



Department of Geography

# MSc Quaternary Science Student Handbook

2023/24

## Disclaimer

This document was published in September 2023 and was correct at that time. The department\* reserves the right to modify any statement if necessary, make variations to the content or methods of delivery of courses of study, to discontinue courses, or merge or combine courses if such actions are reasonably considered to be necessary by the University. Every effort will be made to keep disruption to a minimum, and to give as much notice as possible.

\* Please note, the term 'department' is used to refer to 'departments', 'Centres and Schools'.

Important information on terminology:

- Degree Course – May also be referred to as 'degree programme' or simply 'programme', these terms refer to the qualification you will be awarded upon successful completion of your studies.
- Module – May also be referred to as 'course', this refers to the individual units you will study each year to complete your degree course. Undergraduate degrees at Royal Holloway comprise a combination of modules in multiples of 15 credits to the value of 120 credits per year. On some degree courses a certain number of optional modules must be passed for a particular degree title.

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## 1 Introduction to your department

### 1.1 Welcome

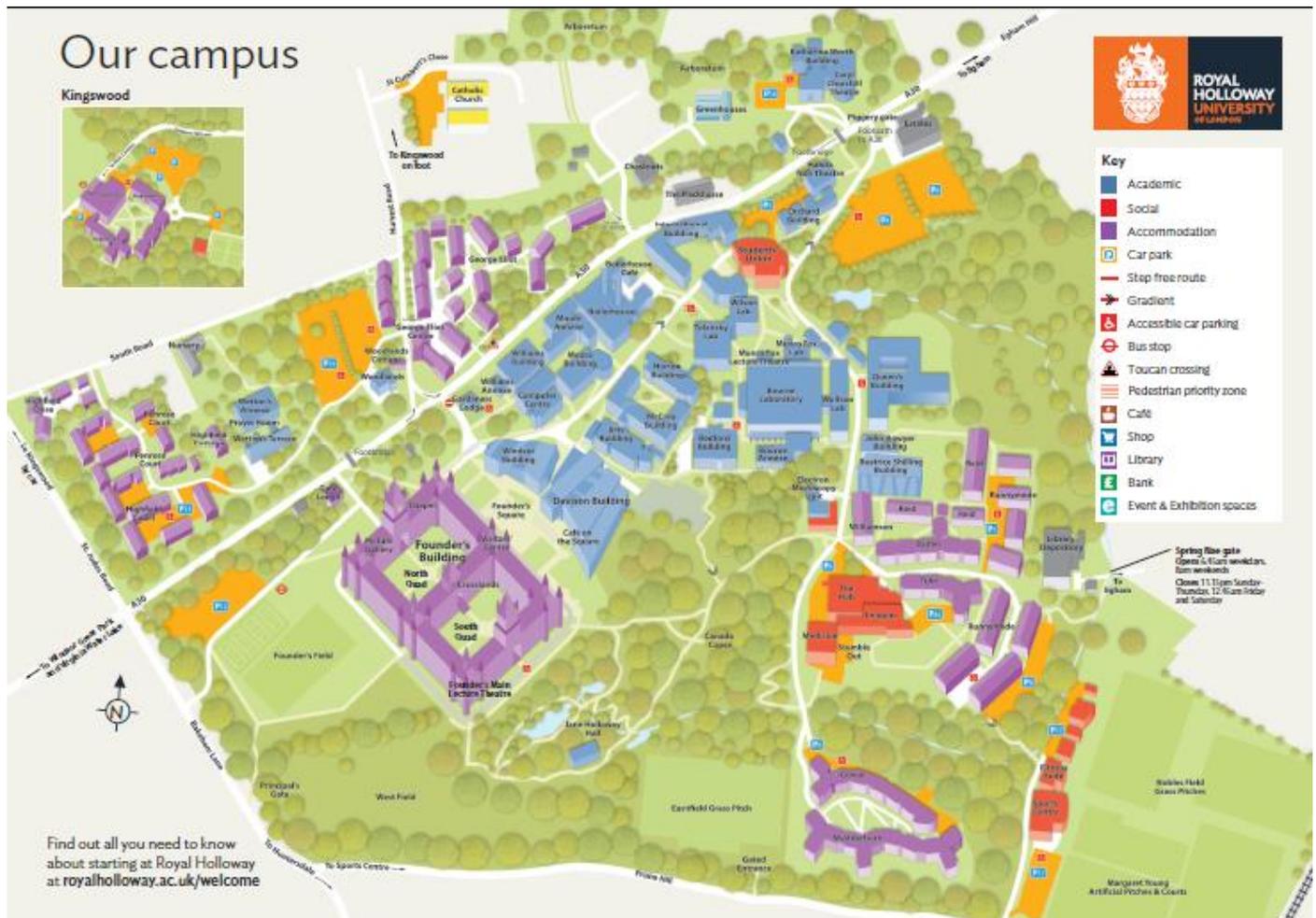
Welcome to the Department of Geography at Royal Holloway. We very much hope that your year with us will be enjoyable and challenging, and we look forward to working with you on the MSc Quaternary Science programme. This handbook aims to give you all the basic information you will require for your academic studies. This includes information on the structure and organisation of the degree programme, teaching arrangements and assessment.

This handbook should be read in conjunction with the University *Postgraduate Taught Student Handbook*, which is available on the Geography PGT Students Moodle page.

## 1.2 How to find us: the Department

The Geography department is mainly located in the Queen's Building (QB), additional staff and teaching space is located in the Munro Fox laboratory, EMU (postgraduate centre) and the geochronology laboratories (section 1.6). Staff offices can be found in the Queen's Building (section 1.6 for maps and individual staff offices).

## 1.3 Map of the Egham campus



Please note, student parking is very limited and is not available if you live in Halls or within 1.5 miles of campus. If you do live more than 1.5 miles away or have a particular reason why you need to come to campus by car, you must apply for a parking permit. If you have a motorbike or scooter you must also register the vehicle with University. Find more information about the Parking Permit portal [here](#).

## 1.4 How to find us: the staff

		Code (01784)	
<b>Executive Dean of School of Life Sciences and the Environment</b>	Professor Klaus Dodds <a href="mailto:k.dodds@rhul.ac.uk">k.dodds@rhul.ac.uk</a>	44 3580	QB122
<b>Head of Department:</b>	Professor Danielle Schreve <a href="mailto:Danielle.Schreve@rhul.ac.uk">Danielle.Schreve@rhul.ac.uk</a>	44 3569	QB174B
<b>Academic Staff:</b>			
Professor Peter Adey	<a href="mailto:peter.adey@rhul.ac.uk">peter.adey@rhul.ac.uk</a>	44 3640	QB123
Professor Simon Armitage	<a href="mailto:simon.armitage@rhul.ac.uk">simon.armitage@rhul.ac.uk</a>	27 6124	QB174A
Professor Simon Blockley	<a href="mailto:simon.blockley@rhul.ac.uk">simon.blockley@rhul.ac.uk</a>	44 3405	QB155
Professor Ian Candy	<a href="mailto:ian.candy@rhul.ac.uk">ian.candy@rhul.ac.uk</a>	44 3649	QB157
Professor Phil Crang	<a href="mailto:P.Crang@rhul.ac.uk">P.Crang@rhul.ac.uk</a>	44 3645	QB161
Professor Veronica della Dora	<a href="mailto:veronica.delladora@rhul.ac.uk">veronica.delladora@rhul.ac.uk</a>	44 3642	QB178
Dr Thomas Dekeyser	<a href="mailto:Thomas.Dekeyser@rhul.ac.uk">Thomas.Dekeyser@rhul.ac.uk</a>	44 3578	QB149
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Dr Mike Dolton	<a href="mailto:m.dolton@rhul.ac.uk">m.dolton@rhul.ac.uk</a>	44 3575	QB152A
Professor Felix Driver	<a href="mailto:f.driver@rhul.ac.uk">f.driver@rhul.ac.uk</a>	44 3572	QB151A
Dr Gwilym Eades	<a href="mailto:Gwilym.Eades@rhul.ac.uk">Gwilym.Eades@rhul.ac.uk</a>	44 3657	QB148
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Professor Harriet Hawkins	<a href="mailto:harriet.hawkins@rhul.ac.uk">harriet.hawkins@rhul.ac.uk</a>	41 4673	QB159
Professor Innes Keighren	<a href="mailto:innes.keighren@rhul.ac.uk">innes.keighren@rhul.ac.uk</a>	44 3722	QB180
Dr Celia Martin-Puertas	<a href="mailto:Celia.MartinPuertas@rhul.ac.uk">Celia.MartinPuertas@rhul.ac.uk</a>	27 6043	QB177
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Dr Aya Nassar		27 6825	QB153
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Dr Alasdair Pinkerton	<a href="mailto:a.d.pinkerton@rhul.ac.uk">a.d.pinkerton@rhul.ac.uk</a>	27 6441	QB152E

