



DEPARTMENT OF  
**COMPUTER  
SCIENCE**

# **MSc COMPUTER SCIENCE**

COURSE HANDBOOK 2018

Version 1.2

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## 1. Preface

This Course Handbook applies to MSc in Computer Science students starting the course in Michaelmas term 2018. The information in this handbook may be different for students starting the course in other years. It also contains general information about the Department, people, facilities and safety. *Please pay particular attention to the safety pages.*

The information here is designed to be general and relevant throughout your time at Oxford; further information on courses, practicals and projects will be given to you and/or made available on our web pages at appropriate times.

The Examination Regulations relating to this course are available at [www.admin.ox.ac.uk/examregs/2018-19/mosbcincompscic/studntview](http://www.admin.ox.ac.uk/examregs/2018-19/mosbcincompscic/studntview). If there is a conflict between information in this handbook and the Examination Regulations then you should follow the Examination Regulations. If you have any concerns please contact Tim Jones at [tim.jones@cs.ox.ac.uk](mailto:tim.jones@cs.ox.ac.uk)

The information in this handbook is accurate as at August 2018, however it may be necessary for changes to be made in certain circumstances, as explained at [www.graduate.ox.ac.uk/coursechanges](http://www.graduate.ox.ac.uk/coursechanges) webpage. If such changes are made the department will publish a new version of this handbook together with a list of the changes and students will be informed.

Comments on the contents of this handbook are always welcome, so please do not hesitate to send a note to any of us if you can think of ways to improve the next issue.

Leanne Carveth  
**Head of Student Administration**

David Kay  
**Director of Graduate Studies**

Julie Sheppard  
**Graduate Studies Administrator**

Paul Goldberg  
**Director of MSc in Computer Science**

Tim Jones (maternity cover) or Sarah Retz-Jones (on maternity leave)  
**MSc Course Coordinator**

**Welcome!** You have chosen to study at one of the world's leading centres for the development, application and teaching of computer science. You join a rapidly expanding group of researchers, lecturers, visitors and students who have been attracted to Oxford from all over the world.

The Department of Computer Science's reputation ranges from its fundamental research into computing methods and languages through to practical solution of engineering and scientific problems on the latest highly parallel computer architectures. Our wide-ranging collaborative

work with leading industries in this country has been twice recognised by the rare honour of a Queen's Award for Technological Achievement.

During your study at Oxford, we hope to share with you some of the understanding which we have gained, both by our research into basic theory and by industrial collaboration. We hope too that you will be able to share with us - and with each other - our enthusiasm for the subject, and will enjoy developing your talents in this field. The development of computing at Oxford has been heavily supported by donations and sponsorship from our industrial partners. We have devoted our best efforts to the design of the courses you will take and to the perfection of our lecturing and teaching skills; when you leave, we are confident that you will have a sound basis for a productive and rewarding career.

This handbook aims to save time by giving you a certain amount of basic information which you would otherwise have to ask for or learn by experience, but it cannot tell you all you need to know. Do not be afraid to ask for further information or advice.

Other key sources of information include the Oxford Students website ([www.ox.ac.uk/students](http://www.ox.ac.uk/students)) and the Student Handbook (Proctors' and Assessor's Memorandum) which can be found here: [www.admin.ox.ac.uk/proctors/info/pam](http://www.admin.ox.ac.uk/proctors/info/pam). College Handbooks will be available on individual College websites.

### **1.1 Handbook Version**

Version 1.0: published on 1 October 2018.

Version 1.1: published on 19 October 2018. Updated terminology: take-home assignments are now officially called mini-projects. Addition of Probabilistic Model Checking in modules assessed by sit-down exam. Addition of Merit grade in descriptions of bands of marks (section 8.13). Minor corrections to section 3 *The Department of Computer Science*. Section 4 changes from *Your Supervisor* to *Supervision*, with clarification of the roles of supervisor and advisor. Minor restructuring of section 7.1, moving paragraph about Declaration Forms from 7.1.2 *Preparing assignments* to 7.1.1 *Submission of Mini-projects* and mentioning the online declaration of authorship. Subsection 7.6 deleted as it only duplicated information in 7.2.2. Section 13 *Holidays* becomes subsection 5.6.1, next to other information about study time requirements. Sections 15 *Staff Members* and 16 *Liaison with academic staff* become subsections 2.3 and 2.4 respectively, next to other staff contact details. Appendix C *Regulations Relating to the Use of Information Technology Facilities* moves into section 3.5 *Computing Resources*. Appendix E *University of Oxford – Code of Practice Relating to Harassment* moves into section 15 *Harassment*. Appendix F *University Policy on Intellectual Property Rights* moves into section 8. Appendix H *Notes of Guidance for MSc in Computer Science Students and their Supervisors* moves into section 4 *Supervision*.

Version 1.2: published on 5 February 2019. Section 2.4 *Liaison with academic staff* expanded to include JCCG and MSc Supervisory Committee. Staff details including job titles updated. Links for maps added in section 3 and subsection 7.2.2. Section 5.5 *Important Dates*: now shows which Hilary Term courses use paper submission of mini-projects, and the separate submission deadline for these.

## 2. Introduction

### **2.1 *The Department of Computer Science, the University, the Division and the Colleges***

The University of Oxford is organised both by department and by college.

The colleges are the oldest components of the University, some dating back to the twelfth century. Traditionally, the admission of students to Oxford and their academic and personal well-being is the concern of individual colleges. In arts subjects, much of the teaching is organised on college premises and there is little need for divisional buildings or departments. For science subjects on the other hand, expensive equipment is needed and the University has the responsibility for providing common facilities for use by all students, particularly at the graduate level, just as it has always organised central examinations on their behalf. Thus the Department of Computer Science, like other Oxford science departments, is run by the University to provide central teaching and research facilities for members of all colleges.

The departments are grouped into divisions, which have responsibility for resource allocation, academic policy, examinations, lectures and graduate admissions within a group of related departments. The Department of Computer Science ([www.cs.ox.ac.uk](http://www.cs.ox.ac.uk)) belongs to the Mathematical, Physical and Life Sciences Division (MPLS) ([www.mpls.ox.ac.uk](http://www.mpls.ox.ac.uk)).

Your college has allocated someone as your college advisor: this person should be your primary source of advice about college matters. Your college advisor may be a computer scientist, a mathematician or an engineer and should meet you each term to hear about your progress. Information gained from a personal contact is far better than any hand-out from an impersonal and central organisation, and it is to your college that you should, in the first instance, direct any queries or difficulties of a non-technical nature.

Most Tutorial Fellows of the colleges are also employed by the University as lecturers. Consequently our relationship with the colleges is a close one and you may well meet your college advisor giving lectures or organising classes in the Department of Computer Science.

### **2.2 *Support Staff***

The Academic Administration team at the Department of Computer Science are responsible for supporting all aspects of teaching and examinations, and work closely with academic staff to do this. You will receive communications from them from time to time, usually with regard to lectures, classes, practicals, examinations and projects. Please ensure that you read these emails and memos and respond where necessary. They are also available should you need assistance and so if you think they can help you please contact them by email.

Academic Admin Team:

Leanne Carveth – Head of Student Administration

[leanne.carveth@cs.ox.ac.uk](mailto:leanne.carveth@cs.ox.ac.uk) Room 114

Kathrin Gowers – Deputy Head of Student Administration

[kathrin.gowers@cs.ox.ac.uk](mailto:kathrin.gowers@cs.ox.ac.uk) Room 114

Jo Ponting – Academic Administration Officer

[jo.ponting@cs.ox.ac.uk](mailto:jo.ponting@cs.ox.ac.uk) Room 114

Tim Jones (maternity cover) or Sarah Retz-Jones (on maternity leave) – MSc Course Coordinator

[tim.jones@cs.ox.ac.uk](mailto:tim.jones@cs.ox.ac.uk) Room 112

Lyn Hambridge – Academic Administration Assistant

[lyn.hambridge@cs.ox.ac.uk](mailto:lyn.hambridge@cs.ox.ac.uk) Room 112

Julie Sheppard – Graduate Studies Administrator

[julie.sheppard@cs.ox.ac.uk](mailto:julie.sheppard@cs.ox.ac.uk) Room 112

Brenda Deeley – Staff Secretary

[brenda.deeley@cs.ox.ac.uk](mailto:brenda.deeley@cs.ox.ac.uk) Room 106

Suzanna Marsh – Communications and Schools Liaison Manager

[suzanna.marsh@cs.ox.ac.uk](mailto:suzanna.marsh@cs.ox.ac.uk) Room 116

You can find details of current academic and support staff at [www.cs.ox.ac.uk/people](http://www.cs.ox.ac.uk/people)

### **2.3 Academic staff**

Academic Staff are in offices on levels 0 to 4 of the Wolfson Building, although they are sometimes away in their respective Colleges, and occasionally at conferences or study trips abroad.

### **2.4 Liaison with academic staff**

There are graduate student representatives at the Faculty of Computer Science Committee which meets on Thursday of sixth week, the MSc Supervisory Committee which meets on Thursday of third week, and the Joint Consultative Committee for Graduates (JCCG) which meets in or around fourth week. Please tell your representative of any matters or questions you would like raised at the meetings.

### **3. The Department of Computer Science**

The Department of Computer Science houses lecture theatres and seminar rooms in which most of the university lectures in Computer Science take place. It also runs a network of computers and other facilities devoted to teaching requirements and administers lectures, practicals, projects and some University-wide classes.

The head of the department, Professor Michael Wooldridge, is on sabbatical for 2018-19. During this time, Professor Pete Jeavons is Acting Head of Department.

The Department of Computer Science is housed in a building specifically designed and equipped for it, largely funded through the generosity of the Wolfson Foundation and the Wolfson Family Trust. The Department's postal address is:

Department of Computer Science, University of Oxford  
Wolfson Building  
Parks Road  
Oxford  
OX1 3QD

This building stands at the south-eastern angle of what is known as the Keble Road Triangle consisting of Keble Road, Banbury Road and Parks Road. A map of this and associated buildings is available at <https://maps.ox.ac.uk/#/places/oxpoints:23232561>

Lecture Theatre A (on the lower ground floor) and Lecture Theatre B (on the ground floor) can be reached from the entrance to the right of the main entrance on Parks Road, as can the seminar room 051.

Rooms have a telephone which can receive calls directly from outside as well as internally. The number to give people is 01865 2\*\*\*\*\*, where the \*s represent the extension number. Please do not give people the general enquiries number or the secretary's number.

#### **3.1 Room Numbering System**

Each room has a three digit number which designates the floor level in the building as well as the actual room number. Room numbers beginning with 0 are in the basement; room numbers beginning 1 are on the ground floor; room numbers beginning 2 are on the first floor, and so on up to room numbers beginning 5 which are in the attic.

#### **3.2 Opening Hours and Access to the Department of Computer Science**

The Wolfson Building opens at 08:30 and the doors are locked at 17:15, Monday to Friday, excepting closed periods (i.e. Bank Holidays out of term time).

It is possible you may use the Practicals Laboratory (6.09) in the Thom Building which is the large glass sided tower block between Banbury Road and Parks Road. Entry is on level 2 from the walkway. The Thom Building opens at 08:15. The doors are locked at 19:00 in term time and at 17:30 during vacations.

An entry-card system controls access to the Wolfson Building outside normal opening hours. This applies to the main Parks Road entrance and the entrances on 6, 7 and 11 Keble Road. The front door of No.8 Keble Road is alarmed and should only be used in an emergency. Various doors both in the Wolfson building and the Thom building have signs warning that the door is alarmed. These doors are **only** to be used in an emergency and not for any other reason.

The cards also control access within the building from the Lecture Theatre areas. You will also need a card to be able to access your pigeon hole.

University cards, if you already have one, will be activated for the Department's entry card system, when you have signed the declaration (purple sheet included in your information pack). To activate your entry card you will need to take your University Card to Brenda Deeley (room 106). You will need to select a four digit Personal Identification Number (PIN).

The rules for using this system are:

- A card and individual PIN will be issued to all staff and graduate students who require access to the Wolfson Building. For graduate students, a University Card is required. The card can be barred if it is reported lost.
- The PIN must be kept secret and under no circumstances should be written on the card or in the wallet where the card is kept.
- Each card will be set to operate for the period of the student's stay in Oxford.
- Cards will be issued on a personal basis and must not be loaned or passed on to another person.
- No-one should allow access to another person unless they are prepared to escort them throughout their stay in the building.
- When a card is used to gain access to the building, the system keeps a record of that use for a period of approximately six months.

### **3.3 Teaching Rooms**

You may use room 379 when there are no supervised practical sessions scheduled. You may not use it when sessions are scheduled unless you are part of the group that was signed up for that session.

You may not unplug the Department of Computer Science's machines in room 379.

You may not use the kitchen adjacent to room 379.

There are vending machines in the basement and a small kitchen which can be used to make hot drinks, but it is forbidden to take food or drinks into lecture rooms, seminar rooms, computer rooms, or laboratories.

### **3.4 The Robert Hooke Building**

The department has three seminar rooms in the Robert Hooke Building: the Christopher Strachey Room, the Richard Bird Room and the Tony Hoare Room. These rooms will be used for classes, and from time to time may be used for small lecture courses. The building is located on Parks Road, to the left of the Natural History Museum, opposite Keble College. The building can be accessed using your University card.

### **3.5 Computing Resources**

The Department of Computer Science's teaching network comprises 83 PCs. 35 of these are located in room 379 of the Department of Computer Science where most of the graduate practical sessions take place. There are also 48 PCs in the Practicals Laboratory (6.09) on Level 6 of the Thom Building, which is the main building of the Engineering Science Department. This is the tall building to the north-west of the Department of Computer Science. The machines in the Thom Building are mostly used for undergraduate practical sessions, although MSc students may occasionally have a practical session scheduled here.

All students need to complete an application form to use Department of Computer Science computing facilities. A form is enclosed with your information pack. The full Regulations Relating to the use of Information Technology Facilities are at [www.admin.ox.ac.uk/statutes/regulations/196-052.shtml](http://www.admin.ox.ac.uk/statutes/regulations/196-052.shtml)

Although you will have experience of using computers, you may not have specific experience with the types of systems available at Oxford. Therefore, at the start of the year, there are introductory sessions designed to help you become more familiar with the systems and give you an opportunity to use the network and ask questions. Demonstrators are present at these sessions, giving you a chance to meet them and find out more about practicals.

There is a server based remote access service available at all times from anywhere, such as personal laptop at home or through networked computers in college computer rooms (you should check with your college for information about the facilities they provide.)

Linux is used throughout the teaching network.

Those courses which have practical work associated with them are supported by timetabled practical sessions in the Practicals Laboratory (Level 6, Thom Building) throughout the term. These sessions guarantee students exclusive access to the computing facilities they require to complete their work. Demonstrators are present at each session so that you can obtain help with the practicals as you are doing the work.

Although the computers in room 379 are often booked for practical use, there are times when these computers are available for students to use outside the arranged practical sessions. This is mainly to facilitate work on projects. Many students also find it useful to be able to do further work on their practicals outside the normal practical times, or to take the opportunity to learn more about the facilities available.

Oxford University IT Services (formerly OUCS) run introductory courses throughout the year. These courses will be helpful for those of you who have had less hands-on experience with computers. They will also help you to explore facilities available at Oxford University which, although not required elements of any of your courses, may be of interest to you.

IT Services are based at 13 Banbury Road, opposite the Department of Engineering Science. You can find out about its courses here or at [www.it.ox.ac.uk/do/training-and-facilities/itlc-courses](http://www.it.ox.ac.uk/do/training-and-facilities/itlc-courses)

### **3.5.1 Using your own Computer**

You do not need your own PC. The Department's computing facilities are all you will need during your graduate studies. However, some of you will have or will acquire a PC during this time. The practical work associated with some courses is flexible enough to enable you to do the work on a PC, provided it has the appropriate programming environments.

The Department's computing facilities can also be used remotely from personal computers attached to the University network or elsewhere on the internet, provided they have X server software and an SSH client (typically included in Linux but not on Windows machines by default, where you need something like Exceed which is available from ITS for a nominal charge, and PuTTY which is available as a free download).

Wireless connectivity is available in these areas and most of the rest of the university as Eduroam. You self-register for this online with your university card and Single Sign-On (SSO): details from ITS - [www.it.ox.ac.uk](http://www.it.ox.ac.uk).

### **3.6 Printing and Photocopying**

No restriction on the use of laser printer output is made, but we do monitor individual totals. Please make only single copies of output and use the photocopiers to duplicate them if required. Multiple copies of documents cause delays for other users, so please do not abuse the privilege. We reserve the right to charge for excessive use. Photocopiers are available for use by staff and students on all floors of the Wolfson Building.

The copier in the Library is only available to copy articles etc from journals (subject to copyright laws) and must not be used for general copying. The other copiers can be used by anyone, but please seek instruction from John Peachey (Room 147) and always report any faults or problems to Reception so that we can get the machines repaired. Private copying is monitored and may be chargeable.

Copying in the Radcliffe Science Library or the Bodleian Library requires a special copy card. This can be obtained from Michael Neville (room 240). You will have to pay an initial fee of £5 (for which a receipt must be obtained) to put a credit on the card during your first visit to the Radcliffe Science Library. Michael will refund this £5 on production of the receipt. When you leave the Department you should return the card to Michael Neville. If you lose your card, you will have to pay the cost of a replacement credit so please look after it carefully.

### **3.7 Communication, including email**

Oxford University IT Services automatically provide email facilities for all new students, at the same time as you are given a University Card. You will also register with the Department of Computer Science to use departmental computers for your course, and can use these accounts to send and receive email.

