac.uk/asc/study-skills/academic-integrity.html
Regulation 3.7: www.bath.ac.uk/regulations/Regulation3.pdf

Plagiarism detection and personal data

When you hand in a piece of assessed coursework, 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 the Plagiarism Detection Service, Turnitin. This service checks electronic, text-based submissions against a large database of material from other sources and, for each submission, produces an 'originality report'. It

makes no judgement on the intention behind the inclusion of unoriginal work; it simply highlights its presence and links to the original source.

The 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 – see below) and may make, or authorise third parties to make, copies of any such work for the purposes of:

i) assessment of the work
ii) comparison with databases of earlier work or previously available works to confirm the work is original
iii) 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.

Further information
The University's procedures on Examination and Assessment Offences (QA53) are described at: www.bath.ac.uk/quality/documents/QA53.pdf
Regulation 15, Assessment of undergraduate and taught postgraduate programmes: www.bath.ac.uk/regulations/Regulation15.pdf
University's Data Protection Officer: dataprotection-queries@lists.bath.ac.uk

Academic Integrity: Referencing and Plagiarism

Plagiarism is the use of any published or unpublished work without proper acknowledgement in your references. Plagiarism occurs when a student

'borrows' or copies information, data, or results from an unacknowledged source, without quotation marks or any indication that the presenter is not the original author or researcher.

Another form of plagiarism (and hence cheating) is auto-plagiarism or self-plagiarism. This occurs when a student submits work (whether a whole piece or part of a piece) without acknowledging that they have used this material for a previous assessment.

If you use someone else's work – say, by summarising it or quoting from it – you must reference the original author. This applies to all types of material: not only text, but also diagrams, maps, tables, charts, and so on. Be sure to use quotation marks when quoting from any source (whether original or secondary). Fully reference not only quotations, but also paraphrases and summaries. Such references should then be included in a bibliography or reference list at the end of the piece of work. Note that the need for referencing also applies to web-based material; appropriate references according to the type of work or image should always be given.

There are several acceptable methods of referencing material. Examples include the Harvard system and the Numeric system. **Ask your Director of Studies or Personal Tutor for further information and advice on the referencing system used on your programme.**

Guidance on referencing and plagiarism is available through skills training run by the University and the Students' Union, as well as online resources. Referencing guides are also available in print in the Library, and your Subject Librarian will be able to help with any questions.

Further information
For further information on all our skills and development opportunities see:
http://go.bath.ac.uk/skills
Academic integrity: www.bath.ac.uk/asc/study-skills/academic-integrity.html
Library resources: www.bath.ac.uk/library/infoskills/referencing-plagiarism
Students' Union Skills Training: thesubath.com/skills-training

Academic Integrity: Penalties

Any student who is found to have used unfair means in an examination or assessment procedure will be penalised. 'Unfair means' here include:

- cheating - for example, unauthorised use of notes or course material in an examination
- fabrication - for example, reporting on experiments that were never performed
- falsification - for example, misrepresentation of the results of experimentation
- plagiarism, including self-plagiarism (see above)
- Unfair collaboration or collusion - representation of work produced in collaboration with another person or persons as the work of a single candidate.

The University's Quality Assurance Code of Practice, QA53 Examination and Assessment Offences, sets out the consequences of committing an offence and the penalties that might be applied.

Penalties for unfair practice will be determined by the Department or by the Faculty/School Board of Studies in line with the procedures set out in QA53. They 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.

Further information
Examination and assessment offences:
www.bath.ac.uk/quality/documents/QA53.pdf
Students' Union advice and support: thesubath.com/support

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.

Late submission of coursework
You will be expected to hand in all assessed coursework and dissertations/projects by a specified date and time. This is to ensure fairness to all students who are submitting work.

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**.

Individual Mitigating Circumstances

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 and guidance on Individual Mitigating Circumstances and Assessment (including definitions of IMCs, in the document "What are Individual

Mitigating Circumstances?") is available at: www.bath.ac.uk/registry/imc/imc-students.html

It is strongly advised that you become familiar with the available guidance so that you understand the process and timescales should such circumstances arise.

You should make yourself familiar with these definitions, in addition to any IMC guidance offered by your Department, and support and guidance offered through the Disability Service (www.bath.ac.uk/groups/disability-service) or the Students' Union Advice and Support Service (thesubath.com/support).

Your Department/School will be able to advise you on how to submit an IMC claim, and your Director of Studies can help you to understand the potential implications of your IMC claim on your overall progress and/or award, in light of your academic achievement to date and the assessment regulations for your programme.

Should you wish any IMCs to be taken into account by the Board of Examiners for Programmes when considering your progression or award classification, notify your Director of Studies no more than three days after the affected assessment by completing the IMC report form available at: www.bath.ac.uk/registry/imc/imc-students.html

You will also need to submit evidence of how your circumstances affected the relevant assessment(s), for example, a medical certificate in the case of illness or injury.