Dr Chris Satow	91 7110 <a href="mailto:Chris.Satow@rhul.ac.uk">Chris.Satow@rhul.ac.uk</a>	QB156
Professor David Simon	44 3651 <a href="mailto:d.simon@rhul.ac.uk">d.simon@rhul.ac.uk</a>	QB151b
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Mr Don Thompson	44 3576 <a href="mailto:d.thompson@rhul.ac.uk">d.thompson@rhul.ac.uk</a>	QB145A
Dr Varyl Thorndycraft	27 6122 <a href="mailto:Varyl.Thorndycraft@rhul.ac.uk">Varyl.Thorndycraft@rhul.ac.uk</a>	QB152B
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Professor Katie Willis	44 3643 <a href="mailto:Katie.Willis@rhul.ac.uk">Katie.Willis@rhul.ac.uk</a>	QB160

#### Technical/Operations Staff:

Dr Claire Mayers (Technical Operations Manager)	44 3808 <a href="mailto:Claire.Mayers@rhul.ac.uk">Claire.Mayers@rhul.ac.uk</a>	QB130
Raymond Aung (Computer Technician)	44 3613 <a href="mailto:Raymond.Aung@rhul.ac.uk">Raymond.Aung@rhul.ac.uk</a>	QB137
Katy Flowers (Laboratory Technician)	44 3566 <a href="mailto:Katy.Flowers@rhul.ac.uk">Katy.Flowers@rhul.ac.uk</a>	QB127
Dr Adrian Palmer (Senior Research Officer)	44 3507 <a href="mailto:a.palmer@rhul.ac.uk">a.palmer@rhul.ac.uk</a>	QB125
Dr Marta Perez (Laboratory Technician)	44 3566 <a href="mailto:m.perez-2@rhul.ac.uk">m.perez-2@rhul.ac.uk</a>	QB127
Jen Thornton (Cartographic Technician)	44 3568 <a href="mailto:jen.thornton@rhul.ac.uk">jen.thornton@rhul.ac.uk</a>	QB137
Iñaki Valcarcel (Laboratory Technician)	41 4683 <a href="mailto:jose.valcarcel@rhul.ac.uk">jose.valcarcel@rhul.ac.uk</a>	MFox Lab

<b>School Manager:</b>	Michelle Jux	Wolfson 118
<b>School Helpdesk:</b>	44 6884 <a href="mailto:LSE-School@rhul.ac.uk">LSE-School@rhul.ac.uk</a>	Wolfson 118
<b>Disability &amp; Neurodiversity: (Wellbeing Lead):</b>	Dr Mike Dolton 44 3575 <a href="mailto:M.Dolton@rhul.ac.uk">M.Dolton@rhul.ac.uk</a>	QB152A
<b>Information Consultant (Library)</b>	<a href="#">Information Consultant webpage</a>	

### 1.5 How to find us: the School office

The school office is located in the Wolfson Building, Room 118 on the ground floor. The Wolfson building is opposite the Queen's Building.

### 1.6 The Department: practical information

The Department occupies modern purpose-built accommodation on the ground floor of the Queen's Building. Here you will find a lecture theatre, teaching rooms, Geography staff offices, 'Library@Geography', and research and teaching laboratories. Additional teaching laboratories are located in the nearby Munro Fox Laboratories. The map below details the location of Geography department buildings, with a further diagram giving details of the location of staff offices within the Queen's Building.

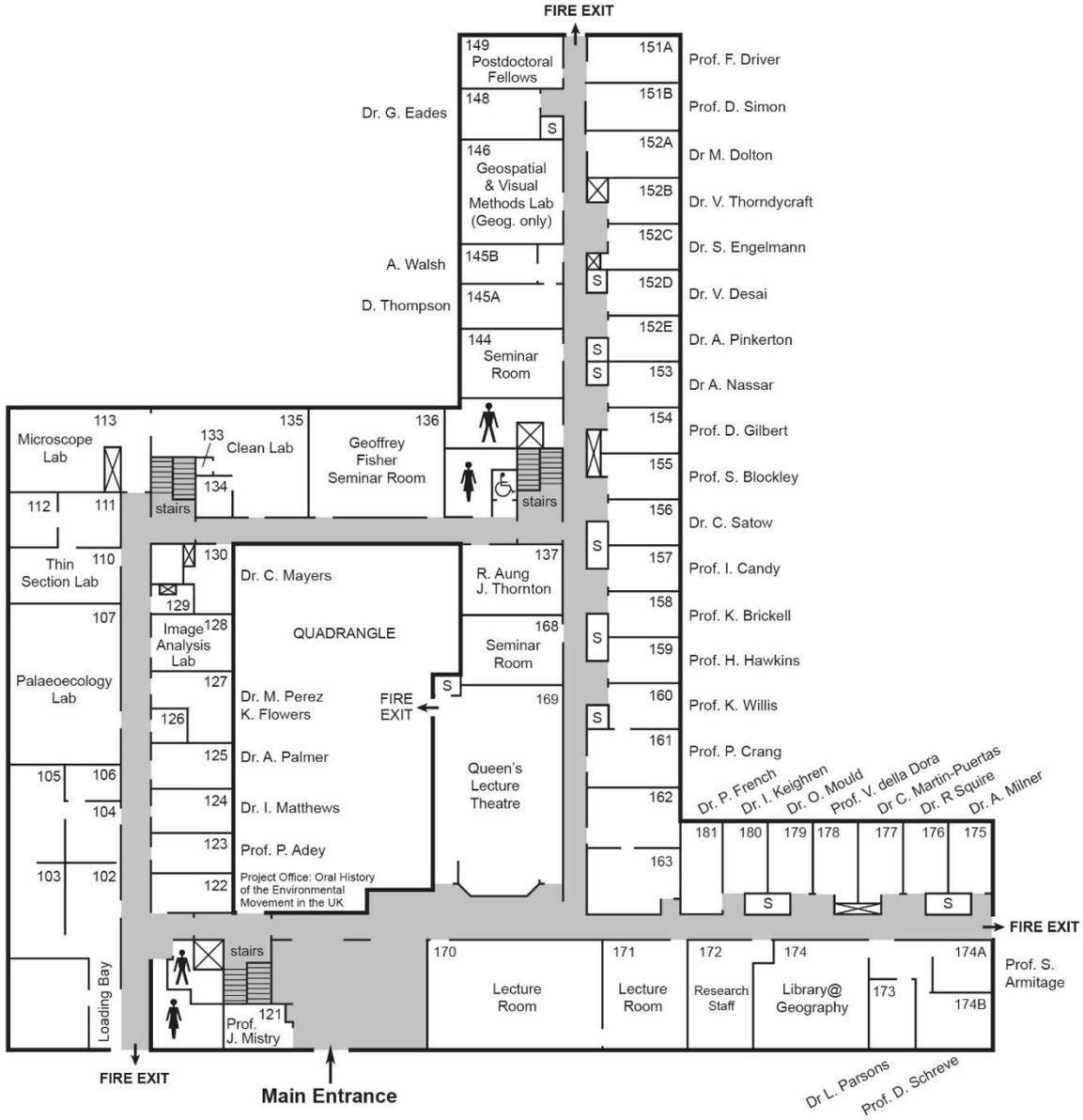


Extract from the main campus plan showing location of Geography Department buildings