Email is, generally speaking, a good way of contacting members of the Department of Computer Science and most of the other academic staff you will need to reach. Students will be expected to know how to use it and to check their email frequently.

You will be allocated a pigeon hole in the post room (Room 157), which is just inside the main door of reception. Again, please check your pigeon hole on a frequent basis as there may be important information waiting for you. Messages for staff may be left with the receptionist of the Wolfson Building or in their pigeon hole.

### **3.8 Access to course material pages from outside ox.ac.uk**

There is a lot of course material on the Department web pages. This can be accessed from outside the Oxford domain, though it is password-protected.

If you try to access these pages from outside the ox.ac.uk domain you will reach a page saying: 'Teaching material pages are only accessible to registered students and staff of Oxford University connecting from a host in the ox.ac.uk domain'.

You should use your Single Sign On username and password to access this material. This material is made available for your use only (it is copyright of the authors). You should not pass it on to anyone else.

### **3.9 Safety**

Please take note of any warning signs and ensure you know where the emergency escape routes are. All students should read Appendix A carefully before the start of term. The Department of Computer Science is a very safe place but we need your full co-operation to keep it so.

## 4 Supervision

You will be allocated an academic supervisor and an advisor, both of whom are usually members of academic or research staff in the Department of Computer Science. During term you are expected to remain in **close** contact with your supervisor. You should meet with your supervisor for at least half an hour per fortnight. Your supervisor is your main academic contact on the course; your advisor is an additional contact who can help if your supervisor is unavailable or if you need a second opinion.

### 4.1 Graduate Supervision Reporting

Graduate Supervision Reporting (GSR) was introduced in 2018 to replace the Graduate Supervision System (GSS) used by supervisors to review, and comment on their students' academic progress each term. Students are also given the opportunity to comment on their progress. Access to GSR will be via Student Self Service

<https://www.ox.ac.uk/students/selfservice>. You will receive an email notification with details of how to log in at the start of each reporting window. For more information, see <https://projects.it.ox.ac.uk/edu-it-gsr>

It is mandatory to complete a self-assessment report every reporting period. If you have any difficulty completing it, speak to your supervisor or Director of Graduate Studies (DGS). Your self-assessment report will be used by your supervisor(s) when completing a report on your performance, for identifying areas where further work may be required, and reviewing your progress against agreed timetables and plans for the term ahead. GSR will alert you by email when your supervisor or DGS completes your report and it is available for you to view.

Use this opportunity to:

- Review and comment on your academic progress during the current reporting period;
- Measure progress against the timetable and requirements of your study programme;
- Identify skills developed and training undertaken or required;
- List your engagement with the academic community;
- Raise any concerns regarding your academic progress to your supervisor;
- Outline your plans for the next term (where applicable).

Students and supervisors are reminded that having a positive student-supervisor relationship is an important factor in student success. Research suggests that one of the strongest predictors of postgraduate completion is having expectations met within the student-supervisor relationship.

Oxford's approach to graduate study emphasises the individual student's ability to work independently, to take the initiative in exploring a line of research, or in acquiring a new skill or identifying and remedying a perceived area of weakness. Your supervisor will meet you at agreed times if you encounter particular problems or difficulties that you need to discuss.

If you have any issues with teaching or supervision please raise these as soon as possible so that they can be addressed promptly. Details of whom to contact are provided in Appendix F: Complaints and Academic Appeals within the Department of Computer Science.

## **4.2 Guidance for MSc in Computer Science Students and their Supervisors**

### **4.2.1. Responsibilities of the supervisor:**

In agreeing to supervise an MSc student, the supervisor must recognise and accept the responsibilities both to the student and to the divisional board. Supervisors should meet with their new students ideally in 0th week but no later than the end of week 1.

The supervisor is responsible for assisting the student in the selection of options and ensuring that the student has the correct background for particular courses. There must be no significant overlap with courses already completed either at Oxford or elsewhere. Students have to submit a form by Monday of week 4 committing themselves to courses they will definitely follow. This has to be countersigned by the supervisor. The supervisor is also responsible for advising the student about attendance at classes and requisite techniques (including helping to arrange special instruction where necessary).

The supervisor should meet with the student regularly i.e. a minimum of half an hour per fortnight. Times should be fixed to ensure that a busy supervisor does not inadvertently find that meetings are less frequent than the student would like, and to give sufficient time for the student to discuss the work and for the supervisor to check that certain things have been done. Informal day-to-day contact should not be seen as a substitute for formal scheduled meetings. The supervisor should also be accessible to the student at other appropriate times when advice is needed.

During meetings the supervisor should ask to see the student's class work and practical work and ensure that they understand the demonstrator's notes. If a student exhibits a consistent weakness and misunderstanding, supervisors should inform the Academic Administrator and the Director of the MSc as soon as possible so that the arrangement of extra special supervision can be authorised.

The supervisor should tell the student from time to time how well, in the supervisor's opinion, the work is progressing, and try to ensure that the student feels properly directed and able to communicate with the supervisor. It is essential that when problems arise, corrective action is clearly identified and full guidance and assistance are given to the student.

If the supervisor is unable to see a student due to unforeseen circumstances they should inform the MSc Course Administrator so that alternative arrangements can be made.

If a student regularly fails to keep appointments the supervisor should inform the MSc Course Administrator who will inform the Tutor for Graduates at the student's college and the Director of the MSc. This applies especially to project supervisions.

The supervisor is required to report on the student's work at the end of each term. Each report should state the nature and extent of recent contact with the student. The report should also make clear whether the student is making satisfactory progress. Report forms should be completed in a timely manner ie returned to the University offices before the beginning of the following term.

#### **4.2.2. Responsibilities of the student:**

The student must accept his or her obligation to act as a responsible member of the University's academic community.

The student should take ultimate responsibility for his or her studies and develop an appropriate working pattern, including an agreed and professional relationship with the supervisor. The student should discuss with the supervisor the type of guidance and comment which he or she finds most helpful and agree a schedule of meetings.

The student should make appropriate use of the teaching and learning facilities available within the University. Students should make full use of the facilities for career guidance and development and should consult their supervisor for advice where appropriate.

It is the student's responsibility to seek out and follow the regulations relevant to his or her course, including faculty/departmental handbooks/notes of guidance, and to seek clarification from supervisors and elsewhere if this is necessary.

The student should not hesitate to take the initiative in raising problems or difficulties, however elementary they may seem. He or she should ensure that any problems regarding the project are drawn to the attention of the supervisor so that appropriate guidance may be offered.

If the student feels there are good grounds for contemplating a change of supervision arrangements, this should first be discussed with the supervisor or, if this is difficult, with the advisor, the Academic Administrator or the Director of the MSc course.

The student should seek to maintain progress in accordance with the plan of work agreed with the supervisor. Both the student and the supervisor should keep a record of all formal, scheduled meetings. They may wish to agree a record of what has been discussed and decided.

The student should recognise that the supervisor may have many competing demands on his or her time. The student should give adequate notice of unscheduled meetings. The need for adequate notice also applies to requests for meetings from the supervisor.

The student should be aware that the provision of constructive criticism is central to a satisfactory supervisory relationship, and should always seek a full assessment of the strengths and weaknesses of his or her work.

Where problems arise it is essential that a student gives full weight to any guidance and corrective action proposed by the supervisor.

Students should ensure that they allow adequate time for writing up their dissertation and should not take up employment before the submission deadline. Particular attention should be paid to final proof reading.

## 5 MSc in Computer Science

### 5.1 Aims

The MSc in Computer Science at Oxford has been designed to teach a range of advanced topics and a carefully selected core of foundational subjects to graduates of computer science and other numerate disciplines.

The course aims:

- To provide a challenging and supportive learning environment that encourages high quality students to reach their full potential, personally and academically;
- To provide the foundation for a professional career in computing-based industries eg telecommunications, process control, business-, mission-and safety-critical fields;
- To enhance the skills of a professional who is already working in one of these industries;
- To provide a foundation for research into the theory and computing;
- To present knowledge, experience, reasoning methods and design and implementation techniques which are robust and forward-looking.

Entrants to the course come from a variety of backgrounds. Experienced programmers in industry and commerce will be motivated by the need for formal methods to overcome the problems of unreliable and inadequate software, or may wish to extend their understanding by studying new programming and development paradigms. Recent graduates in Computer Science will want to supplement their knowledge with the kind of sound mathematical basis which is not always found in undergraduate courses. Graduates in Mathematics, Science and Engineering will want to apply their training in the context of a rigorous application of the fundamental techniques of Computer Science.

Teaching for each topic is organised into formal lectures supported by problem sheets and practicals for individual study. Feedback (to students, supervisors, the Course Director and the Academic Administrator) is initially given through graded classwork and supervised practical sessions. Problem sheets and practical work are designed to involve a mix of creative activity and selection of appropriate knowledge to apply to particular problems. Students can build on their understanding and develop their communication skills during class discussions of the problems set.

MSc Students will develop a knowledge and understanding of a formal disciplined approach to computer science; a range of relevant concepts, tools and techniques; and the principles underpinning these techniques and the ability to apply them in novel situations.

On subsequent employment, graduates of the course will be able to select techniques most appropriate to their working environment, adapt and improve them as necessary, establish appropriate design standards and sound practices for both hardware and software, pass on these standards and sound practices to colleagues and subordinates, and keep abreast of research and development.

## **5.2 Induction Arrangements**

In 0th week students are provided with a comprehensive programme which includes familiarisation with the Department's Library and a separate talk about the University's Library facilities; setting up computer accounts; familiarisation with the practical facilities; meetings with the Head of Department, Course Director, Academic Administrator, etc.

## **5.3 Length of Course**

This is a full-time one-year course. Students are expected to work for about 44 to 46 weeks, but outside normal term time they might be working away from Oxford.

## **5.4 Course Selection**

We hope that you will make a suitable selection of courses from among the many interesting topics that we offer. The choice should be related to the area of your subsequent dissertation but should not overlap with courses you followed in your undergraduate degree. Students typically study three courses per term. Those intending to study four courses should exercise caution. Students are allowed to take examinations in a maximum of four courses per term.

To assist you in choosing courses, please consult the document *Selecting Options 2018-2019* from <http://www.cs.ox.ac.uk/teaching/MSCinCS/> which lists the options, grouped into themes. These are only meant to reflect natural associations of ideas among courses. When considering them, bear in mind the requirements of the MSc as stated in this Handbook and at the web page above. Thus while you may want to do several courses from one theme, you can expect that you will need to choose courses from different themes to meet the MSc requirements. Synopses of the courses being offered can be found at [www.cs.ox.ac.uk/teaching/courses](http://www.cs.ox.ac.uk/teaching/courses)

You are required to attain an average of at least 50 (pass) on a selection of your best six courses, including at most two courses from Schedule A and at least two courses from Schedule C. Students may take examinations in a maximum of four courses per term.

Choices have to be made in advance, when you have least information on which to base them, so it is important to consult your supervisor. However you need to have an average of at least 50 (pass) in your best four courses taken during Michaelmas and Hilary Term otherwise you will be deemed to have failed and will not be allowed to continue the course in Trinity Term.

For further information, please consult the Examination Regulations for this course: [www.admin.ox.ac.uk/examregs/2018-19/mosbcincompscie/studentview](http://www.admin.ox.ac.uk/examregs/2018-19/mosbcincompscie/studentview)

A number of courses recommend pre-requisites: please check the relevant webpages. If you are in any doubt, consult the course lecturer or your supervisor.

Some of our lecture courses have upper and lower limits on the number of students: between five and 20 is a usual range. If numbers fall outside this range you may be asked to make an alternative selection. It is therefore a good idea to start discussing choices with your supervisor as soon as possible during your first week at Oxford. Your choices have to be approved by the Director of the MSc and, in this respect, there are certain deadlines laid down in the regulations to which you must adhere.

## 5.5 Important Dates

### Course selection form

**Monday 29<sup>th</sup> October** (Michaelmas Term, week 4): You are required to submit your course selection form to the MSc Course Administrator to confirm the courses you are taking in Michaelmas Term.

**Monday 4<sup>th</sup> February** (Hilary Term, week 4): You are required to submit your course selection form to the MSc Course Administrator for the courses you will take in Hilary and Trinity Term.

### Written Exams

Computational Game Theory	week 0, Hilary Term
Databases	week 0, Hilary Term
Functional Programming	week 0, Hilary Term
Machine Learning	week 0, Hilary Term
Probabilistic Model Checking	week 0, Hilary Term
Artificial Intelligence	week 0, Trinity Term
Computational Complexity	week 0, Trinity Term
Knowledge Representation & Reasoning	week 0, Trinity Term
Concurrency	week 7 (TBC), Trinity Term

### Mini Projects (also known as take-home assignments)

**Wednesday 2<sup>nd</sup> January, 12 noon** (Hilary Term, week -1): online submission deadline for Michaelmas Term mini-projects.

**Monday 15<sup>th</sup> April, 12 noon** (Trinity Term, week -1): submission deadline for Hilary Term mini-projects submitted through **WebLearn**, ie all HT mini-projects **except** Lambda Calculus and Types and Advanced Security.

**Thursday 25 April, 12 noon** (0<sup>th</sup> week, Trinity Term): submission deadline for Hilary Term mini-projects submitted on **paper** (ie **Lambda Calculus and Types** and **Advanced Security** only).

**Tuesday 28<sup>th</sup> May, 12 noon (TBC)** (Trinity Term, week 6): submission deadline for Trinity Term mini-projects.

### Practical reports

**Friday 31<sup>st</sup> May, 12 noon** (Trinity Term, week 5): submit all of your practical reports.

### Project Dissertation

**Monday 25<sup>th</sup> February** (Hilary Term, week 7): Submit your project dissertation registration form.

**Monday 29<sup>th</sup> April** (Trinity Term, week 1): You must submit an essay about the background and objectives of your project together with a plan of work. This is a strict deadline and must be adhered to. You will receive more information at the beginning of Hilary Term about the procedure for selecting your project. Your supervisor during Michaelmas and Hilary Terms will also provide you with advice. If you are experiencing particular difficulty, you should contact the MSc Course Administrator or the Academic Administrator.

**Tuesday 3<sup>rd</sup> September, 12 noon:** online submission deadline for the dissertation.

**Viva**

**Wednesday 2<sup>nd</sup> October:** viva voce examination date.

**5.6 Hours of study**

Typically a student would attend between 8 and 12 hours of lectures, 4-6 hours of practicals and 3 hours of classes a week. Please note that students are responsible for their own academic progress, and will be expected to complete 15-20 hours of private study each week. Students will be working during the vacation on their assignments and from April until the end of August students will be working on their project and dissertation.

**5.6.1 Holidays**

Please note that this is a full-time course and you will need to be in Oxford for most of the year. This means that you should not take on any other commitments during the year, eg it will not be possible for you to fit in any sort of employment. Also, before making any holiday arrangements please bear in mind that you will have to complete written assignments and possibly attend one-week options outside of normal term. You should seek advice from your supervisor or the MSc Course Administrator/Academic Administrator before booking holidays.

**5.7 Timetables**

The timetable for each term can be found on our web pages at:

[www.cs.ox.ac.uk/teaching/timetables](http://www.cs.ox.ac.uk/teaching/timetables)

**5.8 Tutorial Classes**

Each lecture course will have associated tutorial exercises and, in most cases, practical exercises as well. You are expected to attend the tutorial classes and any practical sessions for the courses you wish to follow.

The lecturer will provide you with the tutorial exercises. Your work on these exercises must be handed in by the required deadline for assessment by the person running the tutorial classes for that subject.

The timetable for these classes (and the associated deadlines) will usually be published on the Minerva database. Sign-up for classes is done entirely online at <https://www.cs.ox.ac.uk/minerva/>

There will be multiple groups for the classes for each course and in some cases, there will be groups specifically for MSc students. Where possible, please sign-up for an MSc group but don't worry if your overall timetable prevents you from doing so.

There is usually one class per subject each week starting in week 2 or 3, so you are likely to be attending 3 or 4 tutorial classes a week from week 3 onwards. It is also likely that you will have to hand in the first set of work for each of these subjects early in week 2.

The marks from the tutorial exercises will be passed to your supervisor for information. A record will also be held centrally to provide the Examiners with information on the extent to which each candidate has pursued an adequate course of tutorial class work.

### **5.9 Assessment and feedback**

Formative assessment, defined as having “a developmental purpose and is designed to help learners learn more effectively by giving them feedback on their performance and on how it can be improved and/or maintained” (Quality Assurance Agency, 2006, p.35) is achieved in the MSc in Computer Science by means of classwork (see 4.9) and practical exercises (see 5 below). The marks you receive on your class and practical work will give you and your supervisor regular feedback on your progress, help you consolidate your understanding, and identify any areas of weakness.

Where a problem is identified, additional tuition may be provided either by the supervisor or, with the Course Director’s approval, by the class tutor.

There will also be opportunities in both classes and practical sessions to receive informal feedback on your work by means of discussion with tutors or demonstrators.

Summative assessment, defined as being used to “indicate the extent of a learner’s success in meeting the assessment criteria used to gauge the intended learning outcomes of a module or programme” (QAA, 2006, p.36), of the taught part of the course is through a combination of take-home assignments or sit-down examinations (see 6 below), where appropriate, reports on practical work, and the dissertation (see 7 below).