If you know of a potential IMC that may affect your assessment before you begin an assessment period, it is important that you notify your Director of Studies in advance. After speaking to your Director of Studies, if you do intend to submit a formal IMC claim for the affected assessment(s), you will still need to complete the form and follow procedures.

Assessment Processes

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 appeal can only be made in relation to a confirmed mark (see the section in this Handbook on **Procedures for Academic Appeals**).

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. On rare occasions a Board of Examiners may decide to recommend a change to the marks assigned initially, based on evidence that there was a problem with the assessment (for instance, disruption during an examination, or an exam paper that was too easy or difficult) which means that the marks assigned initially do not accurately reflect the standards achieved by the candidates. This adjustment is known as scaling and under these circumstances the marks of all affected students will be changed.

External examiners

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

Once a year, External Examiners provide a written report on each taught programme. University staff will look at these reports and a response will be made to the External Examiner's comments. Staff/Student Liaison Committees (SSLCs) also discuss External Examiner reports as part of annual monitoring activity. You can read the latest External Examiner report for your programme, and the University's response to it, at:
www.bath.ac.uk/quality/externalinput/external-examiners-reports.bho

The External Examiners for your programme are:
Prof Wolfgang Faber, University of Huddersfield for MSc Computer Science, MSc Software Systems, MSc Human Computer Interaction
Prof Richard Everson, University of Exeter for MSc Data Science, MSc Digital Entertainment, EngD Digital Entertainment (taught component)

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 **Procedures for Academic Appeals** and **Dealing with a problem involving the University: Complaints** give some more information about the University's procedures for student complaints and academic appeals. The section on **Student representation** sets out how students can engage with the quality management process through which the University considers and responds to External Examiners' comments and suggestions.

Assessment Regulations

The University's **New Framework for Assessment: Assessment Regulations: Phases 2 & 3 for postgraduate taught programmes ('NFAAR-PGT')** 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. If you began the first stage of your programme in or after the 2011/12 academic year, NFAAR-PGT applies to you. (If you began before then, please ask the Director of Studies for guidance on assessment).

If at any time you are in doubt about how NFAAR-PGT 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-PGT document.

Important information
This section may contain terms unfamiliar to you. In addition to the explanations we give below you can find full definitions at:

www.bath.ac.uk/registry/nfa/nfaar-pgt-appendix-02.pdf
For full details of the NFAAR-PGT, visit: www.bath.ac.uk/registry/nfa
For information relating to your programme, visit: www.bath.ac.uk/catalogues

Your programme and how you are assessed
Within your 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 *optional units* (i.e. those units you may choose from a range of options).

The Programme Description; Structure of the programme section in this handbook shows the structure of your programme. In the table, compulsory and optional units are labelled 'C' and 'O' respectively. Please note that you can also access this information via links in your programme's description in the Programme and Unit Catalogues available at: www.bath.ac.uk/catalogues

At the end of the table, there is a link to the relevant appendix of the NFAAR-PGT which states exactly how the assessment rules operate.

The following points will help you to understand how the assessment rules relate to your specific programme, such as pass marks, averaging of marks and dealing with any failures:

Firstly, there are several references below to the persistent generic rules on the extent of any failures of units permitted overall. The rules are that you can only (1) fail and retrieve units, or (2) marginally fail units and have them condoned, **within set limits.** Breaking these rules results in failure of the programme.

- MSc Computer Science: Your programme has Designated Essential Units (DEUs) which you must pass to gain the award you seek; even marginal failure in these units cannot be condoned.

- MSc Software systems, MSc Human Computer Interaction, MSc Data Science, MSc Digital Entertainment: Your programme does not have any Designated Essential Units (DEUs).

- Your programme has units that constitute the Taught Stage(s) Credits in a separate phase before the period in which you will do the Dissertation/Project type unit(s), as indicated in the table at the end of this section. The Programme Progression Requirement to get from the taught phase to the Dissertation/Project phase is a minimum of 50%.

- Should you fail to qualify for the award of the degree of Master, you may be considered for the award of a related Postgraduate Diploma (subject to your having met the requirements) or Postgraduate Certificate (MSc Data Science, subject to your having met the requirements)

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. Particular rules apply to failure of units of the 'Taught type', or in the 'taught' stages. 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 outright or the attempted retrieval would break the rule on how much failure can be retrieved.
- If you fail any non-DEU units badly (i.e. achieve less than 35%), you will have to undertake supplementary assessment unless you have failed so many units that you fail outright or the attempted retrieval would break the rule on how much failure can be retrieved.

- If you fail only non-DEU units 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.