# Department of Geography - Queen's Building (Level 1)

	<u>Room</u>
Head of Department.....	174B
Undergraduate Education Lead.....	160
Postgraduate Research Student Lead.....	152C
Wellbeing Lead.....	152A

	<u>Room</u>
Technical Operations Manager and Health & Safety Co-ordinator.....	130
IT and AV Support; Graphics, Cartography and Printing.....	137



August 2022

## 1.7 Staff research interests

Staff teaching on the MSc Quaternary Science are highlighted in bold type.

- Professor Peter Adey, BA Aberystwyth, MA Aberystwyth, PhD Aberystwyth  
*Borders and mobility; Space; Political Geography*
- Professor Simon Armitage, BA Oxford, PhD Wales**  
*North African climate; OSL; late Quaternary evolution of SE African coast*
- Professor Simon Blockley, BSc Bradford, PhD Bradford**  
*Palaeoenvironment & abrupt climate change; Paleolithic archaeology; geochronology*
- Professor Ian Candy, BSc London, MRes Reading, PhD Reading**  
*Quaternary geomorphology & sedimentology; uranium series geochronology; palaeoclimatic reconstruction*
- Professor Phil Crang, BA Cambridge, PhD Cambridge  
*Cultural Globalisation; geographies of consumption; geographies of work*
- Professor Veronica della Dora, BA Ca'Foscari, Venice, PhD UCLA  
*Cultural and historical geography; history of cartography; landscape studies; sacred space*
- Dr Thomas Dekeyser, MA London, PhD Southampton  
*Urban politics; digital infrastructure*
- Dr Vandana Desai, BA Bombay, BSL Poona, MPA Liverpool, DPhil Oxford  
*NGO's & civil society; gender; ageing; water; community participation; slums; India & sub-Saharan Africa*
- Professor Klaus Dodds, BSc Bristol, PhD Bristol  
*Geopolitics and security; Antarctica and Arctic; geopolitics of contemporary cinema*
- Dr Mike Dolton, BA OU, MA Sussex, PhD London  
*Democratisation through local participatory networks; UK urban policy & regeneration*
- Professor Felix Driver, MA Cambridge, PhD Cambridge  
*Exploration & empire; museums; exhibitions & collections; popular geographical publishing; history of geographical film*
- Dr Gwilym Eades, BSc Victoria, MA Ottawa, PhD Montréal  
*Critical GIS; Memetics of place; Indigenous toponymy; Geoweb*
- Dr Sasha Engelmann, BA Stanford, MPhil Oxford  
*Geographies of Art; Art-Science collaboration*
- Dr Peter French, BSc Kingston, PhD Reading  
*Coastal & estuarine management; public attitude to coastal risk*
- Professor David Gilbert, BA Cambridge, DPhil Oxford  
*Geographies of 20<sup>th</sup> century London; imperialism; tourism and the modern city*
- Professor Harriet Hawkins, BA Nottingham, PhD Nottingham  
*Geographies of contemporary art, histories of creative geographies, art/science collaboration*
- Professor Innes Keighren, BSc Edinburgh, MSc. Edinburgh, PhD. Edinburgh  
*Cultural and historical geography; historical geographies of science; history and geography of the book; history of travel and exploration*
- Dr Celia Martin Puertas, BSc Cadiz, MSc Cadiz, PhD Cadiz**  
*Palaeolimnology; climate change; lake ecosystems*
- Dr Ian Matthews BSc London, PhD London**  
*Geochronology; Environmental Archaeology; palaeoecology*
- Dr Alice Milner BSc Leeds, PhD Leeds**  
*Mediterranean biogeography, peatland ecosystems, climate change*
- Professor Jay Mistry, BSc London, PhD London  
*Fire management in the tropics; Savanna management; Tropical ecology*
- Dr Oli Mould, BA Leicester, MSc Leicester, PhD Leicester  
*Urban studies; Creative industries; Urban sub-cultures*
- Dr Aya Nassar, BSc Cairo, MSc Cairo, PhD Warwick  
*Cities; memory; infrastructure; politics of the postcolony; Middle East, specifically Egypt.*
- Dr Adrian Palmer, BSc London, MSc London,, PhD London**  
*Quaternary sedimentology; varve chronology; landscape response to rapid climate change*
- Dr Laurie Parsons, BA Durham, MA Phnom Pehn, PhD London  
*Climate change and inequality; Modern slavery, Cambodia*
- Dr Alasdair Pinkerton, MA St Andrews, MA London, PhD London  
*Critical geopolitics; communications research; central & South Asia*

**Dr Chris Satow, BSc Edinburgh, MSc London, PhD London**

*Palaeoceanography, volcanology, climate change*

**Professor Danielle Schreve, BSc London, PhD London**

*Quaternary mammals; palaeoenvironments; palaeolithic archaeology*

**Professor David Simon, BA Cape Town, BA Reading, DPhil Oxford**

*Development-environment theory, policy & practice; sustainability; urbanisation; cities and climate change;*

**Dr Rachael Squire, BA London, MA London, PhD London**

*Geopolitics of oceans and seas*

**Mr. Don Thompson, BSc London**

*River and hill slope processes; water supply in the developing world*

**Dr Varyl Thorndycraft, BSc Sheffield, MSc Liverpool, PhD Exeter**

*Late Quaternary palaeohydrology; floods & climate change; GIS and digital terrains*

**Ms Amy Walsh BSc London, MSc London**

*Tephrochronology; palaeoecology; environmental Archaeology*

**Professor Katie Willis BA Oxford, MPhil Oxford, DPhil Oxford**

*Gender; households; migration & development; child refugees*

## **2 Research Groups and Interdisciplinary Activities**

### **2.1 Centre for Quaternary Research**

Students on the MSc Quaternary Science are taught by leading experts from within the Centre of Quaternary Research (CQR), supported by several Departmental technicians. CQR is a leading international research cluster in Quaternary Science, and has been recognised as a focus of excellence in recent REF assessments. CQR has been a research group at Royal Holloway University of London since 1990. Our research, which covers the last 2.6 million years of Earth's history, is focused on the interface between climates, environments, people and other biota on a range of spatial and temporal scales.

Since 2014, CQR has consolidated its position as a world leader in the investigation of major environmental questions by,

1. Expanding its interests in high-resolution palaeoclimatic and palaeoenvironmental research, particularly from lake records;
2. Generating new models for the chronology and nature of early human and animal dispersal and behaviour;
3. Working across glacial, fluvial, marine and aeolian systems to quantify past landscape responses to climate change;
4. Applying our knowledge to contemporary ecosystem management issues, industrial agenda and policy development for the benefit of a range of stakeholders.