You will receive a University Standardised Mark (USM) for each of the take-home assignments or sit-down examinations you complete, and for the dissertation. The criteria for USMs are published in the Examination Conventions:

[www.cs.ox.ac.uk/teaching/examconventions/MSCinCS](http://www.cs.ox.ac.uk/teaching/examconventions/MSCinCS)

You will receive written feedback on your dissertation after the final Examiners’ meeting in September. You will also receive feedback for your take-home assignments (but not for sit-down examinations) each term. You are welcome to consult past Examiners’ Reports to understand past cohorts’ performances on individual assignments and examinations:

<https://www.cs.ox.ac.uk/teaching/internal/examinersreports/MSCinCS.html>

Candidates must not contact the assessor with queries regarding feedback. Please refer to the Exam Conventions at [www.cs.ox.ac.uk/teaching/examconventions/MSCinCS](http://www.cs.ox.ac.uk/teaching/examconventions/MSCinCS) which state “Candidates should not under any circumstances seek to make contact with individual internal or external examiners.” If you have a query or complaint about the conduct of your examination, it must be raised with the Senior Tutor or equivalent at your college. Further information about this is available at [www.ox.ac.uk/students/academic/complaints](http://www.ox.ac.uk/students/academic/complaints)

## **6 Practicals**

### **6.1 Practical Sessions**

Practical sessions for courses organised by the Department of Computer Science take place in the Practicals Laboratory on level six of the Thom Building or in room 379 in the Department of Computer Science, where demonstrators will be present to assist you in overcoming any difficulties. The purpose of practical exercises for the Computer Science courses is to help you make sure you understand the application to practical programming of the theory that is taught in lectures; demonstrators at the practical classes are there to help you get the most from the sessions. You will find more information about how to sign up for practicals (signing up, signing off and submission of reports, assessment) in the Courses section of the website of the Department of Computer Science.

#### **6.1.1 Timetable**

Practicals usually start in week 2 of the term and there are normally four 2-hour sessions for each course during the term. During the first 2 weeks of the term you will be required to sign-up for a practical group. Most courses have 2 groups at different times in the week; you should choose the session that fits best with your timetable. Sign-up is done online using the Minerva database; you will be informed through the termly notices of how to sign up for classes and practicals. Sign up is on a first-come-first-served basis: there is a limit to the number of students in any group, which may mean you don't get your first choice of group.

There will usually be a number of exercises that you will need to complete for each course. For example, a course with two practical exercises might have a practical timetable as follows:

Weeks 2, 4   Classes for first practical exercise

Weeks 6, 8   Classes for second practical exercise

A similar pattern will be followed for each lecture course.

You might also need to work on the practicals in your own time, outside the scheduled practical sessions.

#### **6.1.2 Attendance**

Attendance at practical sessions is compulsory if you are to get full credit for practical work in the examinations. When you attend a practical session, you will find that specific machines have been reserved for the practical, and there will be a register for you to record your presence. You are expected to attend all the sessions for each practical until you have completed it. If you are unable to attend a practical session, for example because of illness, you should inform the demonstrator in charge ideally before each session. The course web pages will tell you who the demonstrator in charge is.

### **6.2 Writing Practical Reports**

Each practical requires a report to be submitted for assessment. The report should not be a major burden: it is simply to provide evidence that you have done the work properly. Practical exercises usually give specific instructions as to what should be included in the practical report. In any case the following guidelines should be followed.

In many practicals, most of the report will be in the form of a program. Of course, you are expected to follow good programming practice:

- In a multi-module program, you should include some text explaining the role of each module, and the relationship between them;
- You should include suitable comments explaining the purpose of variables and procedures;
- You should also include comments to explain any interesting algorithms you have used: writing down an invariant will often help;
- You should make the code easy to read, for example by following standard indentation conventions, and by suitable use of white space;
- You should also include some evidence that the program works, for example by including sample output or screen shots: testing is a very important programming skill, and so you should show that you have considered suitable tests.

Many practicals will include specific questions for you to answer. Make your answers concise and relevant.

If the aim of the practical is to produce some experimental results, then you should present and discuss those. Do not just include pages and pages of numbers spewed out by the program. A concise summary is better, perhaps using another program to show the results are correct (by making a graph, say).

Try to avoid reproducing large volumes of code from the practical materials or repeating program code that you have already listed in the report. If a second program has to include the same procedure definition (say), just write "Procedure Sort(x) defined as before."

You are encouraged to write up reports on practicals as you do them during the term. The demonstrators will happily look at your reports and give you advice about them at the practical sessions, and will mark them there and then. It is perfectly acceptable to have your report marked at one practical session, then do further work on the practical and submit an improved report by the deadline. Please note that you must turn up at the beginning of the session in which you wish your practical to be marked: demonstrators will not have time and will not be willing to mark your practical if you turn up for only the latter part of the session.

You may want to produce the report using a text formatter like TeX or LaTeX, or a word processor. Be careful that the time you spend in formatting the document prettily does not distract you from getting the content right. A cogent, concise, neatly hand-written report is preferred to pages of word-processed verbiage. If you do produce a typed report, please ensure that it is legible, with adequate margins and with type that is no smaller than 10 points. While working on your practical, keep a record of the tests you performed on your program, so that you can easily copy relevant data into your report.

Do not copy any other person's practical report. You may have general discussions with other students about the practicals, but the code, test data and report must be all your own work. Please see the section on Plagiarism in Appendix E in this handbook for more details.

### **6.3    *Signing off Practicals***

In order to have the demonstrator record that you have completed the practical, you must show them that you have done the work, perhaps by demonstrating a working program. In the ordinary way of things, you will have done the work in the lab with the demonstrator's help, and he or she will be able to check quickly that you have finished. You may prepare your practical work in advance and bring it for checking at the class, but the demonstrators will not check off your work unless you have been attending the practical classes.

### **6.4    *Assessment of Practicals***

When you have completed the work for a practical and the report on it, a demonstrator will check and mark your work at a practical session. They will ask you first to show that you have done the work, leaving aside any optional parts, and will record this fact in their register, together with your attendance at practical sessions. If a practical turns out to be very long or difficult, the demonstrators (with the advice of the course lecturer) may record the practical as complete if you have done a reasonable amount of work, even if you have not finished it.

The demonstrator will also mark your report, either at the practical session if there is time, or by taking it away and returning it later. The practical report will be marked, taking into account whether you have done any optional parts, as well as the quality of your write-up, and the general difficulty of the practical exercises. As a general guide, even an incomplete report on each practical in the course gains more credit than one where some practicals are entirely missing. Extra credit is awarded for completing optional parts of practicals, but not to such an extent that it is worth spending many hours finishing every optional part.

The following scale of marks is used by the markers; the descriptions attached to each mark indicate the rough level of performance expected, but may be adjusted to take into account the degree of difficulty of the practical exercise.

- S+     The student has either completed the compulsory parts of the exercise and submitted an exemplary report, or completed all parts of the exercise and submitted an adequate report.
- S       The student has completed the compulsory parts of the exercise and submitted an adequate report.
- S-     The student has completed only part of the exercise, or has submitted an inferior report.

Practicals are assessed in two ways: first, the demonstrators keep a record of who has attended the practical classes and completed each practical exercise associated with a lecture course; and second, you write a practical report that the demonstrators mark, and which you submit to the examiners.

The following percentages are allocated to the grades shown above:

- S+       100%
- S         70%
- S-        30%

In examinations, the marks for practicals are treated separately from those for written papers. Practical marks do not affect the class of degree that you will be awarded, provided that you achieve a pass mark. However if you fail to reach the required standard in your practicals the examiners may deem you to have failed the examination.

All the practical reports must be submitted to the examiners at the end of the year. **You must submit them to the Examiners, via the MSc Course Administrator in the Department of Computer Science, by 12 noon on Friday of Week 5 of Trinity Term;** full details will be given nearer to that date. Note that reports should be anonymous: they should contain your candidate number, but not your name.

### **6.5    *Late Practicals***

Practicals are intended to support the lectures and tutorial work on a course, to help to impress material on your understanding, and to connect theory with practice. Accordingly, it is very much better to be doing the practicals for a lecture course at the same time as the other work on that course. Deadlines are set to help you to resist the temptation of putting off practicals.

Another advantage of doing your practicals during the scheduled classes is that the demonstrators are often able to spot problems that are affecting several people and do something about them, perhaps clarifying the instructions or providing a piece of missing information. If you do not attend the practical classes, you will not have access to this help.

Under the rules specified in the Examination Regulations, the Examiners will not take into account practical reports unless they have been "signed by a demonstrator". The demonstrators will sign the reports when they mark them.

The Examiners will give you no credit for practical work that was not submitted for marking by the deadline and signed by a demonstrator, unless there are extenuating circumstances. Likewise, demonstrators will not mark work that is late, unless there are extenuating circumstances.

### **6.6    *Difficulties***

If you are having difficulties in your practicals please make sure you speak to your supervisor or a member of the academic admin team as soon as possible.

## 7 Mini-projects (assignments) and Written Examinations

Lecture courses are examined either by mini projects (sometimes called take-home assignments) or by written examination.

### 7.1 *Mini-projects (take-home assignments)*

At noon on Friday of week 8 of each term you will be given mini-projects for each of the lecture courses for which you have registered that term and which are examined in this way. For courses that are shared with the MSc in Mathematics and Foundations of Computer Science, the assignments will be given out on Monday of week 8. Typically you will be given two to three weeks to complete all the assignments. The deadline for completion will be indicated on the assignment.

**Note that the duration between the distribution and submission of assignments may vary by several days from term to term.**

#### 7.1.1 *Submission of Mini-projects*

Most assignments, including all mini-projects for courses taught in Michaelmas Term 2018, will be submitted electronically through WebLearn. Answers to any assignments with hard-copy submission should be submitted to the Chairman of Examiners via the Examination Schools to arrive by the date specified. Unless the answers are delivered by hand, students are advised to use registered post or a courier delivery service.

When submitting any mini-projects on paper, you will have to complete a Declaration Form attesting that they are your own work except where indicated; for work submitted electronically, there is an equivalent declaration to complete online when submitting. Failure to correctly acknowledge your sources is plagiarism, which is a very serious disciplinary offence. The consequences of copying can never be remedied. Please consult the University website regarding plagiarism ([www.ox.ac.uk/students/academic/guidance/skills/plagiarism](http://www.ox.ac.uk/students/academic/guidance/skills/plagiarism)), and your supervisor if you are worried about possible suspicion of irregularity in examination procedures.

#### 7.1.2 *Preparing Mini-projects*

A mini-project may take the form of a tutorial sheet with several questions on different topics from the course, or a group of tasks related to a single theme or topic from the course. While you are free to work until the hand-in date, the expectation is that you will spend around 2/3 days per assignment for topics under Schedules A and B, and around 3/4 days per assignment for topics under Schedule C, including preparatory reading.

Although mini-projects may be carried out while you are resident in Oxford, some may be prepared over the Vacation period. Students who wish to complete their assignments away from Oxford should make sure that they have access to adequate computing resources, including email.

Your answer should not normally exceed 20 pages; 10 pages would be more typical. Write on one side of the paper only, and use standard A4. Write legibly and allow time to polish answers. Illegible and poorly laid out answers will be penalised more severely than in a standard 3-hour written exam. Typewritten or word-processed answers are acceptable, provided the mathematical notation is clear, but do not waste your precious time in presenting your answers in Word format or in LaTeX-ing your answers unless you are accomplished at this.

You should aim to do significantly more than half of each assignment. If you complete less than half of an assignment, you should still hand it in. Even if you fail in that subject, the work will earn you credit in the overall assessment. Furthermore, your work may suggest remedial action to your supervisor.

If prior to completing your examination entry online you think you will have trouble completing all the assignments, consider dropping one of them altogether. Be sure to discuss this with your supervisor. If you decide to drop an assignment you must inform the MSc Course Administrator. If you fail to submit a mini-project for one of the topics listed on your Exam entry, the Examination Schools will notify the Proctors that you have failed to submit it.

For more detailed information on examination entry and related information, please visit [www.ox.ac.uk/students/academic/exams/entry](http://www.ox.ac.uk/students/academic/exams/entry) and read section 7.2.3 of this handbook.

**You should not** show your work to, or discuss it with, any other student. **You should not** ask or seek to look at anybody else's work.

If you use material from any other source such as textbooks, lecture notes or the web then you should reference it explicitly at the relevant point. Your supervisor can give you guidance on proper referencing, or for more guidance see [www.cs.ox.ac.uk/files/3161/Referencing.pdf](http://www.cs.ox.ac.uk/files/3161/Referencing.pdf)

You will not receive any credit for simply copying information verbatim because that displays very little understanding. The assessors will be more impressed if you synthesise information from a number of sources (properly cited, of course), and combine it with your own ideas.

If you fail an assignment, it is possible to remedy the situation later; but the consequences of copying can never be remedied. Please consult your supervisor or the Course Director if you are worried about any possible suspicion of any irregularity in examination procedures. The following link offers additional relevant advice:

[www.ox.ac.uk/students/academic/goodpractice/](http://www.ox.ac.uk/students/academic/goodpractice/)

When matters of plagiarism are reported to the Proctors, the investigations can be protracted and involve serious stress for the candidate(s) concerned. Penalties imposed can result in the assignment(s) being disregarded and this could ultimately mean failure of the degree course.

## 7.2 Written Examinations

In 2018-19, the following courses will be examined by written examination at the following times:

Computational Game Theory	week 0, Hilary Term
Databases	week 0, Hilary Term
Functional Programming	week 0, Hilary Term
Machine Learning	week 0, Hilary Term
Probabilistic Model Checking	week 0, Hilary Term
Artificial Intelligence	week 0, Trinity Term
Computational Complexity	week 0, Trinity Term
Knowledge Representation & Reasoning	week 0, Trinity Term
Concurrency	week 7 (TBC), Trinity Term

The finalised timetable will be made available at  
[www.ox.ac.uk/students/academic/exams/timetables](http://www.ox.ac.uk/students/academic/exams/timetables)

### 7.2.1 Preparation

Your supervisor and the course lecturer will advise you about revision and practice. There will be revision classes for courses examined in this way, and these tend to be held in week 9 of Michaelmas and Hilary Term.

Past examination papers are a good guide to the sort of examination question that you might be set. A word of caution: the syllabus for examinations changes over time, and is certainly not determined by what has appeared in past papers. Past papers can be found at:  
<https://www.cs.ox.ac.uk/teaching/internal/papers/index.html>

### 7.2.2 Procedure for Written Examinations

Your written examinations will be held in the Examination Schools, at 75-81 High Street, Oxford, OX1 4GB (to the east of University College). A map showing this can be seen at  
<https://maps.ox.ac.uk/#places/oxpoints:23233550>  
Different papers take place in different rooms around the building, as detailed in the entrance hall.

***You must wear full academic dress (sub fusc, gown and cap) to attend public examinations, and you must bring your University card with you. Your College will advise you about academic dress. For further guidance, please see [www.ox.ac.uk/students/academic/dress](http://www.ox.ac.uk/students/academic/dress)***

You should make every effort to be on time for examinations. If you are not there at the start of the examination, attempts will be made to contact your College or the Department of Computer Science to find out why not. Generally speaking there is no insurmountable difficulty if you get there in the first half hour, although you will have less time to do the exam. For this reason, nobody may leave an examination until half an hour after it starts.

Desks are identified by your name and college, with the desks in alphabetical order of names, but you will need to know your candidate number so that you can write this (and *not* your name) on your script when you hand it in. For each paper that you sit you will be given a cover

sheet on which you identify yourself by your candidate number, and the paper by its number and title. Although your college will provide you with your candidate number, it can also be viewed on Student Self Service. For guidance and how to locate your candidate number, see [www.ox.ac.uk/students/selfservice](http://www.ox.ac.uk/students/selfservice)

The question paper will be on your desk when you go in to the examination. You should check that it is the paper that you have entered for, and you should carefully read the instructions on the cover, but you may not open it until told to do so. Read the wording of each question carefully, and make sure that you have not missed out any parts.

You will be provided with (probably) booklets of ruled A4 paper in which to write your answers. The Exam Regulations require that you write in ink, rather than pencil, although you may use pencil for any graphs and drawings. It is a good idea to use blue or black ink, rather than something more unusual, in the interests of anonymous marking. Please start each answer on a new page. (This makes it much easier for the marker.) If you do start part way through a sheet, do not worry: just make a clear note of the fact so that the examiners can be careful not to be confused.

You must write legibly: if nothing else it will avoid annoying the marker; but there is a provision for illegible scripts to be typed *at the expense of the candidate*.

You will be given instructions at the examination about handing in your script. It is your responsibility to do this: anything left on your desk is liable to be thrown away by the person clearing the room. There will be treasury tags for you to use to attach booklets together. The rubric on the paper will tell you whether to bind everything in one bundle, or whether to hand in answers to different parts of the paper with separate cover sheets. If you do not attempt any questions from one part of the paper, you should still hand in a cover sheet for that part, so that the examiners can check that all parts of all papers are accounted for.

### **7.2.3 Entering for Examinations**

Examination entry is an online process using Student Self Service. You will receive an email invitation to log into Student Self Service to complete your examination entry assessment selections by a given date. Your selections will be validated and confirmed by a series of display screens within Student Self Service, and you will be able to log back in and change your choices within the examination entry window as many times as you wish.

A couple of weeks before exams begin, a timetable will be sent to your College showing where and when each written paper will take place (this will also be available at [www.ox.ac.uk/students/academic/exams/timetables](http://www.ox.ac.uk/students/academic/exams/timetables)). Your College will give you your timetable and a randomly allocated *candidate number* which you will use to identify your scripts, instead of your name and College, so they can be marked anonymously.