Dissertation/Project units have their own special rule on failure: only cases of marginal failure (i.e. 35%-39%) will be given permission for attempted retrieval through supplementary assessment, and any resubmission that is permitted for marginal failure must be made within a specified period. Ultimately, you must pass a Dissertation/Project unit (or have an average of at least 40% for them if there are more than one) for satisfactory completion of the requirements for Dissertation/Project elements.

Your unit results are combined as follows to make overall assessment/award decisions:

- The Taught Stage(s) Average (TSA) will be calculated by taking the credit-weighted average of marks for all units required to contribute to the taught stage(s), or by taking the credit-weighted average of marks for all units defined as of 'Taught type' required to contribute to the programme.
- The Dissertation/Project Average (DPA) will be calculated by taking the credit-weighted average of marks for the unit(s) required to contribute to the Dissertation/Project stage(s), or by taking the credit-weighted average of marks for the unit(s) defined as of 'Dissertation/Project type' required to contribute to the programme.
- The Overall Programme Average (OPA) will be calculated by taking the credit-weighted average of marks for all units required to contribute to the programme.

A Board of Examiners will decide at appropriate points whether you are continuing to meet the requirements for the programme (including not breaking persistent generic rules whereby you can only fail and retrieve, or marginally fail and have condoned, units within set limits), and/or whether you have met all the requirements for your target award or any alternative that might be available. The outcomes will depend on both your performance in individual units and your overall performance. Generally, if you pass each of your units, you will progress and, in due course, be recommended for an award.

If you fail units beyond certain credit values, or you fail some too badly, you might break one of the persistent generic rules whereby you can only fail and retrieve, or marginally fail and have condoned, units within set limits, and this will result in failure of the programme - without any opportunity for supplementary assessment. (Further information on supplementary assessment is provided below.)

The criteria for making awards with distinction or with merit are described in the relevant NFAAR-PGT rules (paras. 78-80).

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, or by the end of the programme if it is a single-stage programme or the failed units are not Stage Required Units (SRUs). It generally involves re-doing coursework or re-sitting an examination. Students undertaking supplementary assessments are likely to have to do so at the University in the summer re-sit examinations.

For the 2018–19 academic year, this period will be 14 August to 23 August 2018. Each unit's method of supplementary assessment is shown in the online Unit Catalogue.

At supplementary assessment, students will normally have the opportunity to gain credit for units then successfully passed and to have the mark gained reported to them for feedback purposes, but a maximum mark of 40% will be awarded and used in the Overall Stage Average, the Overall Programme Average, the Taught Stage(s) Average, and any award calculation.

In units where the original assessment is a written examination, supplementary assessment may sometimes take the form of reworking an examination paper, known as 'mandatory extra work', rather than re-sitting the examination. In such cases the pass mark is 70% and a mark below 60% is considered a bad fail.

If you pass all your supplementary assessments, you will be able to progress onto the next stage of your programme and/or, as appropriate, be considered for an award. If you do not pass them all, the outcome will depend on your overall performance including consideration of the rules about passing particular types of units and the persistent generic rules (as set out above).

Procedures for Academic Appeals

Students wishing to submit a request for an academic appeal should refer to Regulation 17 (Conduct of Student Academic Appeals and Reviews): www.bath.ac.uk/regulations /Regulation17.pdf

You are also strongly advised to read the online guidance provided by the Academic Registry: www.bath.ac.uk/registry/appeals

Independent advice about academic appeals is offered by the Students' Union Advice and Support Service: thesubath.com/support

Regulation 17.16 outlines how students may appeal against formal Board of Studies decisions in respect of one or more of the following:

i) The student's suitability to progress from one stage of the programme of study to the next
ii) The student's suitability to remain on the programme of study
iii) The marks/grades, degrees, certificates or diplomas, and the classifications/grades awarded to the student.

The regulation also sets out the grounds on which an appeal can be based. Please note that:

- Dissatisfaction with a mark or set of marks, or any other aspect of the properly exercised academic judgement of the examiners, will not of itself be acceptable as a valid ground for an academic appeal (Regulation 17.1)
- Students who have concerns about assessment outcomes that have not yet been approved by a Board of Studies should seek advice in the first instance from their Director of Studies. This may include matters such as suspecting errors in the totalling or transcription of marks/grades, or wishing to seek clarification about the marking process (Regulation 17.2).

All academic appeals must be submitted within the timescales set out in Regulation 17. Students must provide the required information and evidence, including a completed AA1 form. The form and further academic appeals guidance are available at:
www.bath.ac.uk/registry/appeals

Student Complaints are dealt with under separate procedures: www.bath.ac.uk/regulations/Appendix1.pdf

If you are uncertain as to whether your concerns are a potential academic appeal or a student complaint, please refer to the guidance at: www.bath.ac.uk/students/support/complaints

Study and support: Getting the most out of your studies

Accessing university email

You will need to use your unique username and password to access your University email account. You are able to access your email by going to http://mail.bath.ac.uk. Your username also forms your email address (username@bath.ac.uk).