## 3 Support and advice

### 3.1 Support within your School

The School Helpdesk is there to help you with any questions or concerns you might have about your studies. Depending on your query, the Helpdesk will answer your questions then and there, put you in touch with a colleague who can help, or find out the answer and get back to you.

- Email: [LSE-School@rhul.ac.uk](mailto:LSE-School@rhul.ac.uk)

The inbox is monitored from Monday to Friday from 9:00am to 5:00pm and they aim to respond to all queries within one working day.

- MS Teams appointment with a member of the admin team: [click here](#)
- Tel: 01784 276 884

Alternatively, you can visit us in-person at the Helpdesk in the Wolfson main entrance on the left-hand side. We are available to speak to in-person from Monday to Friday from 10:00am to 4:00pm during term time.

If you have a problem or concern, approaching the right person in the first instance will allow the problem to be dealt with quickly and efficiently. For many issues, your personal tutor is the first point of contact, but for others, you should see the following:

- With a topic in an individual module: see the lecturer concerned
- With the administration or examination of an individual module: see the Module Convenor
- With general academic organisation: see Dr Oli Mould, MSc Global Futures Director
- With personal difficulties: see your Personal Tutor, Dr Mike Dolton (Wellbeing Lead) or the Wellbeing Service
- With general non-academic queries or fees: go to the Student Services Centre in the Emily Wilding Davison building
- With English as a second language: contact your Personal Tutor or the Centre for Development of Academic Skills (CeDAS)
- With writing skills in general: Contact CeDAS
- With issues relating to specific learning difficulties: see Dr Mike Dolton (Wellbeing Lead) or the Disability and Neurodiversity Liaison officer (previously called Disability and Dyslexia Service Liaison Officer)

### 3.2 Equality, Diversity and Inclusion

The Department is committed to being an inclusive and supportive environment for all students and staff, respecting each other and our diverse perspectives and experiences. Dr Vandana Desai is the Department's Equality, Diversity and Inclusion Lead.

Any student who has concerns about equality, diversity and inclusion issues in general, or relating to a specific incident, is encouraged to contact Dr Desai. Students can also contact the Head of Department or Bethan Davies as Director of the MSc Quaternary Science.

### 3.3 Student representation

The Department runs a postgraduate Staff-Student Committee which meets three times a year (once a term) and plays an important role in the Department as a forum for airing student views and discussing changes to teaching and learning provision.

Elections for the committee are held at the beginning of each academic year. There is a student representative for each MSc/MRes degree. The Department encourages all students to consider standing for election.

A full list of student representatives is posted on the Geography PGT Moodle page. All students can submit items for discussion at Staff-Student Committee meetings through the representatives. Minutes of the meeting are also available to all students online.

### 3.4 The Geographical Society (GeogSoc)

The Geographical Society is run by students. It provides a programme of both academic and social events across all three terms. Elections for the GeogSoc Committee take place towards the end of each academic year, with a further election in October to choose a first-year representative. All events are publicised on the GeogSoc noticeboard and the GeogSoc Facebook page. Postgraduate students are very welcome to join.

## 4 Communication

### 4.1 Post

All post addressed to you at the Geography department is kept in the Postgraduate pigeonhole in the post room (Queen's 163) situated in the Queen's Building. At the end of each term this is cleared of accumulated mail which is then destroyed. Important information from Academic Services is often sent by internal post and you are advised to check them regularly.

### 4.2 Geography Master's Student Moodle Page

All Geography taught postgraduates have access to the Geography PGT Students Moodle page. A copy of this Handbook is kept there, along with details of assessment deadlines and other general departmental information.

**It is your responsibility to make sure you are informed of the times and places of all classes, meetings and of any requirements (e.g. essay deadlines) relating to your modules;** so, if in doubt, please ask.

### 4.3 Personal Tutors

Your personal tutor is your first point of contact in the Department if you have any concerns or problems. You will normally remain with the same tutor for the duration of your studies, although at times staff are awarded a period of sabbatical research leave, in which case, another member of staff will act as temporary personal tutor for the duration of leave (normally one term).

If for any reason you wish to change your Personal Tutor, you should consult your MSc Director who will treat the matter in confidence should you wish.

### 4.4 Questionnaires

We take student feedback very seriously, and welcome your comments on the Department and all taught modules. In order to obtain your feedback on taught modules, you are asked to complete an anonymous questionnaire at the end of each module. The feedback you give us helps in making changes to modules and to increase the effectiveness of our teaching and teaching resources.

All questionnaires are seen by the Head of Department, the MSc Director and Director of Teaching, and are analysed as part of the University Annual Monitoring process. Constructive criticism is always welcomed and plays an important role in course and module development. (Deserved praise is also very welcome and can make a tremendous contribution to the job satisfaction of your lecturers!)

You can also make comments throughout the year about the quality of your course and modules through the Student Rep system.

### 4.5 Space

The Department has its own study space supported by the library: 'Library@Geography' (QB174) containing work space and maps. Library@Geography offers a quiet place for students to work – consumption of food, drink and the use of mobile phones is not permitted.

Library@Geography is sometimes booked for small group teaching, when it will be unavailable for general use by Geography students. Teaching bookings will be indicated on the door.

Postgraduate students can use the kitchen facilities in the Department, which are found next to QB144. Please ensure that you keep the kitchen and fridge clean if you use them.

## 5 Teaching

### 5.1 Study weeks

The MSc provides two study weeks in term 1 (see section 5.2). During the first of these weeks you will be provided with sessions on good scholarly practice. The second week toward the end of the term is an opportunity to catch up with reading and assessments.

### 5.2 Key Dates which may affect you:

Your detailed timetable can be accessed from RHUL web timetables (<https://webtimetables.royalholloway.ac.uk/SWS/SDB2223SWS/login.aspx>). Please see Section 10 and 11 for more information on individual modules and the dissertation. Module leaders will provide information on week-by-week course content and module assessment deadlines.

In term one a two night residential field trip will operate in teaching week 4, more information about this trip will be provided by the Module leader at the start of term.

The dates for the Glen Roy fieldtrip in Spring 2024 are currently being finalised and more data will be provided during term one.

### 5.3 Use of Moodle

All class sessions are supported by virtual learning tools, in particular Royal Holloway's 'Moodle' platform. All modules have designated Moodle sites that are made accessible to the students registered on that module. Individual modules use Moodle in varying ways as most appropriate to the broader module learning ethos and curriculum. However, all modules use Moodle to support your learning in at least five ways:

- The *digital provision of core information* for modules such as handbooks, reading lists, session timetables, coursework guidance, links to past exam papers, and so on;
- The provision of information, materials and resources to be used by students in *preparation* for class sessions, including the uploading of lecture PowerPoints ahead of class sessions;
- The *archiving* of materials from class sessions, such as PowerPoint slides, class hand-outs, etc.;
- The supporting of students' *independent research after class* sessions, through guided reading, other activities, links to good quality media on relevant issues, etc.
- *Communication* with students via the Module Forum tools.

Some modules and lecturers use other online learning tools, as appropriate to their materials and activities. In such cases, the lecturer will introduce the tools, explain how and why they are being used, and support your engagement with them.