### **7.2.4 Notices to Candidates**

Before your examination you will receive one or more letters of *notice to candidates* from the examiners which will tell you of any details of the examination procedure that are different from the usual. Notices to candidates will be sent to you by the MSc Course Administrator. These notices contain important information about your examinations and should be read

very carefully. If you have any questions then please ask the MSc Course Administrator; you must **not** contact the examiners directly.

Information on (a) the standards of conduct expected in examinations and (b) what to do if you would like examiners to be aware of factors that may have affected your performance before or during an examination (such as illness, accident or bereavement) are available on the Oxford Students website: [www.ox.ac.uk/students/academic/exams/guidance](http://www.ox.ac.uk/students/academic/exams/guidance)

### **7.3 Prizes**

As mentioned in the Examination Conventions

([www.cs.ox.ac.uk/teaching/examconventions/MScInCS](http://www.cs.ox.ac.uk/teaching/examconventions/MScInCS)) three prizes, each to the value of £200, may be awarded:

- One for best overall performance in the examination;
- One for best project; and
- The Richard Bird Prize for the dissertation that best presents a piece of software, an algorithm, or a mathematical theory pertaining to program construction.

If dissertations of sufficient merit are not submitted, the award may be withheld.

### **7.4 Examination Conventions: Marking and Classification**

Examination conventions are the formal record of the specific assessment standards for the course to which they apply. They set out how your examined work will be marked and how the resulting marks will be used to arrive at a final result and classification of your award. They include information on: marking scales, marking and classification criteria, scaling of marks, progression, resits, use of viva voce examinations, penalties for late submission, and penalties for over-length work.

The definitive version of the Examination Conventions can be found online at:

[www.cs.ox.ac.uk/teaching/examconventions/MScInCS](http://www.cs.ox.ac.uk/teaching/examconventions/MScInCS)

### **7.5 External Examiner and Examiners' Reports**

The External Examiner responsible for the MSc in Computer Science is Professor Elizabeth Scott, Professor in Computer Science, Royal Holloway University of London.

Previous years' Examiners' reports can be found online at:

[www.cs.ox.ac.uk/teaching/internal/examinersreports/MScInCS.html](http://www.cs.ox.ac.uk/teaching/internal/examinersreports/MScInCS.html)

Students are strictly prohibited from contacting external examiners directly. If you are unhappy with an aspect of your assessment you may make a complaint or appeal.

## 8 Projects

### 8.1 Important Deadlines

- **Monday 25 February 2019 (Week 7, Hilary Term):** a project registration form must be submitted to us by this date. It should be handed to Tim Jones (room 112).
- **Monday 29 April, 2019 (Week 1, Trinity Term):** a project proposal must be submitted.
- **Tuesday 3 September 2019, noon (Week -5, Michaelmas Term):** submission deadline.
- **Wednesday 2 October 2019 (Week -1, Michaelmas Term):** viva voce examination.

### 8.2 Choosing your project

Project proposals fall into two categories: there are specific proposals put forward by members of the department which can be discussed with the academic concerned, and some members of the department have put forward general areas in which they would be prepared to supervise projects. If you have a project of your own in mind you can discuss it with the academic whose interests fall into this area. The regulations stipulate that you must demonstrate a link between your project and the taught part of the course. Available projects can be found at [www.cs.ox.ac.uk/teaching/studentprojects/MScInCS](http://www.cs.ox.ac.uk/teaching/studentprojects/MScInCS)

You should submit the registration form with either a single project title, together with a signature of the supervisor, or a list of at least three projects for which you have (or are doing) the stated prerequisites. We would encourage you to talk to potential supervisors and select a specific project if possible. However, if you are not able to do this, then the Projects Committee will endeavour to find a suitable person to supervise one of the projects you have listed. If you do supply a list projects you are interested in, then please make sure that they are selected from at least two different possible supervisors. It is likely that your project supervisor will be different from your supervisor in the first two terms.

We encourage you to talk to potential supervisors and select a specific project if possible. You need not do a project from the circulated list; you are free to construct your own project proposal in consultation with someone who would be prepared to supervise it. A good way to start is to draft a description of what you propose to do as though it were going to be part of the circulated list, then show it to staff who you think might be interested in supervising it.

You should discuss with your supervisor the general area of your project, because this may help in selection of appropriate lecture modules through the year. The sooner you choose a specific project, the sooner you will be able to start background reading and investigations.

Although some students do projects that are jointly supervised with another department or industry, you should remember that the project has to be relevant to computer science and should demonstrate your understanding and ability to exploit and integrate the material you have learnt from the courses you have taken. If you are interested in undertaking a project supervised by an industrial partner, please consult the MSc Course Administrator or the Academic Administrator in the first instance, who will be able to advise.

You must submit a summary of your selected project to the Director of the course before the first Monday of Trinity Term (29 April 2019). This must be accompanied by an essay of one to two thousand words describing the project, including:

- Background: the theory or application areas;
- General open questions;
- Selection of particular question for study;
- Proposed method;
- Draft Timetable;
- Signature of Project Supervisor.

### **8.3 Carrying out the Project**

During the project you should expect to meet your project supervisor for about half an hour per week, on average; however, this figure might vary, depending on the nature of the project. You should be proactive in arranging meetings with your supervisor.

#### **8.3.1 Context and Scope**

To decide on the exact scope of your project you first need to investigate the background and context of the area you are working on. Your project should address a well-chosen set of concerns that are appropriate to this context. Ideally, you should identify a small number of more difficult problems, and use your project as a vehicle to explore solutions to them.

For example, a program that allows human players to compete with each other in playing a game over a network might present a number of significant problems. The play will take place over a network that might be unreliable, or one or other player might quit the game before it is finished, and it would be important for the program not to become stuck if one of these things happened. For a multi-player game, players might be able to join or leave at different times, and it would be important that the program would continue to function. In a large game, it might become important to minimize the number of direct communication links that were used, and yet still have the program be robust to failure of computers or network links. Also, players may be able to act concurrently, and the outcome of concurrent activity must be determined by the program in an accurate and fair way.

It would not be necessary to address all these aspects in a project, but it would be good to show awareness of most of them and concentrate on some of them in your implementation and testing. It would be a mistake to devote too much effort to polishing the GUI at the expense of addressing the more fundamental networking and concurrency issues.

An MSc project should contain an original contribution, although not necessarily to the level of a research paper. For example, a project that involves implementing an algorithm or technique should contain a clear explanation of the underlying theory, a significant amount of testing, as well as evaluation and assessment of the different methods chosen.

Similarly, a project that contains an exposition of a recent development in theoretical computer science should contain an original presentation of the relevant theory, eg containing new illustrative examples and new, helpful, notation and terminology, and perhaps original proofs of certain propositions and lemmas.

### **8.3.2 Choice of Technology**

The project should be implemented using appropriate technology. The report should contain a brief explanation of why the technical solution (such as a programming language and libraries) was chosen, but a long comparison of alternative approaches is unnecessary.

It is good to choose a technological basis that makes the programming easier, allowing you to concentrate on distinctive aspects of your problem area. For example, you could use a networking library that supports transmission of structured values instead of building the same functionality from scratch, and that would be sensible if the point of the project is some higher-level application. Or you could use a functional programming language to make a prototype of a compiler and abstract machine and avoid the heavy work of implementing these in low-level code.

## **8.4 Dissertations**

The project is written up as a dissertation, which should give a clear account of an attempt to apply some of the principles taught in the course in practice. Students are encouraged to pay careful attention to the organisation of the material and the style of its presentation. Although the expected standard is that of a good internal project report in industry, some past dissertations have reached publication standard; others have been the starting points for research programmes.

### **8.4.1 Structure**

The project is required to “demonstrate in the dissertation an appreciation of the role of methods studied in the course”. What this means in practice differs from project to project. For example, if the project is devoted to constructing a substantial piece of software, it will probably involve the development of formal specifications of the more crucial parts of the structure, attention to good software engineering practices in building the system, and possibly some reasoning about the result. If the project involves mathematical modelling of an artefact or process, the ideas would have to be put into a general context, relating them to material studied elsewhere in the course.

The main body of the dissertation should be preceded by a contents table listing chapters and sections. Each page should carry a header indicating the current chapter or section.

The main body of the text of a typical dissertation will contain:

- An introduction: the first chapter should introduce the subject of the dissertation and explain the structure of the text to the reader.
- An explanation of the problem: a second chapter should explain the problem to be studied, or the context in which the work takes place.
- A description of the method: a third chapter should introduce the method used to solve the problem, or the formal techniques employed.
- An account of the work: the following chapters should present the work carried out during the project, including any practical results and theoretical insights obtained.
- Conclusions: the final chapter should contain conclusions drawn from the project, comparisons which may be made between this and existing work or practice, and suggestions regarding the extension or continuation of the work.
- A bibliography and list of references.

Material that is used to support the work but does not have a place within the body of the text may be included as an appendix. Typical examples include program code, mathematical proofs, and sample output.

#### **8.4.2 Guidance on Presentation**

The following guidelines have been produced for MSc in Computer Science students to refer to when completing their dissertation. The University's Examination Regulations governing the preparation and presentation of a research thesis (currently under section 2 *Preparation and submission of theses* under the heading §7 *Regulations concerning the Examination of Graduate Research Students* at [www.admin.ox.ac.uk/examregs/2017-18/rgoveresedegr](http://www.admin.ox.ac.uk/examregs/2017-18/rgoveresedegr)) should be followed regarding the layout of your dissertation. However, as the MSc project is to be submitted online, the references to printing do not apply to the MSc. Please consult the latest edition of the Examination Regulations when reading this document, and before you start to type up your dissertation. Should any of the information be unclear, please contact Tim Jones ([tim.jones@cs.ox.ac.uk](mailto:tim.jones@cs.ox.ac.uk)) for advice in advance of the submission deadline.

##### *Formatting*

- Size 11 or 12 font must be used.
- Double spacing should be used for the main text; single spacing should be used for quotations and footnotes.
- The margins of the page must be 3 to 3.5cm.
- Pages of the dissertation must be numbered throughout, except for the title page.
- The completed dissertation must be saved and uploaded as a PDF file of not more than 250MB.

##### *Title Page*

- The full title of the dissertation.
- The term and year of submission.
- The candidate's name, but not the candidate number.
- The title of the degree the dissertation is being submitted under.

##### *Contents*

- You should include a contents page.

##### *Abstract*

- It is strongly recommended that a short abstract (of less than one page) be included at the beginning of the dissertation, separate from the Introduction.

##### *Source code*

- If your dissertation contains or uses source code, that must be uploaded to the Assignments section of the Computer Science WebLearn site.
- With a file size limit of 250MB in WebLearn, please ensure you make a zip file of your source code before submitting it.
- Clear instructions for online submission of source code are included on the Assignments section of the Computer Science WebLearn site.

### 8.4.3 Content

The regulations state that *“Candidates will be expected to demonstrate in their dissertation an appreciation of the role of methods studied in the course.”*

Such a *demonstration of appreciation* can take different forms; it might consist in an application of the method, or an extension to the theory. Examples include:

- a specification produced using a language taught in one of the specification-oriented courses;
- a result about inductive arguments for data refinement;
- a technique for conducting hazard analysis using a process algebra.

Each of these involves a single method. Most application-oriented projects will involve more than one method: if the project requires developing a piece of software, then the resulting dissertation could demonstrate understanding of methods taught on a variety of courses.

In some cases, it may be possible to see the project work in terms of a clearly-defined problem and an original solution. In others, key problems emerge only during the project itself, and the value of the work lies in its contribution to understanding.

You should ensure that you allocate a substantial part of your time to writing the dissertation; unless you are a practised writer of technical prose, then plan to take around a month for this. Some dissertations show signs of having been spoilt by a last-minute rush. The dissertation should be a technical document designed to be readable by a person who is neither the candidate nor the supervisor, nor a research expert in the precise subject area.

The Department’s Library contains many previous dissertations. You can also find these on the MSc Thesis Repository database at [www.cs.ox.ac.uk/msctheses](http://www.cs.ox.ac.uk/msctheses)

You should look at some of these, in consultation with your supervisor, to get an idea of the appropriate length and style. Your supervisor will normally be happy to comment on a draft of your dissertation, but take care to allow time for this: some supervisors are likely to be away in the period leading up to the submission deadline. It is also possible for the work reported on to be a part of a piece of work undertaken by several people, but the contribution of the individual project must be clearly identifiable, and clearly explained in the report. The report must be the work of the candidate alone (except for any clearly identified common material in joint projects). **Please see Appendix E on plagiarism at the end of the handbook.**

### 8.4.4 Length and effort

The regulations state:

*“Candidates shall submit a dissertation of not more than 30,000 words, plus not more than 30 pages of diagrams, tables, listing, etc., on a subject selected by the candidate in consultation with the supervisor and approved by the director of the course.”*

There is no minimum length. However, it would be unusual to see a document of less than, say, 35 pages in a font size no smaller than 11pt that contained an adequate demonstration of understanding and appreciation.

Although it is difficult to measure such quantities, the effort required for the project and dissertation should be roughly equivalent to that required for five subject courses, with the associated practical work and assignments/written examinations.

The dissertation should have a definite structure: a beginning, a middle and an end. In particular, there should be a final paragraph or two bringing all the material together. However, take care that the introduction, project description and conclusion are not merely repetitions of the same paragraph cast into the future, present and past tenses respectively. You might well include in the report a section on what was learnt from doing the project: this could perhaps include a technical discussion of approaches that were tried and did not work. The conclusions should be reasonably general, so that they could be relevant and useful for people embarking on similar projects, or perhaps a continuation of this one. An analysis of your personal development from doing this project is also appropriate.

### **8.5 Writing Skills**

In Hilary Term or Trinity Term, there will be a session on presentation skills which will cover both writing skills and verbal presentations. All students are expected to attend as this will provide you with useful background for your dissertation.

Overseas students whose first language is not English are encouraged to investigate attending one of the courses on English for Academic Study given in the University Language Centre. See <http://www.lang.ox.ac.uk/>

If you think this would be suitable for you, please discuss it with your supervisor or the Academic Administrator.

### **8.6 Proof Reading**

As outlined in the Examination Regulations  
([www.admin.ox.ac.uk/examregs/2018-19/grgoveresedegr](http://www.admin.ox.ac.uk/examregs/2018-19/grgoveresedegr)):

“Work submitted for examination must be solely the work of the candidate, except where otherwise clearly indicated. It is not permitted for a student to ask or allow someone else to make material changes to their work, for example, by rewriting passages of text or rewriting formulae or code. Failure to adhere to these regulations could constitute a breach of academic integrity and contravene the Proctors’ Disciplinary Regulations for Candidates in Examination.

Candidates are responsible for the proof-reading of their work. Proof-reading by a third party is acceptable provided it constitutes no more than advice on the following: spelling and punctuation, formatting, grammar and syntax. A third party may not be used to change the text of the thesis so as to clarify, develop or change the ideas and

arguments, reduce the length of the thesis, provide help with referencing, correct information within the thesis, or translate the thesis into English.”

For further details on the policy, including what a third party proof-reader may and may not do, please visit [www.admin.ox.ac.uk/edc/policiesandguidance/policyonproofreaders](http://www.admin.ox.ac.uk/edc/policiesandguidance/policyonproofreaders)

### **8.7 Submission of the project dissertation**

Submission of the dissertation is through the online submissions portal on the Computer Science WebLearn site. An electronic copy of the dissertation (saved as PDF) and, where applicable, associated source code, must be uploaded to the Assignments section of the Computer Science WebLearn site by **12 noon, Tuesday 3 September 2019**.

The dissertation must be submitted no later than that detailed above, unless Proctoral permission has been received. Work may be submitted in advance of the deadline if you choose. In doing this you will also avoid any issues that may arise due to IT problems and lead to late submission.

As mentioned above, any code generated as part of the project must be submitted alongside the dissertation. All formats are acceptable for the source code.

We recommend that you take time to ensure you are fully familiar with the procedures given on the submissions portal, well in advance of the submission deadline. While the Course Administrator will be available to answer questions, it is not intended that a step-by-step guide be provided, as this would be unfair to other students who wish to make contact.

The department will provide training on how to upload a dissertation to the submissions portal.

Please note the following:

- It is the student’s responsibility to ensure that their work is submitted by the deadline.
- Failure to submit an assignment on time as a result of IT problems (eg computer malfunction, slow internet connection) will not be accepted as a valid reason for late submission. You should make regular back-up copies of all work and ensure that there is adequate time to submit your work. Do not leave submission until just before the deadline.
- Responsibility for the work rests with the student at all times until issue of receipt, regardless of the method submission.
- All work will be dealt with under the standard submission procedure, whether submitted early, near the deadline, or late.
- Once submission has been made, the assignment cannot be withdrawn or altered.

You will be informed when the assignment submission area on the Computer Science Examinations portal is open.

### **8.8 *Satisfying the Examiners***

The regulations state that the examiners must be satisfied that the candidate has attained an adequate level of achievement in the dissertation:

To satisfy the examiners for the degree of MSc in Computer Science, a candidate must attain an average of at least 50 (pass) on a selection of their best six courses, including at most two courses from Schedule A and at least two courses from Schedule C, pass in the dissertation, pursue an adequate course of practical work and achieve an overall pass in practicals, and unless dispensed under cl.3 (iii) above satisfy the examiners in the viva voce examination.

The decision of the examiners will be based upon two things: the standard set in previous examinations, and the stated aims of the MSc in Computer Science.