The University will often communicate with you about a range of important matters including registration, unit enrolment, assessment, degree ceremonies, and matters such as tuition fees, via your University email account. So that you do not miss out on (and as a consequence fail to act on) important information, it is a University requirement (Regulation 1.3) 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.

Further information
Email guidance: www.bath.ac.uk/guides/accessing-your-university-email-and-calendar
Regulation 1.3: www.bath.ac.uk/publications/regulations-for-students

SAMIS

SAMIS is the University's student records database. It provides an online portal where you can view details about your registration, update your contact details, and do other things such as viewing exam information, viewing your confirmed assessment results, and (where applicable) choosing optional units.

Further information
www.bath.ac.uk/samis

Moodle

Moodle is the Virtual Learning Environment (VLE) used at the University of Bath. It is used by academic Departments to support learning and teaching at programme and unit level. It provides a platform for the delivery of resources and online activities, and can also support student interaction and collaboration.

Further information
https://moodle.bath.ac.uk/

Personal Tutoring

When you join the University, you will be assigned a Personal Tutor who will help you to get the best out of your university experience. Your Personal Tutor will:

- Support you in your academic progress and personal development
- Discuss with you programme choices, placement opportunities and future career plans
- Provide you with a reference for your placement or career
- Guide you to sources of expert help with any personal/welfare issues.

Your Personal Tutor should arrange to meet with you on at least three occasions in your first semester and at least once per semester thereafter. This enables you both to get to know each other, such that you can raise any issues with your tutor and your tutor can support you fully through your programme. It is important that you attend scheduled meetings with your Personal Tutor and let them know in advance if you cannot attend. Many of these meetings may be in small groups but you can also request a one-to-one meeting.

If you should have reason to wish to change your Personal Tutor, please contact your Director of Studies to discuss the matter.

Academic Skills Support and Development

To help you get the best out of your studies and your future employability, we offer all our students a comprehensive range of free, year-round skills and personal development opportunities designed to complement your academic programme.

These opportunities have been designed to give you choice and flexibility to help you get the support and development you need at the time you most need it. You can choose from classes, tutorials, drop-in sessions, workshops and online resources to develop your academic skills, for example to:

- Create well-written, clearly structured essays, reports and dissertations
- Think critically in order to enhance your writing
- Manage information sources and literature effectively
- Give polished and effective academic presentations
- Manage and analyse numbers, data and statistics
- Enhance your existing language proficiency, or learn a new language
- Use IT tools and resources effectively.

There are many other opportunities also available to you through our Careers Service and Students' Union to help you develop your skills and prepare for the workplace. For example:

- Writing an effective job application and CV
- Succeeding at interview or assessment centre
- Leading and managing projects
- Chairing meetings
- Running a club or society.

Further information

Find out more about the skills support and development opportunities available here: http://go.bath.ac.uk/skills

Recognition for extra-curricular activities: The Bath Award

The Bath Award recognises and accredits the skills and achievements of students engaged in all types of extra-curricular activities. It operates alongside your degree programme and aims to capture the extra-curricular achievements at University that you will find valuable in your future life and career.

Further information
thesubath.com/bathaward

The Library

The Library is open 24 hours a day and provides print and electronic materials and information services to support study and research across the University. It houses over 520 PCs, wireless networking throughout, and provides areas for both quiet individual study and group work. Alongside 340,000 printed books, it offers over 22,000 electronic journals, 425,000 electronic books, 90 databases and digital versions of the University's academic publications, all available across the University and beyond. The Library's copy and print service includes black and white and colour photocopying, laser printing and scanning.

Information specialists, known as Subject Librarians (see the Department's library resources page below), are responsible for services to individual Departments/the School. They provide individual help to students and staff, as well as teaching information skills in Department and School programmes and through general University skills provision. All new students receive library introduction sessions during the induction period.

Further information
This Department's library resources page is:
http://www.bath.ac.uk/library/subjects/comp-sci/index.html
For information on all library services and resources: www.bath.ac.uk/library

Computing Services and Facilities

Using your University username and password, you will be able connect to University computers, University email, the internet, file storage and printing. You will also be able to get access to a range of free software, including Office 365 and antivirus. You can also work from any location using our UniDesk and UniApps service, which gives you access to your files as if you were on campus.

If you'd like to know more about these services and how to access them, visit http://go.bath.ac.uk/it-new-students

IT Support is available from the IT Service Desk on Level 2 of the Library or online at: http://go.bath.ac.uk/it-help-form

If you require learning assistance, Computing Services can support you with your computing needs. The Assistive Technology Team is available to provide advice and support. Additional resources are available, which include the Assistive Technology room, specialist software and computer hardware - including laptops for loan.