### 5.4 Conduct during teaching sessions

Teaching sessions include all lectures, seminars, tutorials, practicals and fieldwork both in person and online. As such, these sessions should be carried out in such a manner as to encourage learning and study. To enable this to happen, the following should be observed:

- Eating and drinking (except water) in class is not permitted by the University, in compliance with current Health and Safety legislation. Not even water may be drunk in laboratories.
- Students must not engage in conversation with one another during a lecture or class unless it is part of an organised class activity.
- When wishing to ask a question or contribute a comment students should draw the lecturer's attention by putting their hand up.
- Mobile phones and other electronic devices must be switched off at the beginning of the lecture unless these devices are directly related to the lecture.
- Personal electronic recording of lectures is discouraged and should only be requested for good reason (e.g. specific learning difficulty). Permission to record classes should be sought in advance from the lecturer in charge. Some sessions will be recorded by the lecturer and then made available on Moodle.

- Students are welcome to use laptops in class for the purpose of note-taking. Web browsing should only be done as part of an organised class activity. Gaming and social networking in class is prohibited.
- Respect for the perspectives of everyone in the class. This means listening to other contributions and making your own well-informed points. Remember that this is an educational environment, not a social media platform.

Abuse of these rules, particularly in respect of the use of phones/laptops/tablets, could lead to them being banned from the room.

Students are expected to treat the learning environment and everyone within it with respect and to adhere to the points detailed above. Lecturing staff will remind individuals of their responsibilities to others as class members when breaches to this code of conduct are identified. In exceptional circumstances, persistent individuals may be asked to leave. Where students are concerned about the behaviour of others, in that it is disturbing their ability to concentrate, and this is not noticed by the lecturer, this should be brought to the attention of the lecturer in charge during a break or at the end of a class. Lecturing staff will be proactive in reminding individuals to be respectful of the needs of other members of the class.

If lecturing staff themselves fail to adhere to these principles, or if students have other concerns relating to staff teaching or conduct, students can contact their MSc Director with details of the incident. They will raise the matter with the lecturer in charge or Head of Department as appropriate.

## 6 Degree structure

Full details about your course, including, amongst others, the aims, learning outcomes to be achieved on completion, modules which make up the course and any course-specific regulations are set out in the course specification available through the Course Specification Repository.

### 6.1 Department specific information about degree structure

The MSc degree in Quaternary Science offers comprehensive and flexible postgraduate training in the established yet dynamic field of Quaternary Science, with the academic emphasis being on the time-dependent processes affecting environmental change. In recent years, Quaternary research has developed a multi- and inter-disciplinary approach to the study of recent Earth history. In addition to the development of new fieldwork and laboratory techniques, substantial advances have been made in geochronological (dating) techniques and the quantifying of proxy data. These, together with information from new geological archives such as those from the deep ocean floors and in the polar ice sheets, have provided new insights into Quaternary environmental change and created a framework for reconstructing patterns of past change with a degree of accuracy, precision and detail not normally obtainable for older geological periods. Quaternary science therefore provides the best available 'laboratory' for researching Earth-system processes and for generating critical baseline data for predicting future climate change.

The aims of this programme are:

- provide a training programme for students wishing to continue postgraduate study to PhD standards, and who require fundamental training in appropriate palaeoenvironmental, stratigraphical and/or quantitative principles and methods;
- provide a conversion programme for students of, for example, Biology, Physical Geography, Geology, Ecology, Archaeology, Oceanography, Environmental Science who wish to develop or augment a background in global environmental history and processes;
- provide a vocational programme for teachers, professional scientists, and policy makers who desire or require a fuller understanding of the time-dependent elements of environmental change as essential context for their career.

The MSc is taught by members of the Centre for Quaternary Research (CQR) at Royal Holloway, a leading interdisciplinary research centre in the field of Quaternary Science. Expertise within the group covers geochronology, palaeoenvironmental proxies, sedimentology and stratigraphy, tephrochronology and palaeoclimatology amongst others, as well as a range of technical skills including micromorphology and stable isotope analysis. The MSc teaching staff are in a unique position to convey research knowledge, experience

and skills that will have direct relevance to employability as well as research training for further education, namely doctoral research.

Past students of the course are now employed by national scientific policy making and implementing agencies such as Natural England, the British Geological Survey and the Environment Agency, within government Research Councils, science publishing, higher education institutions, and as teachers and researchers. Many of our alumni are also currently undertaking doctoral programmes in the UK and abroad.

Learning outcomes:

Teaching and learning in the course are closely informed by the active research of staff. In general terms, the programme provides opportunities for students to develop and demonstrate the following learning outcomes:

Knowledge and understanding:

Acquire and demonstrate specialist disciplinary knowledge and understanding of key issues pertaining to Quaternary Science, in particular the core linking themes of:

- a. The drivers and responses of climate change in the Quaternary Period;
- b. high-resolution palaeoenvironmental records;
- c. high-precision dating;
- d. multi-proxy approaches to the investigation of past environmental changes.

Skills and other attributes:

- a. ability to assess the causes, scale and rapidity of past climate and environmental fluctuations, encompassing field, laboratory, statistical and computing methods used in the acquisition, interpretation and modelling of proxy climatic and environmental data;
- b. ability in project formulation and design, sampling strategies and hypothesis testing;
- c. effective problem-solving and decision-making;\*
- d. critical analysis and synthesis of information;\*
- e. good communication skills;\*
- f. advanced interpersonal skills;\*
- g. quantitative analysis;\*
- h. skills in Information Technology;\*
- i. good time management;\*
- j. effective team work.\*

\* transferable skills

To help you make good progress in your studies at RHUL, we have a simple online module SS1001 in 'Academic Integrity' which will guide you through preparing your assignments using the best academic standards. You will need to successfully complete this short module, and you can have as many attempts as you like before the deadline to pass it.

## 6.2 Module registrations

You register for 180 credits' worth of modules in each academic year (this excludes modules which are being re-sat). Any modules that you wish to take on an extracurricular basis (that is, not counting towards your degree) must be identified at the start of the academic year or before any assessment has been completed for the module.

## 6.3 Module components

Attendance at all modules and the Field Training Programme is compulsory. Candidates also undertake a Dissertation.

The course breaks down as follows:

Six core modules	Total 90 credits	Autumn and Spring terms
Glen Roy Field Training Programme	Total 30 credits	Easter break
Dissertation	Total 60 credits	Summer term

## 6.4 Core modules (condonable)

- GG5291 Key Concepts in Past and Current Climate Change (15 credits).
- GG5201 Key Records in Past and Current Climate Change (15 credits)
- GG5293 Climate Data Analysis and Communication (15 credits)
- GG5232 Biological Responses to Climate Change (15 credits)
- GG5238 Landscape Dynamics and Hazards (15 credits).
- GG5237 Geospatial and Temporal Data Science (15 credits).

Full details of the teaching staff, aims, content, teaching format, assessment, learning outcomes, and assessment goals of these modules are provided in the following sections.

## 6.5 Field training programme (condonable)

All students are required to participate in the residential field programme GG5230. In addition, field training exercises form compulsory elements of term one.

The objectives of these exercises vary and include:

- collection and analysis of data in the field,
- collection of materials for laboratory analysis,
- application of advanced analytical skills, applying the principles of the methods taught in the relevant option module,
- in-depth study of Quaternary palaeoenvironmental and/or stratigraphical evidence.

The Scotland Field Training Programme is worth **30 credits** of your MSc Degree.

## 6.6 Dissertation (non-condonable)

Candidates must also prepare a dissertation (GG5299) not exceeding 10,000 words. The aim of the dissertation is to build upon the research training provided in the core and option modules and to enable students to undertake an independent and original piece of research on a Quaternary Science topic of their choice. The Dissertation is worth **60 credits** of the MSc Degree, and it is non-condonable.