Students are encouraged to examine previous dissertations, available in the library, but are reminded that many of these will be of a higher standard than would be expected of dissertations at the pass/fail borderline. A document which is particularly relevant notes that:

Each project will be read by at least one examiner, and an assessor on behalf of the examiners. Both readers will be asked to supply a brief paragraph describing the scope and achievement of the project, and will be asked to give a grade.

### **8.9 *Regulation of Assessment: Final Examination***

The Board of Examiners meets every term to consider marks for assignments, and again at the end of the year to consider the overall award. Its five members are appointed by the Divisional Board; each serves a three year term where possible. An External Examiner is appointed who attends the final meeting and provides a separate report to the University.

The Examiners are formally independent from the Department and from those who lecture the courses, but they may, and almost always do, appoint Assessors to assist in the setting and marking to ensure that the examination is closely tied to the taught material.

Assignments and practical reports (anonymous) are marked by an appointed Assessor (usually the lecturer). The assessments are then moderated by the Examiners.

Each dissertation is marked at least twice, once by an appointed Assessor and again by one of the Examiners. The two markers' reports are then considered by the full Board of Examiners.

The decision of the examiners may be contingent upon the results of a viva voce (oral) examination. All candidates are required to attend such an examination unless individually dispensed. In cases where there is any doubt as to a candidate's ability or the originality of their work, this part of the examination process is particularly important.

To be awarded an MSc, a candidate must attain an average of at least 50 (pass) or above on a selection of their best six courses, and pass the associated practical reports. They must also achieve a pass or above for their dissertation.

A distinction is awarded where the candidate has achieved an excellent performance in both the taught part of the course and the dissertation. To obtain a distinction, a candidate must achieve an average of at least 70 on a selection of their best six courses and a USM of at least 70 in their dissertation. A candidate who does not achieve a distinction, but achieves an average USM of at least 65 in their best six courses, and a USM of at least 65 in their dissertation, may be awarded a merit.

National guidance requires external examiners to report on three major areas related to standards:

- whether or not an institution is maintaining the threshold academic standards set for its awards in accordance with the frameworks for higher education qualifications and applicable subject benchmark statements;
- whether or not the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with the institution's policies and regulations;
- whether or not the academic standards and the achievements of students are comparable with those in other UK higher education institutions of which the external examiners have experience.

It also requires informative comment and recommendations on:

- good practice and innovation relating to learning, teaching and assessment observed by the external examiners;
- opportunities to enhance the quality of learning opportunities provided to students.

The report is addressed to the Vice-Chancellor, and will be considered by the relevant divisional board, the faculty/department and by the University's Educational Policy and Standards Committee.

Where an external examiner's report contains particular suggestions or criticisms, it is the responsibility of the faculty/department to ensure that full consideration is given to these, to institute further discussion or action, and to inform the external examiner within a reasonable time of what is done.

The University Proctors have ultimate authority regarding examination conduct and other disciplinary matters.

### **8.10 Factors in Assessment**

The mark awarded to a dissertation will be based upon the examiners' overall impression of the work. To arrive at this impression, they will consider the following factors:

*Context:* The dissertation should demonstrate, as far as is relevant, a good understanding of the context in which the work was undertaken. It should be evident that the student understood both the problem and the problem domain, and that the choice of approach was informed and intelligent. The examiners would like to be convinced that the student has a good general knowledge of the field.

*Competence:* The student should demonstrate, in the text of the dissertation that they are able to apply the ideas and the techniques that they have studied. The examiners will look for evidence of understanding, and appropriate application of techniques. They would like to be convinced that the student has shown competence in investigating the chosen topic.

*Contribution:* The dissertation should have some value in itself. This may arise in different ways: the dissertation may present a fresh application, an extension to a theory, a new solution, or a new approach to a problem. The value will depend upon the extent of achievement: the nature of the application, the utility of the extension, the elegance of the solution, or the coherence of the approach.

All of these are intangible, but the examiners' expectations will be framed in the knowledge that this is work undertaken by new graduates (it should be more advanced than a third-year undergraduate project, but not necessarily comparable with that of a research student). Ideally, the examiners would like to be convinced that the student has made a worthwhile contribution to knowledge or understanding in the field.

*Critical Evaluation:* The dissertation should provide appropriate critical assessment of the work that has been done and the process of doing it.

*Presentation:* If the dissertation is to succeed as a demonstration of knowledge and understanding, and if the examiners are to be convinced of the competence of the student, a certain degree of clarity and organisation is required. Part of the value of the dissertation lies in its accessibility: if it is to make a worthwhile contribution, then it must be readable for another member of the cohort that's taken a similar schedule of courses whilst also maintaining sufficient detail to document the work and support assessments made. For these reasons, and because clarity of exposition may in itself reflect a greater degree of effort and understanding, the examiners would like to be convinced that the dissertation is presented in a lucid and scholarly manner.

### **8.11 Viva Voce**

The examiners have the right to require any student to attend for an oral examination on **Wednesday 2<sup>nd</sup> October 2019**. You will be expected to be available on that day. The oral examination is intended to help candidates whose performance in one or both of the other parts of the examination is questionable or not quite satisfactory. If you are required to attend, you should consult your supervisor on the best method of preparing yourself. Most candidates will be dispensed from attendance.

### **8.12 Intellectual Property**

Please see the University's policy on Intellectual Property rights at <https://researchsupport.admin.ox.ac.uk/innovation/ip>

### **8.13 Marking Assessments**

Each band has an informal interpretation, as described below and in the Exam Conventions at <https://www.cs.ox.ac.uk/teaching/examconventions/MSCinCS.html>

### **Distinction**

90-100: The candidate shows remarkable ability and extraordinary insights. Dissertations in this band will be worthy of publication in a reputable conference or journal.

80-89: The candidate shows outstanding problem-solving skills and outstanding knowledge of the material over a wide range of topics, and is able to use that knowledge innovatively and/or in unfamiliar contexts.

70-79: The candidate shows excellent problem-solving skills and excellent knowledge of the material over a wide range of topics, and is able to use that knowledge innovatively and/or in unfamiliar contexts.

### **Merit**

65-69: The candidate shows very good problem-solving skills, and very good knowledge of much of the material over a wide range of topics.

### **Pass**

60-64: The candidate shows good problem-solving skills, and good knowledge of much of the material over a wide range of topics.

50-59: The candidate shows basic problem solving skills and adequate knowledge of most of the material.

### **Fail**

40-49: The candidate shows reasonable understanding of at least part of the basic material and some problem solving skills. Although there may be a few good answers, the majority of answers will contain errors in calculations and/or show incomplete understanding of the topics.

30-39: The candidate shows some limited grasp of basic material over a restricted range of topics, but with large gaps in understanding. There need not be any good quality answers, but there will be indications of some competence.

0-29: The candidate shows inadequate grasp of the basic material. The work is likely to show major misunderstanding and confusion, and/or inaccurate calculations; the answers to most of the questions attempted are likely to be fragmentary only.

## 9 If things go wrong

The most common cause for failure is personal problems. If these begin to affect your health or your work, do not delay in consulting your medical advisor or one of the many supervisors or advisors allocated to you by the Department and your College. Nearly all problems, whether emotional, medical or psychological, can be solved or alleviated by those who have the experience and expertise to advise, *provided that they know early enough*.

Each college has its own systems of support for students: please refer to your College Handbook or website for more information on whom to contact and what support is available through your college.

There is a wide range of sources of support available more widely in the University, including in relation to mental and physical health and disability: details are available from [www.ox.ac.uk/students/welfare](http://www.ox.ac.uk/students/welfare).

The second most common reason for failure is undertaking outside commitments or employment at any time during the academic year. **Do not do this**. It is incompatible with your status as a student of the University. In cases of exceptional pressure, you should discuss with your supervisor or the Course Director the options of withdrawing or delaying. This would be much better (financially as well) than failing the course and having to retake it.

A third possible reason for disappointment is a mismatch between the culture and content of the course and the experience and aspirations of the student. Every effort is made in course design, provision of options, and the selection of students; but there is no way to avoid the occasional mismatch. This must be regarded as failure of the system rather than the student, and it is sensible to treat the problem without allocating blame. The best solution is to recognise the situation as early as possible, and avoid further waste of effort and disappointment.

### 9.1 Failure and Resits

The requirements that must be met to obtain the MSc in Computer Science are set out in the Regulations, together with the consequences of failing to meet them.

Any candidate who has not achieved an average of at least 50 in their best four courses taken during Michaelmas and Hilary Term shall be deemed to have failed the degree course and will not be permitted to submit a dissertation.

To satisfy the examiners for the degree of MSc in Computer Science, a candidate must attain an average of at least 50 (pass) on a selection of their best six course, including at most two from Schedule A and at least two courses from Schedule C, pass in the dissertation, pursue an adequate course of practical work and achieve an overall pass in practicals, and unless dispensed under cl.3 (iii) in the Examination Regulations ([www.admin.ox.ac.uk/examregs/2018-19/mosbcincompsscience/studentview](http://www.admin.ox.ac.uk/examregs/2018-19/mosbcincompsscience/studentview)), satisfy the examiners in the viva voce examination.

The examiners may award a distinction for excellence in the whole examination.

A candidate who fails part of the examination, either the dissertation or taught courses, will be permitted to retake that element (or equivalent) on one further occasion only, in the year following the initial attempt.

A candidate who retakes examinations that they have failed in the previous year will be required to pay the relevant fees for exam entry. Such a student may, at the discretion of the Course Director, be exempted from attending lectures, classes, and practicals for the course. However, a student who substitutes a new course for a previously failed course will normally be required to attend the lectures, classes, and practicals, and will be liable for fees in the relevant term(s).

## **9.2 Difficulties**

If you have difficulty in understanding a lecture, please discuss it with your supervisor, or the class tutor for the course; at least one of them should be able to make an explanation that meets your needs. If you find the lectures unsatisfactory in any other way, please tell the lecturer or your supervisor; they are keen to make improvements where possible. If you find any aspect of your supervision unsatisfactory and you feel unable to discuss it with your supervisor, you should contact one or more of the following members of staff: your Advisor; the MSc Course Director; the MSc Course Administrator; the Academic Administrator or (in exceptional circumstances) the Head of Department.

## **9.3 Feedback**

You will be asked to complete a questionnaire for each lecture course you attend. Please take the time to complete this and return it, as feedback is extremely valuable in helping us to continue to improve the course and your learning experience.

All students will also be invited to complete an end of course questionnaire, the results of which will be considered by the MSc Supervisory Committee in the following academic year.

Students on full-time and part-time matriculated courses are surveyed once per year on all aspects of their course (learning, living, pastoral support, college) through the Student Barometer. Previous results can be viewed by students, staff and the general public at:

[www.ox.ac.uk/students/life/student-engagement](http://www.ox.ac.uk/students/life/student-engagement)

## **9.4 Student Representative**

You will be asked to nominate a student representative(s) to sit on the MSc Supervisory Committee which meets once a term in week 3. Once confirmed, the names and email addresses of the student representative(s) will be circulated to the Cohort, and an additional reminder will be sent out prior to the Supervisory Committee each term. Please make sure that the representative is aware of any concerns or comments you have regarding the course.

## **10 Communications**

Information about the Department of Computer Science, its staff and courses is available from the Department's home page ([www.cs.ox.ac.uk](http://www.cs.ox.ac.uk)). Information about lectures, seminars, job vacancies, etc will be placed on the relevant web pages.

### **10.1 Publications**

Each group publishes a series of either Research Reports or Technical Reports and a series of Monographs. These are distributed within the Department and to the wider academic community, and provide a speedy way of publicising the work of the Department. Publication in these series can lead (and has led) to fruitful contacts with fellow-researchers and organisations who may wish to apply the research.

The Gazette is published weekly in term time and is the official publication for University business, regulation changes, meetings etc. It is available in all the University and College Libraries and in the Common Room on the ground floor.

Oxford Blueprint, a newsletter for University and college staff and students, is published in 0th, 3rd, 6th and 9th weeks of term. It contains news, interviews and features reflecting the diversity of activity across the University, and an events diary will be included.

### **10.2 Societies**

The [Computer Science Graduate Society](#) (CoGS) provides a platform for the academic and social life of post-graduates in the Department. Covering both student representation on academic committees as well as organization of a variety of social events to give postgraduate and postdoctoral students the opportunity to mingle and catch up outside their research groups. From weekly 'coffee and cake' gatherings, to pizza and games nights.

The [Oxford Women in Computer Science Society](#) (OxWoCS) aims to support and promote women in computer science. The society exists for all women in computer science, be they students, faculty, or staff. OxWoCS runs a number of academic, social, and career events throughout the year, including weekly coffee meetings, talks by distinguished female speakers, and industry sponsored events. The society provides networking opportunities and a support network comprising role models, mentors, and peers.

The [Oxford Computer Society](#) (CompSoc) is a student-run society which organises social events, talks, and practical courses.

### **10.3 Seminars**

All Graduate Students are encouraged to attend departmental seminars. These are held in the Department at 14.00 on most Tuesday afternoons in term time. They are frequently presented by distinguished speakers from outside the Department, and they are well worth the time to attend. There are also many informal seminars and discussion groups in the Department. Their meetings are usually publicised at relatively short notice on the notice-boards and electronic newsgroups and web pages: check [www.cs.ox.ac.uk/seminars](http://www.cs.ox.ac.uk/seminars)

## 11 Outreach

The department offers a wide-ranging outreach programme, generally aimed at UK school students. MSc & DPhil students are very welcome to join the department's student ambassador scheme. Training sessions are held in Michaelmas Term. You will then receive an official ambassador t-shirt, and be added to a mailing list. You will be contacted as opportunities, including paid work, are announced. We ask that trained ambassadors undertake a minimum of one event per year, but there is no upper limit. Students interested in giving talks, running practical coding sessions for kids, helping out at open days, or just finding out more may also contact the Schools Liaison team to discuss opportunities: [outreach@cs.ox.ac.uk](mailto:outreach@cs.ox.ac.uk)

## 12 Careers

We are approached by many companies who are interested in employing our students and we frequently arrange recruitment talks here either in the lunch hour or early evening. The University has a Careers Service at No 56 Banbury Road which can offer you lots of help and advice and which provides information on jobs advertised. Additional information on jobs being advertised can be found at

<https://www.cs.ox.ac.uk/industry/internal/vacancies.jsp>

and

[www.cs.ox.ac.uk/admissions/dphil/newsindex](http://www.cs.ox.ac.uk/admissions/dphil/newsindex)

Please check this site regularly as information is constantly updated. Lots of information can also be found on the Notice Boards in the basement and in the common room.

***Do not take up employment until you have completed your dissertation, ie not before the beginning of September. Please ensure you are available on the date of the viva voce as all candidates are required to attend unless individually dispensed.***

## 13 Doing a Research Degree at Oxford after the MSc

Some students undertake the MSc course specifically as initial preparation for doing PhD level research; others discover an interest in doing research during the course. If you wish to be considered for a research place in the Department, you will have to apply following the standard applications procedure. The process and deadlines are documented on the Department's web site, and you are encouraged to consult the information provided there.

We will be holding a DPhil Open Day on Saturday 17<sup>th</sup> November where you will be able to hear academics and students talking about the research carried out in the department and learn more about how to apply.

**IF YOU ARE APPLYING FOR FUNDING, YOU MUST APPLY BY THE 11<sup>th</sup> JANUARY DEADLINE.**  
All students who are offered a place are automatically considered for funding.

You will need to include a research proposal or a statement of your research interests and further information on what is required can be found here:

[www.cs.ox.ac.uk/admissions/graduate/dphil-computer-science/statement](http://www.cs.ox.ac.uk/admissions/graduate/dphil-computer-science/statement)

Of course, it's a good idea to have informal discussions with potential DPhil supervisors in the Department, before proceeding to a formal application. Perhaps you are thinking of a research proposal arising from your MSc project, in which case you should discuss your ideas with your project supervisor. Perhaps you have become interested in the research area of one of your lecturers or another member of the Department; get in touch with them to talk about it. The Director of Graduate Studies or the Graduate Studies Administrator are also happy to talk informally about doing a DPhil.

## 14 Library

The Department of Computer Science Library contains books, monographic series, journals, technical reports and past theses covering the main research interests of the Department. It is principally for use by graduate students and staff, and is situated in room 240 on Level 2 of the building.

**Opening hours:** The library is open 24/7. Library staff are normally available from 09:00-13.00 and 14.00-16.30 Monday to Friday.

**Registration:** you will be pre-registered but you must confirm your registration by bringing your University Card to the library before you begin to borrow.

**The Catalogue:** books and journals are listed on SOLO (the University-wide online catalogue).

**Borrowing:** members are limited to 12 books at any one time. Books may be borrowed for 3 weeks at a time with possibility of renewal for a further three periods of three weeks unless a book has been recalled by another reader. Books are borrowed using the automated self-issue system. Please ask if you have problems using the machine.

**Short-loan Collection:** books in the short loan collection may be borrowed for 6 days with possibility of renewal for a further six periods of 6 days. They are kept in locked bookcases and can only be borrowed when the library is manned or by email request.

**Web Pages:** See <http://intranet.cs.ox.ac.uk/library/>

**Other services:** The library has a compact study area with a dedicated terminal for SOLO catalogue searches and a computer for general internet searches. The library also contains copies of the MSc and D.Phil. theses submitted by students attached to the Department.

**Contact the Library:** Michael Neville (Librarian), Aza Ballard-Whyte (Library Assistant), telephone 73837, email [library@cs.ox.ac.uk](mailto:library@cs.ox.ac.uk).