The IT shop in the Library stocks popular products such as academic software, DVDs, network cables and headsets. You can order many further IT products through the shop. Prices are often lower than in high street shops.

You can also borrow technology from the Service Desk in support of your studies, for example audio recorders, video cameras and projectors.

Further information
Computing Services: www.bath.ac.uk/professional-services/computing-services
Information for new users: http://go.bath.ac.uk/it-new-students
Information for users with a disability or requiring learning assistance: www.bath.ac.uk/professional-services/assistive-technology
IT shop: www.bath.ac.uk/locations/it-shop
Computing Services Twitter feed: @UniofBathIT

Recording of Lectures

'Lecture capture' technology is widely used on campus to record lectures. Lecturers on your units will inform you if lectures will be recorded and the

recordings made available for you to view again online. Where provided, lecture recordings are made available as an additional resource for personal study and revision purposes, and you can pause and rewind recordings when you re-watch them. The University cannot guarantee recordings (for example in the event of a technical fault) and recordings are not made available indefinitely.

As set out in Ordinance 22.4, students are not permitted to copy or redistribute lecture recordings, or to make their own recordings of lectures. However, the University may permit students with a disability to record lectures where this is a reasonable adjustment under the provisions of the Equality Act, in order to give these students equal access to educational opportunities. In such circumstances the lecturer will be informed that the lecture is being recorded and the student may use the recording for their own personal study purposes only. Students with a disability should contact the Disability Service for further advice.

Further information
Ordinance 22: www.bath.ac.uk/corporate-information/ordinances
Disability Service: www.bath.ac.uk/groups/disability-service

Student Representation

Feeding back your views to the University

The University is committed to reviewing and continually improving its practice. The main ways in which we seek feedback are through:

a) Staff / Student Liaison Committees (SSLCs)
b) Surveys
c) The Students' Union.

We also use focus groups, Departmental working parties, and various kinds of feedback session.

You can get actively involved in determining how your educational and student experiences are organised by becoming active in the Students' Union or by letting your Department know that you are interested in contributing.

Every Department has a formal system so that all students can comment routinely, in confidence and anonymously on the learning experience they have received. Such comments help us to check that:

- You have a clear idea of the aims and requirements of each unit you study
- Our teaching is effective and stimulating
- The advice and feedback we provide on your work is helpful
- Our resources are suitable.

You will be asked to complete a short online unit evaluation for units you have studied. You will also be asked to complete surveys periodically on your experience of the programme as a whole. Please complete each evaluation fully, thoughtfully, and candidly. In particular, please tell us not only your opinion but also the *reasons* behind your opinion.

When we receive responses to evaluations, we analyse them – especially the positive suggestions for change and concerns that are voiced. Student feedback and the resulting actions are taken into consideration in annual monitoring of units and programmes. Survey results are discussed at committees where student representatives have the opportunity to input to any action plans developed in response to the issues raised.

Your feedback is important to both the University and the Students' Union. Please keep telling us what is going well and what needs to get better. We will communicate how feedback on units and programmes, and the wider student experience, has been acted upon.

Student representatives

As a student of the University you are automatically a member of the Students' Union (although you have a right to opt out - see section below on **Students' Union membership**). Officers of the Students' Union represent students' interests on University decision-making bodies. In addition, numerous elected student representatives play important roles on various Departmental, Faculty/School and University committees. All student representatives are elected through online elections facilitated by the Students' Union.

There are many opportunities for elected student representatives. If you are elected to serve on Departmental, Faculty/School or University committees you will be expected to represent the views of your fellow students and provide feedback following meetings.

Student representation on Committees

Departmental level:	Each Department has at least one Departmental Staff / Student Liaison Committee (SSLC). These comprise several elected student members, known as Academic Reps, and an equal or smaller number of staff members. Academic Reps are elected at the beginning of every year through online elections. Their role involves collecting the views of the students on their programme and attending SSLCs where they represent these views to their Department.