Members of staff may circulate a list of dissertation topics that they wish to supervise, **but it is the student's responsibility to identify an appropriate topic and supervisor(s)**. Having done so, students must produce a written draft dissertation proposal outlining aims, methods and resource requirements. These drafts are circulated to staff attending the presentations in early May after which oral presentations of dissertation projects are made. After taking into account verbal and written comments of staff, students complete and submit a final dissertation proposal that must be approved by supervisors before field or laboratory work can be undertaken.

All members of the Teaching Team are available to be supervisors and external advisers/co-supervisors may also be appointed where appropriate. Each student is allocated one or more supervisors who will provide guidance on appropriate techniques and approaches as required. It is the supervisor's responsibility to ensure that a student is made aware of the relevant health and safety procedures in the field and/or laboratory. The assessment should be submitted in both paper and electronic format.

## 7 Facilities

### 7.1 Facilities and resources within your department

#### 'Library@Geography'

The Department has its own study space supported by the library: 'Library@Geography' (QB174) containing work space and maps. Library@Geography offers a quiet place for students to work – consumption of food, drink and the use of mobile phones is not permitted.

### 7.2 The Library

One of the most important resources for you as a student at Royal Holloway is the Library Service. The Library is housed in the **Emily Wilding Davison Building**, located on the east side of Founder's Square. Details, including Library Search, dedicated subject guides and opening times can be found online from the [Library home page](#).

The Ground Floor of the Library contains a High Use Collection which includes many of the books assigned for undergraduate courses. The rest of the Library collections are on the upper floors. There are plenty of study areas and bookable rooms to carry out group work, as well as many areas to work on your own. The Library contains a large number of PCs and has laptops to borrow on the ground floor to use in other study areas. There is a significant collection of online material, including e-books and electronic journals.

Books heavily in demand may be on short loan. Please consult the course tutor in good time if there are particular works which you would like to see on short loan.

The library is always happy to consider students' suggestions for more books. If you think that the Library does not have a book useful for a module you are following, or for a dissertation you are writing, or if you feel more copies of a book are required, please contact the library's Information Consultant for your subject (and let your course tutor know). Be aware, however, that not all requests can be satisfied and that there is sometimes a delay between ordering and receipt depending on our supplier's stock.

### Using other Libraries

**Senate House Library** (University of London), Senate House, Malet Street, London, WC1E 7HU (020 7862 8462) <https://www.senatehouselibrary.ac.uk/>

As a student of the University of London, you have access to the University of London Library (Senate House Library), which is situated in Central London. This central Library has large reference collections and facilities for borrowing and is an important resource for print and online material for the Arts & Humanities and Social Sciences (with limited Science coverage). In order to obtain a Senate House Library card you must present your University ID card at the Senate House Library and complete a short application form. You also have access to SHL's online resources and these can be accessed via the Library Subject Guides.

**The British Library**, 96 Euston Road, London, NW1 2DB (020 7412 7000) <http://www.bl.uk>.

Please check the BL's web pages for registration and access regulations, or contact the Royal Holloway Library for advice.

#### Other libraries

You may also be able to register as a reader at the libraries of other University'ss if you can demonstrate that you need to use their collections. Please check the respective University Library's web pages before visiting.

You are strongly advised to familiarise yourself with the Library and its resources as early as possible in your degree.

### 7.3 Photocopying and printing

The departmental printers and photocopier are reserved for staff use. Copier-printers (MFDs) for students are located in the Library, the Computer Centre and many PC labs, which will allow you to make copies in either black and white or colour.

Occasionally, students are expected to produce posters, or other printed material beyond the A4 size typical of open access printers. Such printing can be arranged through the Cartographic Technician, Jen Thornton (QB137), for a charge (charge depends on page size). Department facilities allow for standard printing to A0, or special sizes on request.

## 7.4 Computing

There are ten open access PC Labs available on campus which you can use, including three in the Computer Centre. For security reasons access to these PC Labs is restricted at night and at weekends by a door entry system operated via your University card. At University registration you will be given details of induction procedures, user accounts and password procedures. This will also include discussion of MS Teams which we will be using for our online teaching. All Geographers are expected to have basic information technology skills by the end of the first term of the first-year (operation of Windows, word-processing, spreadsheet use and basic web skills). We expect you to have at least the basic competence in information technology as provided by some of the IT Training sessions run by the Computer Centre.

### How to find an available PC

There are a range of self-study packs designed to enhance your current IT skills, these can be found by visiting the [Skills Gateway](#). The Department recommends that you give consideration to courses relating to the use of Microsoft Office. Of particular use are courses relating to Word, Excel spreadsheets and PowerPoint. Other courses are available for later years, including data presentation, managing large documents, referencing and advanced Word for dissertations. Further advice will be given during the Geographical Techniques module.

The Department also has postgraduate computing facilities in the Geospatial and Visual Methods Laboratory (GVML)(QB146). Ray Aung (QB137) is the Computer Technician responsible for day-to-day running of the Departmental computing facilities.

## 8 Assessment information

### 8.1 Anonymous marking and cover sheets

In order to maintain fairness across all students, all coursework and examinations are submitted for marking with only your candidate number for identification. These numbers are issued by the University early in the first term. Examiners do not have access to any means by which they can match up names to numbers, this is not done until after the final sub board in October of the academic year. Part time and repeating PGT students should note that the candidate numbers used last year are no longer valid, and the new numbers should be used.

When submitting your work, please complete a cover sheet. You can find this on the Geography PGT Students Moodle Page. The words on the cover sheet are not included in the word count for your assessment.

### 8.2 Submission of work

Submission of all coursework (formative and summative) should be through Turnitin, via each module's Moodle page, unless advised otherwise. Marking, wherever possible, will be done electronically. The nature of some assessments make electronic marking impractical, and so for these pieces of work, a hard copy submission will be made via the School Helpdesk (Wolfson 118). Turnitin submission may still be required for plagiarism detection purposes. Please assume that all work should be submitted for plagiarism checking unless advised otherwise.

### 8.3 Penalties for over-length work

This MSc degree develops your skills in communicating in different formats, including assessments of different lengths. In all cases, clear, succinct writing is required.

All pieces of coursework have maximum word lengths, and you will be informed of these when assessment information is given to you.

Work which is longer than the stipulated length in the assessment brief will be penalised in line with Section 13, paragraph (6) of the University [Postgraduate Taught Regulations](#):

### Section 13 (6)

*Any work (written, oral presentation, film, performance) may not be marked beyond the upper limit set.*

*The upper limit may be a word limit in the case of written work or a time limit in the case of assessments such as oral work, presentations, films or performance. In the case of presentations, films or performance these may be stopped once they exceed the upper time limit.*

In addition to the text, the word count should include quotations and footnotes. Please note that the following are excluded from the word count: cover sheet, candidate number, title, module title, figure/table/plate captions\*, tables, figures, bibliography and appendices. In addition, for field reports and dissertations the title page, abstract, acknowledgments, contents page, list of plates, figures and tables are also excluded from the word count.

\*Figure/table/plate captions should be of reasonable length and should only provide a title and source. You should avoid explanatory detail in these captions (narrative captions).

## 8.4 What to do if things go wrong – Extensions to deadlines

Please refer to the Extensions Policy and guidance on the University's webpage about [Applying for an Extension](#).

All Geography Postgraduate assessments are eligible for extensions.

## 8.5 Support and exam access arrangements for students requiring support

Some students at the University may have a physical or mental impairment, chronic medical condition or a Specific Learning Difficulty (SpLD) which would count as a disability as defined by the Equality Act (2010). The Disability and Neurodiversity team (previously DDS) can put in place adjustment, support and access arrangements following an assessment.