## Other Library Resources

The most relevant libraries elsewhere in the University are the Radcliffe Science Library and the Whitehead Library (at the Mathematical Institute for numerical analysts and formal mathematicians). Material that is not held in Oxford may be available on inter-library loan. Please consult the Librarian about loans from outside Oxford.

**Finding resources:** see [www.bodleian.ox.ac.uk/finding-resources](http://www.bodleian.ox.ac.uk/finding-resources)

## 15 Harassment

By University legislation, it is an offence for any senior or junior member of the University to harass any other member or any person for whom the University is responsible. Sexual and racial harassment are among the forms of harassment covered by this rule, but it also covers any form of intentional or unintentional teasing, embarrassment or bullying which causes you inconvenience or unhappiness, particularly if persistent.

The University has a code of practice for dealing with any such cases which may arise and this is available from <http://www.admin.ox.ac.uk/eop/harassmentadvice/>. In addition, the Proctors have set up a panel of people with relevant expertise to act as advisers in particular cases. These arrangements complement the procedures which may exist in individual colleges.

### 15.1 University of Oxford - Code of Practice Relating to Harassment

The University Policy and Procedure on Harassment can be found at:  
[www.admin.ox.ac.uk/eop/harassmentadvice/policyandprocedure/](http://www.admin.ox.ac.uk/eop/harassmentadvice/policyandprocedure/)

### 15.2 Taking action if you believe you have been harassed - informal or formal resolution?

If an informal resolution can be effectively achieved, this will in many cases be advantageous to you. It may be that the alleged harasser does not know what effect his or her behaviour is having on you. It is however recognised that, in some cases, only a formal procedure would be appropriate. Whether you resolve the matter informally or bring a formal complaint, try to keep a factual record of the offending behaviour. It is easy to forget details after the event and such a record will help you when seeking advice, deciding whether to make a complaint, formulating the complaint and giving evidence at any subsequent hearing.

The department's Harassment Advisers, whom you should contact in the first instance, are:

Julie Sheppard Tel: 73817 Email: <a href="mailto:julie.sheppard@cs.ox.ac.uk">julie.sheppard@cs.ox.ac.uk</a>	Luke Ong Tel: 83522 Email: <a href="mailto:luke.Ong@cs.ox.ac.uk">luke.Ong@cs.ox.ac.uk</a>
Ani Calinescu Tel: 83527 Email: <a href="mailto:ani.calinescu@cs.ox.ac.uk">ani.calinescu@cs.ox.ac.uk</a>	Renate Henison Tel: 73808 Email: <a href="mailto:Renate.Henison@cs.ox.ac.uk">Renate.Henison@cs.ox.ac.uk</a>

The harassment adviser will discuss with you what steps you can take to try to reach an informal resolution. The first step may be to speak with the alleged harasser and let him or her know that you object to his or her behaviour, explain why you object and ask that they stop. You should keep a factual record of what is said and done and of any witnesses present. Alternatively, or as a second step, you could put your objections and a request to stop in a letter addressed to the alleged harasser. Again, keep a copy. It is not advisable to communicate with the alleged harasser by email as these are easily copied and all too quickly sent without proper consideration of the wording. The harassment adviser cannot tell you what you should say, nor write a letter for you, but he or she can guide you, discuss the steps to take and review the outcomes with you.

If the behaviour continues regardless of your requests to stop, or, if attempting an informal resolution is not appropriate in the first place, the next stage will be to make a formal complaint.

## **16 University Club**

The University Club provides a social and recreational venue intended to serve the University's academics, post-doctorates, staff, postgraduates, alumni and those who have retired from academic or staff positions. To apply to become a member of the University Club, please visit the Club's web site: [www.club.ox.ac.uk](http://www.club.ox.ac.uk) and fill out the on-line membership application form (accessible via the "Membership" link). Online applications are preferred, but if you do not have access to the Internet, please complete the application form in your graduate pack and hand in to the reception desk, or, send them to Reception at the University Club. Applications may take two weeks to process. Once processed your University card will admit you to the club.

## **17 Training and Development**

A wide range of information and training materials are available to help you develop your academic skills – including time management, research and library skills, referencing, revision skills and academic writing – through the Oxford Students website: [www.ox.ac.uk/students/academic/guidance/skills](http://www.ox.ac.uk/students/academic/guidance/skills)

## Appendix A: Safety Information

To ensure your safety whilst working in or visiting the department, please take the time to read this in case we experience an incident. For further information, please contact the Departmental Safety Officer.

Please note that the building is utilised 24 hours a day 7 days a week.

**From 8.30 to 5.30, Monday to Friday (Office hours)**, departmental staff are responsible for dealing with the management of incidents.

**Outside the hours of 8.30 to 5.30 and at weekends**, the building is not manned by members of this department and is monitored by the security services, which are responsible for dealing with the management of incidents if they occur.

Action in case of emergency

**To summon the FIRE BRIGADE, AMBULANCE SERVICE and/or POLICE, DIAL 999.** Note that 999 can be dialled from any internal University telephone extension, even if it is otherwise barred from making outside calls.

For **SERIOUS ACCIDENTS** or **FIRES** on University premises, immediately after arranging for the emergency services, telephone again either the University Safety Office (ext 70810), or if the Safety Office is unmanned, the Security Services (ext 89999).

To summon the **SECURITY SERVICES**, dial 89999.

Remember that unless there is a continuing risk to others or to property, the law requires that in cases of serious accidents or fires the scene must remain undisturbed until it is examined by the Health and Safety Executive.

### The University Safety Office and Trade Union safety representatives

Some types of serious accidents must be reported immediately. In these cases, the Safety Office is responsible for contacting the Health and Safety Executive.

#### First Aiders

Several members of staff are qualified First Aiders. A list of qualified First Aiders can be found on each floor of the buildings and placed in all kitchen areas.

#### Fire

There are blue **FIRE ACTION** notices in each building. Please take the time to read these.

**If you discover a fire, immediately operate the nearest fire alarm call point** (these are red, and are situated in the stair wells and at each emergency exit), and then attack the fire, if possible, with the fire extinguishers provided **but under no circumstances putting yourself or others at risk**. The receptionist or the senior person present should call the fire brigade immediately.

**On hearing the fire alarm**, leave the building **immediately**. Use the nearest available exit; close all doors as you leave; do not stop to collect personal belongings. Do not use the lift: if you are unable to use the stairs, please wait inside the stairwell and use the Refuge Call Points which will let the fire brigade know where to rescue you.

**Do not re-enter the building unless authorised to do so or you have been instructed that the building is now safe.**

Familiarise yourself with fire exit routes from the buildings, and relevant assembly points.

The assembly point for the Wolfson Building and the eScience Building is on the south side of Keble Road by the chapel of Keble College. Do not cluster at the exits to the buildings.

The assembly point for the Robert Hooke Building is in front of the Natural History Museum.

The assembly point for 39A St Giles is on the pavement in front of 39 St Giles.

The assembly point for the 6<sup>th</sup> floor teaching room in the Engineering Thom Building is the Physics concourse to the south east of the Thom building.

There are designated fire marshalls on each floor of each building who will request that all occupants of the building vacate during office hours. Please do not ignore their requests – in case of a real incident you would be endangering yourself and others.

If the alarm sounds in the Wolfson/eScience buildings, fire marshalls should report to Jennie Charlton/Brenda Deeley, Hanno Nickau or Sharon Lloyd outside the building once checks have been completed. They will be located at the front of the building at the Parks Road entrance.

During office hours there will be staff members monitoring the entrance/exits to the building and will only allow staff back into the building once we have had clearance that it is safe to do so. Out of office hours, do not enter the building again until a member of the fire brigade or security services has given you permission to return. Failure to comply will be deemed a serious offence.

If the alarm sounds in 39A St Giles or the Robert Hooke building, the fire marshalls from the each floor should ensure that they perform the following:

**During office hours** – ensure everyone on your floor is instructed to leave the building and do not return until instructed to do so. Return to main building or send a representative to notify Joe Atherton, Steve Hill or Sharon Lloyd of the incident. If staff cannot be located, security will attend the incident as a default and will take the appropriate action.

**Out of office hours** – ensure everyone instructed to leave the building and do not return until instructed to do so. The incident will be attended by security and the fire brigade. Do not re-enter the building until they instruct you to do so.

**Fire alarms** in the building are sirens. It is occasionally necessary to test the alarms, but notices are always posted beforehand, and the alarm sounds only for a few seconds: assume that any fire alarm sounding for more than five seconds is a signal that you must leave the building.

In all buildings, there are several sets of fire extinguishers on each floor, including sets near each lift and staircase in the Wolfson Building and in corridors in the Robert Hooke building. Please take note of where the nearest fire extinguishers are to the rooms you normally use.

Fire extinguishers are now in the European standard colours: they are all red! Carbon dioxide extinguishers are now identified only by a black panel, foam extinguishers by a cream label, and any remaining water extinguishers by a white label. Do not use water or foam on electrical equipment: use the CO2 extinguishers with the black label.

### **Escape routes**

Please check that you know the **escape routes** from the buildings you use---again, before you actually need to use one in an emergency evacuation of the building. These are sign-posted in each building.

There are designated refuge areas for those unable to use the stairs in an emergency: on the Parks Road staircase, in the link between the north side of the Wolfson building and the e-Science building, and on the external fire-escape at the western end of the atrium. The link and atrium refuge areas are equipped with (yellow) call points. In the Robert Hooke building, please familiarise yourself with all emergency exits and in an emergency, do not use the lifts.

Corridors, stairwells and exits **must not be obstructed**. Anything left in corridors, stairwells or exits will be removed. Bicycles which obstruct any of the exits or emergency exits will be removed.

### **Smoking**

Smoking is not permitted anywhere in the University's buildings and grounds. Smoke detectors linked to the fire alarm system are in operation in all buildings.

### **Electricity**

***All Department electrical equipment must be tested for safety before it is used in the Department buildings.*** Where electrical equipment is brought into the Department by staff, students and visitors for their own personal use (eg laptops and mobile phones charges) then these do not have to be tested by the department. It is, however, important that these personal items of electrical equipment are in good condition and electrically safe, if in doubt please contact [technicians@cs.ox.ac.uk](mailto:technicians@cs.ox.ac.uk) to test them. Staff, student and visitors should be made aware of this at their induction to the department. It is the responsibility of all staff and students to ensure they are electrically safe.

***Electric toasters are not permitted onsite in all buildings***

***Full portable appliance testing policy PAT/1 can be found on Department website.***

Equipment must not be dismantled. If equipment is faulty, do not attempt to repair it. Do not tamper with electrical supply equipment: please report any problems to the Department's technicians ([technicians@cs.ox.ac.uk](mailto:technicians@cs.ox.ac.uk)).

### **Equipment rooms**

Electrical power in the various equipment rooms (including the Software Laboratory in the Thom Building) can be cut by an 'emergency stop'. In the Thom Building, this is a white break-glass unit; in the Wolfson Building, it is a red button (either just inside or just outside the door to each equipment room); it is normally clearly labelled with a green 'Emergency stop' sign. Please note that it will usually need the support staff to restart circuits.

### **Lighting**

Please report any faulty corridor or staircase lighting to the technical staff ([technicians@cs.ox.ac.uk](mailto:technicians@cs.ox.ac.uk)).

### **Hazardous Waste & General Waste**

The waste bins are for normal office waste only, and you have a responsibility not to dispose of anything hazardous in them. In particular: please dispose of batteries in the collection box in the post room (room 157); fluorescent (low-power) bulbs should be disposed of by contacting the Department's technicians.

Waste bins in all offices are for recyclable items only and any food waste should be placed in bins in the kitchens situated on all floors.

Recycling bins are also placed in Print rooms

### **Other Safety information**

A Statement of the Department's Safety Organisation, a Statement of the University Safety Policy, and a collection of University and Departmental Guidance Notes are available on the web. The [University Safety Office](#) has a library of safety publications and other material at 10 Parks Road and can viewed online at University Safety Office web site.

Hanno Nickau  
Departmental Safety Officer  
August 2018

## **UNIVERSITY OF OXFORD HEALTH AND SAFETY POLICY - PART 2**

### **STATEMENT OF HEALTH AND SAFETY ORGANISATION FOR OXFORD UNIVERSITY DEPARTMENT OF COMPUTER SCIENCE AND THE OXFORD e-RESEARCH CENTRE AND THE SOFTWARE ENGINEERING PROGRAMME**

As Head of Department at Oxford University Department of Computer Science, I am responsible for ensuring compliance with University Health and Safety Policy. My responsibilities are set out in Annexe A, and I have delegated some of these responsibilities to others, as set out in Section 1.

#### **1. Executive responsibility for safety**

Every employee with a supervisory role is responsible for ensuring the health and safety of staff, students and other persons within their area of responsibility, and of anyone else (eg contractors and other visitors) who might be affected by their work activities. In particular, the responsibilities listed in Annexe A are delegated to supervisors for areas under their control.

As it is my duty to ensure adherence to the University's Health and Safety Policy, I instruct every employee with a supervisory role and the Departmental Safety Officer to report to me any breach of the Policy.

All those with executive responsibility should notify me and the Departmental Safety Officer of any planned, new, or newly identified significant hazards in their areas and also of the control measures needed to avert any risks identified.

Where supervisors or others in charge of areas or with specific duties are to be absent for significant periods, adequate substitution must be made in writing to me and such employees and other persons as are affected. Deputising arrangements must be in accordance with University Policy.

The following employees have executive responsibility throughout the department<sup>1</sup> for ensuring compliance with the relevant part of University Safety Policy.

#### **Visitors and contractors**

The Administrator is responsible for making or approving arrangements for visitors. Contractors onsite will be supervised by the Building & Facilities Manager and in his absence a delegated person. This will involve carrying out suitable risk assessments & permits to work as appropriate.

#### **Electricity**

Work on the electrical distribution network can only be carried out on the authority of the Estates Directorate University Electrical Engineer. Requests for modifications should be made via the Administrator or Building & Facilities Manager, who will make the necessary arrangements with the University Estates Office.

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<sup>1</sup> For the purposes of this document, "the department" shall be taken to mean "the Department of Computer Science, together with OeRC.

### **Computer systems**

The installation or hardware modification of computers and peripheral equipment may only be carried out by a qualified technician, computer officer or an authorised service engineer. Requests for such work should be made to the IT Manager of the relevant unit.

### **Solvents**

The person responsible for ensuring compliance with storage regulations of flammable and highly flammable liquids is the Administrator. Any requirement to introduce solvents to the Department of Computer Science must be discussed and approved before their introduction.

### **Abrasive wheels**

Only the Building Facilities Manager, Mr Joe Atherton, is permitted to change and dress abrasive wheels.

## **2. Advisory responsibility for safety**

I have appointed those listed below to advise me on matters of health and safety within the Department. If any member of the Department does not take their advice, the appointee should inform me. If they discover danger that requires immediate action, they are authorised to take the necessary action and inform me subsequently.

### **Departmental Safety Officer (DSO)**

The Departmental Safety Officer, Dr Hanno Nickau, is responsible for:

- advising me on the measures needed to carry out the work of the Department without risks to health and safety;
- co-ordinating any safety advice given in the Department by specialist advisors and the University Safety Office;
- monitoring health and safety within the Department and reporting any breaches of the Health and Safety Policy to me; and
- Informing me and the Director of the University Safety Office if any significant new hazards are to be introduced to the Department.

The DSO's duties are described in University Policy Statement S1/01.

The Administrator acts as Assistant DSO, deputising for the DSO as and when appropriate.

To assist in this work, the Department has the following specialist advisors.

### **Departmental Fire Officer**

The Departmental Fire Officer, Ms Jennie Charlton, is responsible for advising the DSO on all matters relating to fire precautions and fire prevention in compliance with University Health and Safety Policy.

### **Building Facilities Manager**

The Building & Facilities Manager, Mr Joe Atherton, supports the work of the DSO, the Departmental Fire Officer and the Communication with Estates Directorate on Building and Electrical issues by ensuring that the facilities of the department comply with all relevant policies, directives and legislation.

### **DSE Assessment Co-ordinator**

The Display Screen Equipment Assessment Co-ordinator, Annette Vaneeden, is responsible for advising the DSO on all matters relating to DSE health and safety in compliance with relevant University policies. The department will have 2 further named staff at all times.

### **Departmental Safety Advisory Committee**

In addition to the above arrangements, I have established a Departmental Safety Advisory Committee, whose functions are set out in University Policy Statement S2/01 and whose membership comprises:

- The Departmental Safety Officer
- The Administrator
- The Building Facilities Manager
- The IT Manager
- The Departmental Fire Officer
- A representative of the OeRC
- A representative of the Software Engineering Programme
- A representative of the academic staff
- A postgraduate student representative
- A representative of the research staff
- Union representatives from UNISON, Unite/Amicus and UCU
- A Representative of the Robert Hooke Building

The committee will meet once per term, with its minutes being submitted to the Departmental Management Committee. The minutes of meetings will also be made available on the internal section of the department's web site. A member of the University's Safety Office will be invited to attend one meeting per year to observe.

## **3. Other safety functions**

### **First aid**

The list of current trained and appointed first-aiders is detailed in Annexe B and these lists are displayed in all Kitchen areas throughout the buildings. First aid boxes are located with first-aiders and in all kitchen areas.

### **Accident and incident reporting**

The Departmental Safety Committee secretary Ms Jennie Charlton is responsible for keeping the accident / incident report forms also for ensuring accidents are reported promptly to the University Safety Office. Accident report forms are kept in Room 106.

### **DSE assessors**

The list of current DSE assessors is detailed in Annexe C.