	Each SSLC produces an Annual Overview Report briefly outlining their work and highlighting good practice, the key themes explored and the actions that have been taken as a result. The Students' Union reviews all these reports and prepares a summary report for the University highlighting issues which need to be addressed by the institution as a whole. There is also provision for student membership of the Department Learning, Teaching and Quality Committee: normally one undergraduate and one postgraduate (taught) representative. Academic Reps attend Students' Union Academic Council meetings. These take place every three weeks during semester time in order to: • Keep Students' Union Officers and fellow Academic Reps informed of academic developments throughout the University • Discuss common problems and interests affecting Departments • Gather student opinions and views to be used by the University and the Students' Union • Update Academic Reps on key issues. Do feel free to approach your student Academic Reps at any time to inform them of good practice or areas for enhancement in your units and programme. This is normally the person who represents your year or degree scheme on the Departmental SSLC.
Faculty/ School level:	Student representatives are also elected as Faculty Reps to sit on a number of Faculty/School level committees such as the Faculty/School Board of Studies and the Faculty/School Learning, Teaching and Quality Committee. Faculty Reps are also members of the Students' Union Academic Exec Committee.
University level:	University committees with student representation include the Council/Senate/Students' Union, the University Learning, Teaching and Quality Committee, the Programmes and Partnerships Approval Committee, and Senate.

If you are interested in opportunities to represent student views, please contact the Students' Union: academicreps@bath.ac.uk

The Students' Union runs a full training programme for student representatives including an online course in Moodle, a conference and additional sessions through the Skills Training programme.

If you need to raise a concern, remember there are various routes open to you. You can discuss issues directly with a lecturer, your Personal Tutor, or the Director of Studies. Individual problems are often more readily resolved in this way. The Students' Union Advice and Support Service, described below, also provides students with information and confidential advice.

Further information
Your SSLC:
https://www.thesubath.com/login/?redirect=/academicreps/departments/computer-science/
Students' Union Academic Representation including contact details for Academic Reps: thesubath.com/academicreps
Election of Academic Reps: thesubath.com/elections
Students' Union Skills Training programme: thesubath.com/skills-training
Outline election procedures are included in QA48 Student Engagement with Quality Assurance and Enhancement, Annex A: Staff/Student Liaison Committees: www.bath.ac.uk/quality/documents/QA48_Annex_A.pdf

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. For further information on opting out of this membership, please go to the Code of Practice for the Students' Union: www.bath.ac.uk/corporate-information/code-of-practice-for-the-students-union-su.

Student Support

Most students find there are occasions when it can help to talk to someone about a personal problem or issue. In many cases your Personal Tutor, Director of Studies, or Wellbeing Adviser (see the **Residential Life and Wellbeing Service** section below) will be able to help. However, sometimes more specialist help is needed. The University has a range of professional support services that you can approach directly. Your two main contact points are Student Services at the Roper Centre in 4 West and the Advice and Support Service in the Students' Union.

Student Services

Student Services can provide advice and support on a range of issues including:

- Counselling and mental health
- Disability issues
- Money and funding
- Residential life and wellbeing.

You can make an individual appointment or just pop in to our daily drop-in sessions.

Student Services can also provide letters confirming student status for a variety of purposes, which can be requested by logging on to SAMIS: https://samis.bath.ac.uk

The Roper Student Services Centre in 4 West is open from 9.30am to 4.30pm throughout the year (tel: 01225 383838). Services are also available from the Virgil Building in Bath city centre.

For the full range of Student Services, see: http://go.bath.ac.uk/student-services or email: studentservices@bath.ac.uk

The Students' Union Advice and Support Service

The Students' Union Advice and Support Service provides information for students on a range of topics affecting their education and welfare, including advice for students wanting to submit Individual Mitigating Circumstances claims (see the section in this Handbook on **Assessment**), to change their programme, or experiencing problems with their programme. The staff in the Advice and Support Service also offer support, information and representation at academic appeals, academic misconduct and disciplinary hearings, and information and advice on a wide range of issues which affect students including housing and welfare issues.

The Students' Union Advice and Support Service is open Monday to Friday 9.00am to 5.00pm in term time (from 10.00am on Fridays) and 10.00am to 4.00pm during vacations (tel: 01225 386906, email: suadvice@bath.ac.uk)

The Advice and Support Service also supports the Diversity and Support groups – details of which can be found at: thesubath.com/diversity-support

The Students' Union webpage provides the facility for students to report incidents of harassment, discrimination or bullying. Incidents can be reported anonymously if preferred. Details of how to report an incident are available at: thesubath.com/report-an-incident

For the full range of services see: thesubath.com/advice

Further information

A guide to the wide variety of support and information available to students can be found at: www.bath.ac.uk/students and the Students' Union website: thesubath.com

Residential Life and Wellbeing Service
The University's professionally qualified Wellbeing Advisers provide a welfare and wellbeing service to all our students. You can talk to a Wellbeing Adviser about anything and we are also available evenings and weekends.

We hold daily drop-in sessions on campus, including weekends and University vacations. Drop-in sessions are also held at the Virgil Building in Bath city centre and we run activities during vacations for students who remain in Bath.