All students can contact the Disability and Neurodiversity team directly to set up a meeting and assessment. Alternatively if you are not sure whether that is appropriate for you, you can discuss your concerns with your Personal Tutor or the Wellbeing Lead Dr Mike Dolton.

## 8.6 Academic misconduct - Plagiarism

The Department takes allegations of academic misconduct very seriously. Academic misconduct comes in a range of forms, (see [Attendance and Academic Regulations page](#) of the student intranet). The most common form of academic misconduct is plagiarism. This is rarely done intentionally, but even if it is done by accident, it is still an offence.

### Avoiding Plagiarism

The following guidelines, based on those of the Academic Registrar of the University of London, outline how plagiarism can be avoided:

All work submitted as part of the requirements for any examination of the University of London must be expressed in your own words and incorporate your own ideas and judgments. Plagiarism must be avoided, with particular care being necessary in coursework and essays and reports written in your own time. Direct quotations from the published or unpublished work of others must always be clearly identified as such by being placed inside quotation marks, and a full reference to their source must be provided in the proper form (section references section). Remember that a series of short quotations from several different sources, if not clearly identified as such, constitutes plagiarism just as much as does a single unacknowledged long quotation from a single source. Equally, if you summarise another person's ideas or judgements, you must refer to that person in your text, and include the work referred to in your bibliography. Failure to observe these rules may result in an allegation of cheating. You should therefore consult your Tutor if you are in any doubt about what is permissible.

Examples of what constitutes plagiarism include:

- Lengthy word-for-word phrases or sentences taken from a piece of work without placing inside quotation marks and without acknowledgement of the source (see section 7.7 on Referencing)
- summary of text in your own words which follows the structure of the original but fails to acknowledge the source (see section 7.7, Referencing)
- use of web sites to obtain material that are not acknowledged (see section 7.7, Referencing)
- downloading of 'ready-made' essays from the web. Don't be fooled by companies who claim to check essays against 'Turnitin'. To do this they have to check them through the system, thus they become a part of it. When you submit the essay, it will return a high percentage match.
- use of 'good' essays which may be circulating within the student body from previous years. Note, these would have already been submitted to 'Turnitin', and therefore will come up as a close match when checked. The same applies to essays submitted at other universities
- collusion in group project work or techniques exercises - this may range from group use of diagrams produced by one student, to the circulation of texts between members of the group which are either (in crude examples) copied verbatim or reworded by individual members of the group
- in statistical or quantitative exercises, one student carrying out the exercise and circulating copies of computer output to others.

### Duplication of Work (Self Plagiarism)

In addition to the above, submitting the same, or essentially the same, piece of work on more than one occasion, whether for different modules or when repeating a module, is classed as **duplication** or 'recycling'. This is also regarded as an examination offence, as serious as any other form of plagiarism, and thus governed by the same rules as the above. If you are repeating the whole or part of a year and have any concerns about this, you should speak to Peter French as the Chair of the Department Assessment Board.

There are stringent penalties for cases of plagiarism, set out in the University's "Regulations Governing Examination and Assessment Offences", which also contains details of the procedures to be followed should a case of plagiarism be suspected. Where a case is identified, all of your assessed work (including the Dissertation) would be examined for possible plagiarism. Furthermore, if writing a reference, a member of staff is required to inform prospective employers that an assessment offence was committed.

Please note that the plagiarism issue should not be a negative one from your point of view - the ability to express your own ideas in your own words, to synthesise and evaluate information from a range of sources, to acknowledge the work of others correctly and put your own work in relation to it, and to cooperate in a group without simply copying each other's work, are valuable skills for your degree and for the world of work beyond. Employers, for example, value the ability to make constructive contributions to a group project, so it will help to demonstrate that you have done this during your degree programme. Coursework is not just for picking-up marks to get through the course, it is for acquiring marketable skills in researching, summarising and presenting material from a variety of sources.

All students must successfully complete the SS1001 'Academic Integrity' module. This module will describe the key principles of academic integrity, focusing on university assignments. Plagiarism, collusion and commissioning will be described as activities that undermine academic integrity, and the possible consequences of engaging in such activities will be described. Activities, with feedback, will provide you with opportunities to reflect and develop your understanding of academic integrity principles.

## 8.7 Referencing & Bibliographies (Reference lists)

A reference is the way in which you tell the reader where you have got the information from which you have used in your work. It also tells the reader that the information you are using was produced by someone else. For this reason, acknowledging all such sources of information is critical, not least because failure to do so can lead to accusations that you are trying to use someone else's information as your own (Plagiarism,

section 8.6).

All assessed coursework, therefore, should be properly referenced and have a full bibliography at the end, including all of the sources you have cited in your work. In some cases, you may not have been able to find the original source. For example, you may have read a paper in which the author cites another, for example a paper by Smith (2009) may include a statement that 'Hunt (2006) showed that there was a correlation between variable A and B'. If you want to quote Hunt's results, you should, ideally, go to Hunt's paper and check that Smith has cited correctly. If this is not possible, you should acknowledge the secondary reference by acknowledging this correlation as 'Hunt, (2006), quoted in Smith, (2009)'. In formal 'take home' examinations you are expected to provide references in your answers, and show that you know the sources of the facts and arguments that you are presenting, but you are not expected to produce a bibliography.

When you cite (identify) references in the text of your assignment, you should include the author's surname (or name of editor or organisation responsible), the year of publication (or, in the case of an Internet site, when it was last updated), and actual page numbers if appropriate (such as when citing quotes), and where available. There are two approaches to citing references. The first gives prominence to the information, with all the required referencing details in brackets:

*'It has been suggested that the relative seriousness of the two kinds of errors differs from situation to situation (Black 2009).'*

The second approach gives prominence to the author by using the author's name as part of your sentence, with the date and page number in round brackets:

*'Black (2009) has suggested that the relative seriousness of the two kinds of errors differs from situation to situation.'*

Page numbers are necessary when you directly quote a passage, or when you copy tables or figures:

*'A recent study has shown a series of possible causes that "result from changes in environmental factors"' (Jones and Chan, 2002: p2).'*

Having written your assignment and included a range of citations, it is important to list all of these, in alphabetical order, by authors' surname, in a bibliography at the end of your work. This bibliography is typically titled 'References' or 'Reference List'. This should be comprehensive and detailed enough to allow the reader to trace all items you have used. There are a range of referencing and bibliographic conventions, examples of which may be seen in current academic geography journals. There are also often different conventions adopted for human and physical geography subjects, and you will come across both in your time here. Which you use will depend on the work being assessed, but the most important rule is to be consistent. Particular lecturers or your dissertation advisor may suggest you use certain conventions because of the particular materials you are working with.

The following is suggested as an appropriate standard format, based on the so-called 'Harvard' or author-date referencing system. The following guidance is based on the book *Cite them right: the essential referencing guide* (2010), multiple copies of which can be found in the Bedford Library:-

- 1) References in the text should give the surname of the author and the year of publication in brackets, for example, Collins (1970) or (Smith and Jones, 2001). When there are two or more references to work by one author for the same year, the year is followed by the letter a, b, c, etc. - e.g. (Harris, 1996c). Text references to multi-authored work should include the first author's name, followed by 'et. al.' then the year of publication e.g. Collins *et. al.* (2012). The reference list must contain all of the authors of the paper.
- 2) Page numbers should be given for quotes, for example, (Collins, 1970 p42).
- 3) Examples of references for different types of publication are given in Appendix B. Please note that the bibliography **should not be divided** according to these categories (i.e. with sub-sections for journal articles, books, chapters etc). Many more examples, including guidance on how to cite audio, visual, and digital material, can be found in *Cite them right: the essential referencing guide* (2010).