### **Manual handling assessors**

I have appointed Mr Joe Atherton as a manual handling assessor. Any lifting of heavy equipment (which is taken to mean something that might cause the individual in question discomfort) by unauthorised members of staff (during, for example, office moves) is not permitted.

### **Electrical equipment**

Building & Facilities Manager is responsible for the Pat Testing of electrical equipment in guidance with the Departments Portable Appliance Testing Policy PAT/1.

### **4. Trades unions and appointed safety representatives**

University Policy Statement S2/04 sets out the arrangements for dealing with trade unions and their appointed safety representatives. Employees who wish to consult their safety representatives should contact the senior safety representative of the appropriate trade union.

- UNISON: [unisonoxford@netscape.net](mailto:unisonoxford@netscape.net)
- Unite/Amicus: [unite@herald.ox.ac.uk](mailto:unite@herald.ox.ac.uk)
- UCU: [ucu@ox.ac.uk](mailto:ucu@ox.ac.uk)

### **5. Individual responsibility**

All Departmental employees, all students and all other persons entering onto the Department's premises or who are involved in Departmental activities have a duty to exercise care in relation to themselves and others who may be affected by their actions. Those in immediate charge of visitors and contractors should ensure that those persons adhere to the requirements of University Health and Safety Policy.

#### **Individuals must**

- (a) Make sure that their work is carried out in accordance with University Safety Policy.
- (b) Protect themselves and others by properly using any safety equipment or devices (eg machinery guards) provided.
- (c) Protect themselves by properly wearing any personal protective equipment that is required.
- (d) Obey all instructions emanating from the Head of Department in respect of Health and Safety.
- (e) Warn me and the DSO of any significant new hazards to be introduced to the department, or of newly identified significant risks found on the premises or in existing procedures.
- (f) Ensure that their visitors, including contractors, have a named contact within the department with whom to liaise.
- (g) Attend training where managers identify it as necessary for Health and Safety.
- (h) Register and attend for health surveillance with the Occupational Health Service when required by University Safety Policy.
- (i) Report all fires, incidents, and accidents immediately to the Administrator.

(j) Familiarise themselves with the location of fire fighting equipment, alarm points and escape routes, and with the associated fire alarm and evacuation procedures.

### **Individuals should**

(a) Report any conditions, or defects in equipment or procedures, that they believe might present a risk to their health and safety (or that of others) so that suitable remedial action can be taken.

(b) Offer any advice and suggestions that they think may improve Health and Safety.

(c) Note that University Policy Statements are available on the web at [www.admin.ox.ac.uk/safety/policy-statements](http://www.admin.ox.ac.uk/safety/policy-statements) and in hard copy from Room 106. Information pertaining to the Department is available at [www.admin.ox.ac.uk/safety](http://www.admin.ox.ac.uk/safety)

## **6. Specific arrangements**

### **Mechanical workshop**

Only the following persons are authorised to enter the workshop and use Machinery & Tooling (Room 025):

- Joe Atherton
- Steven Hill
- Colin James
- Daniel Unwin
- Or person authorised by Building & Facilities Manager

Anyone else wishing to enter the workshop must first seek authorisation from either the Buildings Facilities Manager or Senior Facilities Technician.

### **Student Workshops**

Room 015 Wolfson Building

Room 301 Robert Hooke Building

Staff using the above rooms will have to undergo training and advice from group supervisors.

Safety Policy in place for use of un-manned aerial vehicles (UAVs) or remotely controlled airborne devices.

### **Lift**

Under University rules no-one in the department is authorised to release anyone trapped in a lift. In the case of an emergency contact the University Security Services (Tel. 89999) using the telephone located in the lift and a lift engineer will be contacted to attend the site.

Please note that out of normal working hours there may be an extended delay if no engineer is available in Oxford.

### **University Security Services**

The emergency telephone number for the University Security Services is 899999.

This number is manned 24 hours per day and should be the first point of contact for any “out of hours” emergencies.

Signed: .....

August 2018

Professor M. Wooldridge,  
Head of the Department of Computer Science.

### **ANNEXE A: Head of Department's responsibilities:**

It is my responsibility, as Head of Oxford University Department of Computer Science, directly or through written delegation:

- (a) To ensure adherence to the University’s Health and Safety Policy and to ensure that sufficient resources are made available for this;
- (b) To plan, organise, control, monitor, and review the arrangements for health and safety, including the arrangements for students, contractors, and other visitors, and to strive for continuous improvements in performance;
- (c) To ensure we carry out general and specific risk assessments as required by health and safety legislation and University Safety Policy from all areas within the department;
- (d) To ensure that all work procedures under my control are, as far as is reasonably practicable, safe and without risks to health;
- (e) To ensure that training and instruction have been given in all relevant policies and procedures, including emergency procedures;
- (f) to keep a record of all cases of ill health, accidents, hazardous incidents and fires, to report them to the University Safety Office, and to ensure any serious or potentially serious accidents, incidents, or fires are reported without delay; and
- (g) To inform the University Safety Office before any significant hazards are introduced or when significant hazards are newly identified.

**ANNEXE B: Current trained and appointed First Aiders**

<b>Name</b>	<b>Room number</b>	<b>Telephone number</b>
Emmanuel Apostolidis	147	73849
Ania Brown	271	10645
Emma Dunlop	113	73830
Stefano Gogioso	204	10780
Clementine Hadfield	262	83975
Ross McCartney	262	83975
Joshua Tan	204	10780
Gavin Lowe	343	73841
Ross Gales	39a	73875
Luke Garratt	465	10697
Elizabeth Phillips	RHB 010	10716
Katherine Fletcher	RHB 106	83572
Kasper Rasmussen	RHB 115	10769

**ANNEXE C: Current DSE assessors**

<b>Name</b>	<b>Room number</b>	<b>Telephone number</b>
Annette Vaneeden (coordinator)	154	73838
Sharon Lloyd	140	83668
Grace Parsons	142	73885

## ANNEXE D: Individuals referred to in this document

<b>Title</b>	<b>Name</b>	<b>Room</b>	<b>Tel.</b>	<b>Email address</b>
Head of Department (on sabbatical 2018-19)	Prof Michael Wooldridge	256	10812	michael.wooldridge@cs.ox.ac.uk
Acting Head of Department	Prof Pete Jeavons	354	73853	peter.jeavons@cs.ox.ac.uk
Departmental Administrator	Sharon Lloyd	140	83668	sharon.lloyd@cs.ox.ac.uk
Director of the Oxford e-Research Centre	Prof Dave De Roure	261	10606	david.deroure@oerc.ox.ac.uk
Director of the Software Engineering Programme	Prof Jim Davies	461	83521	jim.davies@cs.ox.ac.uk
Departmental Safety Officer	Dr Hanno Nickau	242	83588	hanno.nickau@cs.ox.ac.uk
Building Facilities Manager	Joe Atherton	156	73888	joe.atherton@cs.ox.ac.uk
Departmental Fire Officer	Jennie Charlton	106	83601	jennie.charlton@cs.ox.ac.uk
DSE Assessment Co-ordinator	Annette Vaneeden	154	73838	annette.vaneeden@cs.ox.ac.uk
IT Manager	Alfonso Gazo-Cervero	149	83567	alfonso.gazo@cs.ox.ac.uk
Safety Committee Secretary	Jennie Charlton	106	83601	jennie.charlton@cs.ox.ac.uk
UNISON				unisonoxford@netscape.net
Unite/Amicus				unite@herald.ox.ac.uk
UCU				ucu@ox.ac.uk

## **Appendix B: Use of the department's computer resources**

The Department network connects dozens of real and virtual servers, several hundred workstations (mostly Linux but also Windows), and many other machines. Facilities elsewhere are accessed via fast connections to the Internet. Details of facilities available on the network may be obtained from any of the Department's Computing Officers or at <https://wiki.cs.ox.ac.uk/support>

The University has formal regulations and a code of conduct which govern the use and misuse of Computers and Networks. In addition to this, members of the Department of Computer Science are expected as a matter of honour to respect the privacy of other users of the networks to which they have access, and to refrain from actions which will cause others' work to be damaged or delayed. Any member of the Department seeking to explore the letter, rather than the spirit, of the University regulations would be well advised to consult the Director of Graduate Studies.

### **The Data Protection Act and GDPR**

The Data Protection Act 1998 defines "personal data" as data which "relate to a living individual who can be identified- (a) from those data, or (b) from those data and other information which is in the possession of, or is likely to come into the possession of, the data controller, and includes any expression of opinion about the individual and any indication of the intentions of the data controller or any other person in respect of the individual." Since 25<sup>th</sup> May 2018, the General Data Protection Regulation (GDPR) also applies, which imposes further conditions on the processing and sharing of personal data.

The University has issued a statement on its Data Protection Policy, which is available at <https://www1.admin.ox.ac.uk/councilsec/compliance/gdpr/universitypolicyondataprotection/> Please read and take note of this. By signing the application form you are agreeing that you will not misuse personal data. If you are in any doubt about this, or other aspects of data protection, you should contact the support staff.

### **Other Notes**

If you need any additional help or information, please contact the support staff at the Department of Computer Science, Wolfson Building, Parks Road: [support@cs.ox.ac.uk](mailto:support@cs.ox.ac.uk)

Heads of University departments issue rules and regulations which apply to all whose use facilities in their departments. The use of Department of Computer Science facilities based in the Thom Building is governed by the rules of the Department of Engineering Science (as they apply to the Thom Building) and by the rules of the Department of Computer Science (as they apply to use of practical facilities). You must comply with any such rules which are brought to your attention. The University has issued a policy on data protection and computer misuse which you should read and take note of.

Referenced documents and further information are available at:

[www.legislation.gov.uk/all?title=Data%20Protection](http://www.legislation.gov.uk/all?title=Data%20Protection) (Data Protection Acts)

[www.it.ox.ac.uk/policies-and-guidelines](http://www.it.ox.ac.uk/policies-and-guidelines) (Regulations and Policies applying to all users of University ICT facilities)

[www1.admin.ox.ac.uk/councilsec/compliance/gdpr](https://www1.admin.ox.ac.uk/councilsec/compliance/gdpr) (General Data Protection Regulation)

## **Appendix C: Rules and Regulations Concerning use of Department Equipment**

These are the formal conditions under which use may be made of Computer Science equipment in the Department of Computer Science and on level six of the Thom Building. Users *must* abide by the rules. Copies of the rules are displayed in Department of Computer Science buildings and in the Practicals Laboratory on level six of the Thom Building.

### **Definitions**

In these rules, 'users' are staff or students of the University who have been given accounts on the Department of Computer Science workstation network. The authorisation permits those involved to use the facilities of the department only for the subject of their course. Authorisation lapses on the completion of that course. A 'remote terminal' is any device that may be used to make a connection with the network. Any reference to equipment is assumed to include any Department of Computer Science equipment on level six of the Thom Building. A 'remote site' is any equipment, or building containing equipment, that is not covered by these rules. The 'Director' is the Director of the Department of Computer Science, the Head of the Department of Engineering Science or their agents.

### **Rules**

1. Using any of the facilities of the Department of Computer Science implies that the user has read, understood and has agreed to comply with these rules.
2. No work of direct commercial application may be carried out without the written authorisation of the Director who shall specify any conditions to be observed. In particular, a charge may be made for the use of some or all of the facilities and restrictions may be made on the use of certain items of software.
3. The University will not be liable for any loss or damage sustained by any user in any involvement with Computer Science.
4. It is the responsibility of a user to comply with the Data Protection Act 1998, and, in general, with all statutory and other provisions and regulations for the time being in force in the field of data protection and information privacy. Those whose work involves or may involve the storage of personal data as defined in the Data Protection Act 1998 are required to notify the Department of Computer Science in advance.
5. Equipment in the Practicals Laboratory on level six of the Thom Building is available to all users 09:00 to 18:00, Monday to Friday of Full Term. Equipment is available at all times from remote terminals (such as college PCs).  
If at any time any undergraduate is requested by an authorised member of the Department of Computer Science staff or graduate supervisor to leave the Practicals Laboratory, he or she must do so immediately.  
Undergraduate labs are locked and alarmed outside normal working hours when there is no authorised supervisor present.
6. The times that the Department of Computer Science equipment is available may vary from time to time at the discretion of the Director. In particular, users should note that at certain times, certain equipment is booked for practicals and the like. At these times, such equipment may not be used by other users.  
Users must comply with local rules of any building they use or that contains equipment that they use. In particular, users accessing the network through remote terminals must comply with the rules of the Computing Service and users accessing remote sites must

comply with the rules of the site that they are connected to as well as the Computing Service rules.

7. Departmental equipment (including workstations, printers and network switches) must not be unplugged, disconnected or switched off.
8. According to the Departmental Policy on Portable Appliance Testing, staff and students are entitled to bring personal laptops and AC/DC adaptors to the Department of Computer Science but it is important that these personal items of electrical equipment are in good condition and electrically safe. If in doubt please contact [technicians@cs.ox.ac.uk](mailto:technicians@cs.ox.ac.uk) to test them. It is the responsibility of all staff and students to ensure they are electrically safe.
9. Children under the age of 16 years and animals are not allowed in the Practicals Laboratory without prior written permission of the Director.
10. Meetings of any kind, other than authorised classes and practicals, may not be held in the Practicals Laboratory without the written permission of the Director, who shall specify any conditions to be observed.
11. Notices or posters may only be displayed if they are clearly marked with the name of the person posting and are placed on an appropriate board according to content. The Director reserves the right to remove any notice or poster without advance warning.
12. In the interests of safety and to prevent damage to the equipment, eating and drinking are prohibited in all equipment areas. Smoking is prohibited in all rooms and corridors.
13. Fire alarms and fire extinguishers may only be used in case of emergency. Any tampering with fire alarms, fire extinguishers, room alarms, locks, key boxes or cabinets will be regarded as an offence against the rules.
14. Students are not permitted to use departmental telephone extensions for external calls on the BT network except in case of emergency. There is a pay phone in the reception area of the Thom Building.
15. No person may make use of Computer Science facilities other than for an authorised course unless written permission is obtained from the Director.
16. No person may, by any wilful or deliberate act, jeopardise or corrupt, or attempt to jeopardise or corrupt, the integrity of the computing equipment, its system programs or other stored information. In particular, no user may:
  - a. attempt to store files in any manner whatsoever that could be considered an attempt to evade file quotas;
  - b. allow their password to become known to any other person (if a user suspects that some other person may know their password, they should change it immediately);
  - c. log in, or attempt to log in, to any computer as another user;
  - d. take on, or to appear to take on, the identity of another user or for their username to appear changed according to any process or piece of software;
  - e. send unwarranted unsolicited email to others;
  - f. post inappropriate messages to newsgroups;
  - g. knowingly send, or facilitate the sending of, offensive material or knowingly download or store or facilitate the downloading or storing of offensive material;
  - h. send or propagate 'chain email'.
17. No person may act in any way which leads to, or could be expected to lead to, the disruption of the approved work of any other user.
18. The Director may suspend any person who is believed to be in breach of these rules from use of all or specified departmental facilities. The Director may also make subsequent use of the equipment and/or facilities subject to such conditions as he thinks fit. The Director

may, at his discretion, report the matter to the University Proctors with recommendations for further action, except that if a suspension of greater than two weeks is imposed, the matter shall be reported to the University Proctors.

In the case of the user being a member of a University other than Oxford, or of some other such institution, the matter will be reported to the Director of computing facilities at that University or institution.

19. Failure to discharge a debt to the Department of Computer Science shall be a cause for suspension from use of the facilities.
20. The Director may make such general conditions on the use of Department of Computer Science equipment as he thinks fit from time to time.
21. Appeal against the actions of the Director under rules 16, 17 and 18 shall be made to the University Proctors.

### **Use of Department of Engineering Science Premises**

In addition to the rules of the University and of the Department of Computer Science, students using the facilities in the Thom Building should be aware of, and comply with, the following rules extracted from the Rules of the Department of Engineering Science:

5. Normal working hours of the department are Monday to Thursday, 08:15–13:00 and 14:00–17:15; and Friday, 08:15–13:00 and 14:00–16:45.
6. Undergraduate members of the department may use the buildings only during normal working hours except that during term, access to the library, staff rooms and lecture rooms are permitted during the following additional hours: Monday to Friday, after normal working hours up to 19:00; and Saturday, 08:15–13:00.
10. Except by permission of the staff member responsible, junior members may not remove tools or equipment from any part of the buildings.
12. Except by permission of the member of staff responsible, junior members of the department are not permitted to enter research laboratories, staff offices, stores, workshops (other than the staff/student workshop), roof areas, service areas, photographic darkrooms, the enquiry office and rooms carrying notices of special hazards. Except in the case of fire, junior members must not use the walk way round the outside of the Thom Building at the seventh floor level.
16. Permission must be obtained from the Head of Department before photographs or articles concerning the work of the department are communicated to the press.
17. Cars can only be parked in the university car parks in working hours if you hold a peak time parking permit.
18. Motorcycles should be parked in the spaces provided. Pedal cycles should be left in the racks, including those adjacent to the Department of Metallurgy and Science of Materials.
19. Those entrusted with a key or swipe card to any departmental building are responsible for ensuring that the building is properly locked if they leave outside normal working hours. The loss of a key must be reported immediately. The copying of keys is forbidden.

## Appendix D: Equal Opportunities

The University of Oxford is committed to fostering an inclusive culture which promotes equality, values diversity and maintains a working, learning and social environment in which the rights and dignity of all its staff and students are respected.