Further information
www.bath.ac.uk/groups/wellbeing-service

Advice for International Students

The Student Immigration Service provides a tailored pre-arrival and induction programme and advice and support for all international students, including a 'check and send' service if you need to send a Tier 4 visa application to the Home Office. The Service offers workshops, a drop-in service, advice via email, phone and web-based platforms, or individual appointments can be made through the Helpdesk in The Roper Student Services Centre, 4 West.

Further information
www.bath.ac.uk/topics/visa

University-wide induction and welcome events are organised for incoming exchange students in the first week of each semester.

Further information
www.bath.ac.uk/campaigns/studying-at-bath-as-an-erasmus-exchange-or-visiting-student

For students who join outside of the standard semester dates, induction and welcome events are organised by the relevant Department.

Dealing with a problem involving the University

We want to ensure that, if you have a problem concerning the University, it is resolved as quickly as possible. As described above, there are student representatives on all formal decision-making committees – at Departmental, Faculty/School and University level. Student representatives help to anticipate potential problems and, when problems occur, to raise them so that they can be dealt with promptly. As a result we can often resolve problems *before* they get to the stage where a formal complaint might be necessary.

The Students' Union offers advice for students on a range of issues through its Advice and Support Service. Its advice is independent of the University. See the section above on **Student Support.**

Complaints
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 (see below).
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. When we receive a complaint, we will first seek to deal with it through informal discussion. If this fails to resolve the issue at hand, you can raise the complaint formally.

In addition, there are procedures for requesting a review of progression or award classification decisions, or of the level of attainment. For information on these procedures, please see the section in this Handbook on **Procedures for Academic Appeals**.

Further information
Student Complaints: www.bath.ac.uk/guides/student-complaints-procedure

Bullying, harassment and victimisation
We believe that all our students and employees are entitled to be treated with dignity and respect and to be free from unlawful discrimination, victimisation, bullying, or any form of harassment. This is set out in the University's policy, Dignity and Respect for Students and Staff of the University of Bath: Policy and Procedure for Dealing with Complaints (below).
This policy and procedure applies to all staff, students and third parties (e.g. contractors to the University).

Further information
www.bath.ac.uk/equalities
See also the section in this Handbook on **Student Support** for information on reporting incidents of bullying or harassment.

Mediation
If you are involved in a disagreement or dispute, you can seek help from the University's Mediation Service. This service is impartial, non-judgemental, and confidential. Requests for mediation support should in the first instance be made to the Mediation Service Manager.

Further information and contacts
Mediation Service: www.bath.ac.uk/guides/mediation
Mediation Service Manager: 01225 383098 or equalsdiv@bath.ac.uk

Advice for students with disabilities, long-term illness, and specific learning difficulties

If you have a disability and/or specific learning difficulty (such as dyslexia), we strongly advise you to speak to the Disability Service team, your Personal Tutor or Director of Studies as soon as possible and preferably before your programme begins. Referral to the Disability Service will enable us to assess your needs and make arrangements to support you.

Any personal information you give when disclosing your disability will be treated in confidence and made available *only* to relevant members of staff and only *with your permission*. If you don't disclose your disability it may be difficult for the University to provide suitable support to help you during your studies. Disclosure will not disadvantage you in any way.

The Disability Service provides advice, guidance, information and support for a range of needs including:

- Autism Spectrum Disorders/Asperger's Syndrome
- Dyslexia and other specific learning difficulties
- Mental health
- Mobility impairments
- Sensory impairments
- Health conditions such as epilepsy, HIV, diabetes or chronic fatigue.

A screening process is available if you think you may have a specific learning difficulty/dyslexia.

Disability Advisers are also responsible for making applications for alternative arrangements for exams and assessments. Therefore, if you think that, because of a disability, you need alternative exam arrangements (such as extra time or the use of a computer) please discuss this with a Disability Adviser without delay.

Further information
www.bath.ac.uk/groups/disability-service

Pregnancy and Maternity

The University is committed to being as flexible as possible in supporting students who become pregnant, decide to terminate a pregnancy or have a very young child. You are not under any obligation to inform the University of these circumstances, but doing so will enable us to put in place arrangements that will assist you in undertaking your programme of study.

You can seek advice, guidance and support via your Director of Studies, Personal Tutor and the University's Student Services.

Further information
www.bath.ac.uk/guides/getting-advice-if-you-are-pregnant-while-studying-or-have-a-young-child

Care leavers and Estranged Students

The University is committed to supporting students from a wide range of backgrounds and circumstances including those who are care leavers, from a Foyer or are estranged from their family. We are aware of the challenges students may face when starting university and we want you to get the best out of your programme and university experience. We are able to offer you advice and guidance about settling in, academic studies, funding, accommodation, wellbeing and careers. The service we provide is confidential and entirely optional in relation to the level of support you feel that you may need.

Further information
www.bath.ac.uk/guides/additional-support-and-funding-for-care-leavers-foyer-residents-and-estranged-students
www.bath.ac.uk/guides/financial-support-for-refugees
www.bath.ac.uk/guides/students-with-caring-responsibilities

Careers Service

The University Careers Service can support you through the career planning process, whatever your career aspirations. In addition to providing support with developing your employability, and guidance on how to make informed career decisions, Careers Advisers will provide help with writing your CV, practising aptitude tests, and improving your interview skills. Being in regular contact with several hundred major employers, the Careers Service is also a fantastic source for graduate job vacancies for Bath students, as well as the organiser of several major careers fairs each year.

Further information

The Careers Service is open throughout the year, including the vacations. Check the web site for opening times: www.bath.ac.uk/students/careers
The web site includes the *Myfuture* vacancies portal.

Contact careers@bath.ac.uk or 01225 386009 or follow the Careers Service on Twitter @CareersatBath or Facebook (search for BathUniCareers).

- # General Information

The Academic Year 2018-19

Semester 1

Event	Dates
New student arrivals	Saturday 22 September 2018 - Sunday 23 September 2018
Welcome Week	Monday 24 September 2018 - Sunday 30 September 2018
Semester 1	Monday 1 October 2018 - Friday 14 December 2018
Semester 1 vacation	Monday 17 December 2018 - Friday 4 January 2019
Semester 1	Monday 7 January 2019 - Friday 25 January 2019

Semester 2

Event	Dates
Semester 2	Monday 4 February 2019 - Friday 19 April 2019
Semester 2 vacation	Monday 22 April 2019 - Friday 3 May 2019
Semester 2	Monday 6 May 2019 - Friday 31 May 2019

Please note: Friday 19th April is Good Friday and Monday 6th May is a Bank holiday and so no teaching will occur on these dates.

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 will find references to the requirements of the Regulations for Students throughout this Handbook. You are advised to download a copy of the Regulations and read them carefully as they contain a lot of important information.

Important information
The full Regulations for Students can be found at: http://www.bath.ac.uk/publications/regulations-for-students

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: www.bath.ac.uk/publications/regulations-for-students

Attendance Monitoring

Guidance and requirements on attendance, including the University's Attendance Monitoring and Engagement Policy, are available at:
www.bath.ac.uk/guides/attendance-monitoring-for-tier-4-students
This page also sets out information on when and how to request an authorised absence.

Change in your Circumstances

You must ensure that the University holds your correct, up-to-date, personal and academic details within SAMIS. If you change your address – either your semester-time or home address – please ensure that you update your details online at: https://samis.bath.ac.uk

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 in the Roper Centre, 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.

It is a University Regulation (3.1) that you attend regularly; if circumstances are such that you are not able to do so, then please contact your Director of Studies to discuss your situation and agree an appropriate course of action.

Your Personal Tutor will also be able to provide support and guidance on matters relating to your programme.

The financial implications of withdrawing from the University or suspending your studies can be significant. You will find general information at: www.bath.ac.uk/students/finance/changes-to-your-study/withdrawing-or-suspending-from-your-course
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: www.bath.ac.uk/topics/visas

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.

Health and safety

The University's Health and Safety Policy Statement and policies, standards, and guidance on specific topics are available at: www.bath.ac.uk/corporate-information/health-and-safety-policy

The Policy Statement is also displayed throughout the campus. Staff within the University Health, Safety and Environment Service (Wessex House 3.12) provide professional advice on health and safety matters and monitor the health and safety performance of the University.

Further information
email: uhse@bath.ac.uk
Current University guidance on fieldwork, work placements and overseas travel: www.bath.ac.uk/corporate-information/fieldwork-safety-standard

www.bath.ac.uk/corporate-information/placements-and-study-abroad-programmes-safety-standard
www.bath.ac.uk/guides/overseas-travel-safety-guidance

Data protection

The University's Data Protection Policy and Guidelines on Data Protection may be accessed via the data protection website: www.bath.ac.uk/data-protection

Guidance notes for students and academics undertaking research can be found here:
www.bath.ac.uk/guides/data-protection-guidance/#academic-research

Equality and diversity

Everyone at the University of Bath has a responsibility for promoting equality and fostering good relations between all members of the community, students and staff, and also for eliminating unlawful discrimination, harassment and victimisation against anyone for reasons of age, disability, gender, pregnancy and maternity, race (this means colour, nationality including citizenship, ethnic or national origins), religion or belief, sexual orientation, or transgender status. The new equality duty also covers marriage and civil partnership with regards to eliminating discrimination in employment.

Further information
There is a range of information and resources available at www.bath.ac.uk/equalities or email: equalsdiv@bath.ac.uk

Accessibility
An access guide is available which outlines the disabled access features and route plans at the University of Bath:
www.disabledgo.com/organisations/university-of-bath/main-2