The University embraces diversity amongst its members and seeks to achieve equity in the experience, progression and achievement of all students and staff through the implementation of transparent policies, practices and procedures and the provision of effective support. The University recognises that equality should be embedded in all its activities and will seek to promote awareness of equality and foster good practice. The University is committed to a programme of action to support its equality policy, to monitoring its effectiveness, and to publishing information on progress towards its equality aims.

In exercising its policies, practices, procedures and other functions, the University will have due regard to its duties under the Equality Act 2010 and to the [protected characteristics](#) specified within it, as well as other relevant circumstances including parental or caring responsibilities, contract type, and working hours.

In particular, the University will:

Encourage applications for study and employment from the widest pool of potential candidates, especially where representation is disproportionately low; take steps to meet the particular needs of individuals from protected groups where these are different from the needs of others.

**In respect of students**, seek to attract applicants of the highest quality and potential, regardless of background. Decisions on the admission of students will be based solely on the individual merits of each candidate and applying selection criteria appropriate to the course of study.

**In respect of staff**, ensure that entry into employment and progression within employment are determined solely by criteria which are related to the duties of a particular post and the relevant salary scale; and support career development and progression to ensure diverse representation and participation at all levels.

The University expects all members of the university community to treat each other with respect, courtesy and consideration and does not tolerate any form of bullying or harassment. It has policies on Equality ([www.admin.ox.ac.uk/eop](http://www.admin.ox.ac.uk/eop)) and Harassment ([www.admin.ox.ac.uk/eop/harassmentadvice/policyandprocedure](http://www.admin.ox.ac.uk/eop/harassmentadvice/policyandprocedure)), supported by a Harassment Advisory Service. The Department's Equality and Diversity Committee meet once a term to ensure the university's policies are implemented at departmental level.

### Departmental Disability Co-ordinator:

Leanne Carveth

Tel: 73833

Email: [leanne.carveth@cs.ox.ac.uk](mailto:leanne.carveth@cs.ox.ac.uk)

Updated October 2018

## Appendix E: Plagiarism

The University's code of conduct concerning academic integrity is set out on the website at:

[www.admin.ox.ac.uk/personnel/cops/researchintegrity](http://www.admin.ox.ac.uk/personnel/cops/researchintegrity)

The following information and advice is of relevance and use to graduate students, particularly those with limited experience of academic writing. It is expected that most graduates will have mastered the rules and conventions of scholarly writing before arriving at Oxford, and therefore plagiarism is treated as a serious breach of academic integrity. However, even graduate students sometimes find it difficult to avoid unintentional plagiarism; consequently you must ensure that you understand fully what is meant by the term “plagiarism”, how to avoid it in your writing and the potential consequences of either deliberate or inadvertent plagiarism.

All graduate students must complete the University's online plagiarism courses as part of their graduate skills training portfolio:

[https://weblearn.ox.ac.uk/access/content/group/e34f4cf9-1ecb-4244-a62b-ba3e96472790/SkTK\\_WebPages/Tool\\_Ep\\_Plagiarism.html](https://weblearn.ox.ac.uk/access/content/group/e34f4cf9-1ecb-4244-a62b-ba3e96472790/SkTK_WebPages/Tool_Ep_Plagiarism.html)

[https://weblearn.ox.ac.uk/access/content/group/e34f4cf9-1ecb-4244-a62b-ba3e96472790/SkTK\\_WebPages/Tool\\_Ep\\_Plagiarism2.html](https://weblearn.ox.ac.uk/access/content/group/e34f4cf9-1ecb-4244-a62b-ba3e96472790/SkTK_WebPages/Tool_Ep_Plagiarism2.html)

At the end of the course there is a quiz to test your knowledge; if successful you can print out a certificate for your records. The course also provides an accessible source of information and advice about plagiarism. You should use it in conjunction with the advice on these pages.

### What is plagiarism?

Plagiarism is the copying or paraphrasing of other people's work or ideas into your own work without full acknowledgement. All published and unpublished material, whether in manuscript, printed or electronic form, is covered under this definition.

Collusion is another form of plagiarism involving the unauthorised collaboration of students (or others) in a piece of work.

Cases of suspected plagiarism in assessed work are investigated under the disciplinary regulations concerning conduct in examinations. Intentional or reckless plagiarism may incur severe penalties, including failure of your degree or expulsion from the university.

### What forms can plagiarism take?

Verbatim quotation of other people's intellectual work without clear acknowledgement. Quotations must always be identified as such by the use of either quotation marks or indentation, with adequate citation. It must always be apparent to the reader which parts are your own independent work and where you have drawn on someone else's ideas and language.

Paraphrasing the work of others by altering a few words and changing their order, or by closely following the structure of their argument, is plagiarism because you are deriving your words and ideas from their work without giving due acknowledgement. Even if you include a reference to the original author in your own text you are still creating a misleading impression that the paraphrased wording is entirely your own. It is better to write a brief summary of the author's overall argument in your own words than to paraphrase particular sections of his or her writing. This will ensure you have a genuine grasp of the argument and will avoid the difficulty of paraphrasing without plagiarising. You must also properly attribute all material you derive from lectures.

Cutting and pasting from the Internet. Information derived from the Internet must be adequately referenced and included in the bibliography. It is important to evaluate carefully all material found on the Internet, as it is less likely to have been through the same process of scholarly peer review as published sources.

Collusion. This can involve unauthorised collaboration between students, failure to attribute assistance received, or failure to follow precisely regulations on group work projects. It is your responsibility to ensure that you are entirely clear about the extent of collaboration permitted, and which parts of the work must be your own.

Inaccurate citation. It is important to cite correctly, according to the conventions of your discipline. Additionally, you should not include anything in a footnote or bibliography that you have not actually consulted. If you cannot gain access to a primary source you must make it clear in your citation that your knowledge of the work has been derived from a secondary text (eg Bradshaw, D. Title of Book, discussed in Wilson, E., Title of Book (London, 2004), p. 189). For more guidance on how to reference correctly, see

[www.cs.ox.ac.uk/files/3161/Referencing.pdf](http://www.cs.ox.ac.uk/files/3161/Referencing.pdf)

Failure to acknowledge. You must clearly acknowledge all assistance which has contributed to the production of your work, such as advice from fellow students, laboratory technicians, and other external sources. This need not apply to the assistance provided by your tutor or supervisor, nor to ordinary proofreading, but it is necessary to acknowledge other guidance which leads to substantive changes of content or approach.

Professional agencies. You should neither make use of professional agencies in the production of your work nor submit material which has been written for you. It is vital to your intellectual training and development that you should undertake the research process unaided.

Autoplagerism. You must not submit work for assessment which you have already submitted (partially or in full) to fulfil the requirements of another degree course or examination.

The necessity to reference applies not only to text, but also to other media, such as computer code, illustrations, graphs etc. It applies equally to published text drawn from books and journals, and to unpublished text, whether from lecture hand-outs, thesis or other students' essays. You must also attribute text or other resources downloaded from websites.

## **Why should you avoid plagiarism?**

Graduate students' work is expected to meet high academic standards and will be scrutinised carefully. The University must ensure that these standards are upheld and that its research degrees provide proper training for an academic career. In addition, the academic community has to be satisfied that those who obtain the D.Phil. are appropriately qualified to undertake further unsupervised research. Plagiarism at this level is a serious breach of academic integrity and the consequences can be severe. In some cases a student may be expelled, or they may be stripped of their degree if their thesis is later discovered to contain plagiarised material. Some academics' careers have been ruined by the discovery of plagiarism in decades-old published work.

Far from being simply a disciplinary matter, plagiarism undermines the central tenets of scholarly discourse. Knowledge develops via a cumulative process as a result of years of research, innovation and debate. It is a principle of intellectual honesty that all members of the academic community should acknowledge their debt to the originators of the ideas, words, and data which form the basis for their own work. It is important to recognise that academic texts are multi-voiced, constructed from references to other texts; it is your responsibility as a writer to make it clear at all times whose 'voice' is speaking, whether your own or one of your sources'. This requirement for transparency of source use means that you must cite adequately, make it clear when you are quoting or paraphrasing, and establish the relationship between your source and your own text.

## **Citation**

Giving credit to the authors of the ideas and interpretations you cite not only accords recognition to their labours, but also provides a solid theoretical basis for your own argument. Your ideas will gain credence if they are supported by the work of respected writers. Transparent source use allows you to situate your work within the debates in your field, and to demonstrate the ways in which your work is original. It also gives your reader the opportunity to pursue a topic further, or to check the validity of your interpretations.

When writing you should consider the ways in which your work depends upon or develops from other research, then signal this with appropriate citation. Make clear your reasons for citing a source. When paraphrasing an idea or interpretation you must ensure that your writing is not too closely derived from the original, and you must also acknowledge the original author.

You will be provided with a guide to the referencing conventions in your discipline, and may wish to employ software which keeps track of your sources and automatically formats the footnotes and bibliography (i.e. EndNote, Reference Manager, ProCite). It is important to be meticulous when taking notes: include full citation details for all the sources you consult and remember to record relevant page numbers. It is far too time-consuming to go back to your books to find page numbers or citation details later. Citation practice varies but, depending on the type of text cited (book, chapter in an edited volume, conference paper, journal article, e-print, etc.), the elements of a reference include: author; title of the book or article; title of the journal or other work; name of the conference; place of publication; date of publication; page numbers; URL; date accessed. The conventions for citing web resources vary between disciplines. You should note as many

essential items of information as possible, such as author, title, publisher, dates of publication and last revision, URL, and date of last access. When using e-print archives you should bear in mind that many contain articles which have not yet been submitted for peer review. It is good practice to review the later, published versions for important changes before submitting your dissertation.

### **Patchwriting**

Inexperienced writers, particularly those who are not native speakers of English, often develop their writing technique via a process known as “patchwriting”. If they lack the requisite skills of academic writing or self-expression, they may copy or heavily paraphrase their source material. Where the derivation is not made clear, this is plagiarism. However, it is recognised that many honest students employ mimicry and borrowed language as they learn to write in the academic style, and that patchwriting can be seen as a developmental stage. As students gain more experience at writing they must develop an independent voice and cease to rely on imitation. If work containing unattributed paraphrase is submitted for assessment, it will be treated as plagiarism regardless of the author's intentions.

### **Language skills**

Graduate students who are non-native speakers of English are entitled to take two free courses in English for Academic Studies at the University Language Centre at 12 Woodstock Road. These include a three-term Academic Writing Course, individual writing tutorials, advanced English language teaching, and modules on specific topics, such as pronunciation. Demand for places on these courses often outstrips supply so you should ensure that you book early by going to the Language Centre in person to register. There are also fee-paying courses available, including the intensive Pre-Sessional Course in English for Academic Purposes. This is either a four or eight week course taken during the period from the end of July to late September. It is open to students embarking on study at any English-speaking university, but students coming to Oxford will usually be accommodated by their colleges. Intensive one-week courses in Academic Writing are offered in the ninth or 0th week of some terms, which may be of use to those under severe time pressures. There are also ample resources for independent study in the Language Centre library, and a wealth of online English teaching tools.

### **Cultural differences**

Students who experience difficulties adapting to the culture of academic study at Oxford should not delay in seeking out sources of support and guidance. If you are not a native English speaker, you should take full advantage of the resources at the Language Centre. Do not hesitate to approach your course director or supervisor to discuss your needs. Develop your academic writing skills through practice and ask for detailed feedback on your work. Ensure that you follow scrupulously the source use and referencing conventions of your discipline, even if they vary from those you have used before. You should take the online plagiarism course as early as possible to ensure that you understand the issues involved. This web site and the sites it links to will also provide useful resources. If you have specific difficulties or questions, you should always ask for advice.

## **Disciplinary process**

Plagiarism in the work you submit for assessment is considered to be a breach of the disciplinary regulations regarding conduct in examinations. Details of the disciplinary process are available at [www.proctors.ox.ac.uk/handbook/handbook](http://www.proctors.ox.ac.uk/handbook/handbook)

## **A last word**

Not only is plagiarism unethical, it also seriously undermines the value of your research and of any degree you may obtain. By extension, it devalues the work of your colleagues and the standards of your institution. It can also have far-reaching consequences, the effects of which may be felt many years hence.

However, you should avoid plagiarism not for fear of disciplinary consequences, but because you aspire to produce work of the highest quality. Once you have grasped the principles of source use and citation, you should find it relatively straightforward to steer clear of plagiarism. Moreover, you will reap the additional benefits of improvements to both the lucidity and quality of your writing. It is important to appreciate that mastery of the techniques of academic writing is not merely a practical skill, but one that lends both credibility and authority to your work, and demonstrates your commitment to the principle of intellectual honesty in scholarship.

## **A guide to citing and referencing for students**

This can be found at: [www.cs.ox.ac.uk/files/3161/Referencing.pdf](http://www.cs.ox.ac.uk/files/3161/Referencing.pdf)

Please also visit the University pages on Plagiarism and study skills:

[www.ox.ac.uk/students/academic/guidance/skills/plagiarism](http://www.ox.ac.uk/students/academic/guidance/skills/plagiarism)

[www.ox.ac.uk/students/academic/guidance/skills](http://www.ox.ac.uk/students/academic/guidance/skills)

## **Appendix F: Complaints and academic appeals within the Department of Computer Science**

The University, the Mathematical, Physical and Life Sciences Division and the Department of Computer Science all hope that provision made for students at all stages of their course of study will result in no need for complaints (about that provision) or appeals (against the outcomes of any form of assessment).

Where such a need arises, an informal discussion with the person immediately responsible for the issue that you wish to complain about (who may not be one of the individuals identified below) is often the simplest way to achieve a satisfactory resolution.

Many sources of advice are available from colleges, faculties/departments and bodies like the Counselling Service or the Oxford SU Student Advice Service, which have extensive experience

in advising students. You may wish to take advice from one of those sources before pursuing your complaint.

General areas of concern about provision affecting students as a whole should be raised through Joint Consultative Committees or via student representation on the department's committees.

## **Complaints**

If your concern or complaint relates to teaching or other provision made by the department, then you should raise it with Director of Teaching, Dr Ani Calinescu; the Director of Graduate Studies, Professor David Kay; or the MSc Course Director, Professor Paul Goldberg, as appropriate. Complaints about departmental facilities should be made to the Departmental administrator, Mrs Sharon Lloyd. If you feel unable to approach one of those individuals, you may contact the Acting Head of Department, Professor Peter Jeavons. The officer concerned will attempt to resolve your concern/complaint informally.

If you are dissatisfied with the outcome, you may take your concern further by making a formal complaint to the Proctors under the University Student Complaints Procedure (<https://www.ox.ac.uk/students/academic/complaints>).

If your concern or complaint relates to teaching or other provision made by your college, you should raise it either with your tutor or with one of the college officers, Senior Tutor, or Tutor for Graduates (as appropriate). Your college will also be able to explain how to take your complaint further if you are dissatisfied with the outcome of its consideration.

## **Academic appeals**

An academic appeal is an appeal against the decision of an academic body (eg boards of examiners, transfer and confirmation decisions etc), on grounds such as procedural error or evidence of bias. There is no right of appeal against academic judgement.

If you have any concerns about your assessment process or outcome it is advisable to discuss these first informally with your subject or college tutor, Senior Tutor, course director, director of studies, supervisor or college or departmental administrator as appropriate. They will be able to explain the assessment process that was undertaken and may be able to address your concerns. Queries must not be raised directly with the examiners.

If you still have concerns you can make a formal appeal to the Proctors, who will consider appeals under the University Academic Appeals Procedure (<https://www.ox.ac.uk/students/academic/complaints>).

## Appendix G: Mental Health Champions

The Department of Computer Science Mental Health Champions are a point of contact if you, or someone you are concerned about, are experiencing a mental health issue or emotional distress. They are not therapists or psychiatrists but they can give you initial support and signpost you to appropriate help if required. If you have any questions about Mental Health Champions in the Department of Computer Science, please contact Laura Jones, HR Manager, on extension 73820, room 148.

<b>Guillaume Boisseau</b> Extension – 73891 Email – guillaume.boisseau@st-annes.ox.ac.uk Room – 350	<b>Mary Bispham</b> Extension – 10805 Email – mary.bispham@wolfson.ox.ac.uk Room – R004
<b>Sharon Lloyd</b> Extension – 83668 Email – sharon.lloyd@cs.ox.ac.uk Room – 140	<b>Elizabeth McMillan</b> Extension – 10751 Email – elizabeth.mcmillan@some.ox.ac.uk Room – 369
<b>Monica Wilson</b> Extension – 10698 Email – monica.wilson@cs.ox.ac.uk Room – 142	<b>Sarah Baldwin</b> Extension – 83555 Email – sarah.baldwin@cs.ox.ac.uk Room – 243
<b>Karen Barnes</b> Extension – 83557 Email – karen.barnes@cs.ox.ac.uk Room – 244	<b>Ani Calinescu</b> Extension – 83527 Email – ani.calinescu@cs.ox.ac.uk Room – 317
<b>Robin Lorenz</b> Extension – 10780 Email – robin.lorenz@stcatz.ox.ac.uk Room – 204	<b>Jennie Charlton</b> Extension – 83601 Email – jennie.charlton@cs.ox.ac.uk Room – 106
<b>David Tena Cucala</b> Extension – 83520 Email – david.tenacucala@hertford.ox.ac.uk Room – 309	<b>Brenda Deeley</b> Extension – 83585 Email – brenda.deeley@cs.ox.ac.uk Room – 106
<b>Daniel Woods</b> Extension – 10735 Email – daniel.woods@univ.ox.ac.uk Room – 470	<b>Laura Jones</b> Extension – 73820 Email – laura.jones@cs.ox.ac.uk Room – 148