A summary of this reference and a guide to correct referencing style, can be found [here](#). Examples of referencing & bibliographies can be found in [Appendix B](#).

## 8.8 Illustrations

The use of illustrations in your work is important, as these can convey a lot of information and replace text. It is important, however, to obey a few rules:-

- All illustrations should be numbered consecutively, and referred to in the text. This can be sequentially, e.g. Figure 1, Figure 2, etc; or by sections, Figure 1.1, Figure 1.2, Figure 2.1, etc.
- Refer to graphs and diagrams as 'Figures'; tables as 'Tables', and Photographs as 'Plates'
- All should have a title and a source (reference from where they are obtained). If you use a web site, such as Google image, then you should acknowledge this.
- Make sure that the quality of the image is still readable at the size you reproduce it.

## 8.9 Grade Descriptors & Marking Criteria

See [Section 12](#) for the assessment criteria that are used by examiners in marking work on this MSc, and show the general criteria that are used to calculate grades and marks. They are general models of the characteristics that are expected of work being awarded particular grades.

When looking at these tables you should keep the following points in mind:-

- Many pieces of work will have characteristics that fall between two or more classes. Your examiners retain the ultimate decision (academic judgement) as to the mark given to a particular piece of work, and your mark may be amended following consultation with second markers or visiting examiners.
- Look at the full range of assessment criteria, rather than just those that correspond to your own judgement of your abilities. When marking your work, examiners look at a range of different aspects of your work. Think about how you could improve each of these aspects of your work.
- These criteria give general models of assessment criteria. Your course leaders will also discuss the specific assessments for their courses, particularly where these are not standard essays.

## 8.10 Feedback

Feedback is an important part of your learning process as it allows us to communicate with you regarding the quality of work you are producing and to suggest ways in which you can improve your work in future. It should not be regarded purely as a means of communicating your mark. You should be aware that feedback occurs in many different ways throughout the duration of a course, and your time in the Department in general.

The most obvious form of feedback is the returned coursework feedback, which is usually delivered online. This contains important detail of the areas in which your work has succeeded in its aims, and also comments on how you could improve for the next assessment. The feedback will always include a comment sheet, but it may also include comments on the actual text of the assessment, either in the form of comment bubbles, or in text comments.

It is important that you understand this form of feedback and take it on board. If there is any aspect that you don't understand, then please contact the marker for clarification. Feedback dates are available alongside the assessment deadlines on the student noticeboards and on the Geography Undergraduate Moodle page. You will be sent an email to inform you when the feedback is available online.

The comments on the feedback are based on the marking criteria in Appendix A. Different sets of marking criteria apply to different forms of work, but in general, there are a set of common criteria which the marker is looking for. These are detailed on each of the relevant tables. You are advised to study the marking criteria before completing assignments, in order to understand the differences between the different marks.

Marks below 50% are regarded as fails. The significance of failing a module are detailed in the [University regulations](#).

Marks between 40-49% may allow a candidate to resit the failed elements of that module or be granted a condoned fail (depending on PG regulations).

The return of coursework feedback represents only one form of feedback. There are also other forms of feedback which you should also consider. This may take different forms, and may be 'informal' in nature, but is still important to you as a way of finding out how your work can be improved. Such feedback includes:

- 1) Comments and discussion with staff and demonstrators in lab and field classes.
- 2) Discussion with module leaders in student drop-in sessions.
- 3) Critique of dissertation draft material by your allocated advisor.
- 4) Discussion in seminars.
- 5) Generic, group feedback to a whole class.
- 6) Moodle self or group assessment.

## 9 Health and Safety Information

The [Health and Safety webpage](#) provides general information about the University health and safety policies.

The Departmental Health & Safety Co-ordinator oversees health and safety procedures in the Department in order to ensure that all persons working in the Department do so in a healthy and safe environment. There are rules and regulations that are specific to particular Departmental activities, and every person who is working in or visiting these areas must make sure that they are acquainted with these regulations. Ignoring such provisions means not only putting yourself at risk, but those around you also.

The Department is committed to providing a healthy and safe environment for staff and students to work in. Risk assessment is an ongoing part of Departmental activity to ensure that all procedures, modules (including the dissertation) and field trips are implemented with the minimum risk to all concerned. Whilst the Department will do all that is reasonably practicable to reduce any risk to health and safety in the Department, it is also the responsibility of individuals to ensure that their working environment, procedures and actions are safe. **Safety is everyone's responsibility.**

Health and safety concerns or suggestions should be submitted to the Departmental Health & Safety Coordinator. The Department has facilities located across several buildings. Persons with specific responsibilities for each site are:-

**Dr. Claire Mayers - QB130 - ext. 3808**  
Queen's Building

**Mr. Iñaki Valcarcel – MF001 – ext.4683**  
Munro-Fox Lab  
Geochronology Lab

### 9.1 Code of practice on harassment for students

The University is committed to upholding the dignity of the individual and recognises that harassment can be a source of great stress to an individual. Personal harassment can seriously harm working, learning and social conditions and will be regarded and treated seriously. This could include grounds for disciplinary action, and possibly the termination of registration as a student.

The [University's Code of Practice on personal harassment for students](#) should be read in conjunction with the [Student Disciplinary regulations](#) and the [Complaints procedure](#).

### 9.2 General Safety in the Department

**Working hours.** Teaching laboratories in the Department of Geography are open from 0900-1300 and 1400-1650 each weekday. Special arrangements must be made with the Laboratory Manager for access outside these hours. There is no guarantee that work outside normal hours will be permitted. Unsupervised work by undergraduates in the laboratories is not permitted.

**Working hours.** Teaching laboratories in the Department of Geography are open from 0900-1300 and 1400-1650 each weekday. Special arrangements must be made with the relevant Laboratory Manager for access

outside these hours. There is no guarantee that work outside normal hours will be permitted. Unsupervised work by undergraduates in the laboratories is not permitted.

**Conduct.** Always behave in a responsible manner when in the Department. Never run in the corridors or on the stairs, you could cause an injury or spillage. Mobile phones should be on silent in all study areas and should not be used in class.

**Belongings.** Do not leave your belongings unattended at any time. They should also not be left:

- In corridors or stairwells
- Near exits, particularly fire exits
- Near to emergency equipment, such as fire extinguishers
- Near to electrical equipment or sources of heat

**Safety Provisions.** Be aware of the fire exit routes, fire extinguishers, fire alarms and first aid kits in the Department. Maps are displayed around the Geography buildings showing the location of these items.

### 9.3 Emergencies

**First Aid.** The main first aid kit is situated in the Departmental Post Room, (QB163). If you suffer an injury, or find someone injured, call a qualified First Aider. Posters displaying the room and extension number of the closest first aiders are located throughout the department. In the event that no staff can be found call Security on 01784 443063.

**Fire Alarm.** If the fire bell rings continuously:

- Leave the building immediately, by the nearest safe route. Note: This may not be the door you used to enter the building.
- Muster at the Assembly Point straight away. Fire Marshalls will be on hand to assist with any evacuation.
- Do not enter the building again until authorised to do so.

Fire alarms are routinely tested. The test days/times are posted in the building foyer. You should familiarize yourselves of the arrangements for all buildings in which you have classes.

**Dealing with fires.** If you discover a fire:

- Activate the nearest fire alarm immediately - this is your main priority
- Leave the building by the nearest safe route
- Report to the Assembly Point and let a Fire Marshall know the location of the fire
- Do not fight fires unless trained to do so - the incorrect choice or use of a fire extinguisher could put your life at risk and/or make the fire worse.

### 9.4 Lone working policy and procedures

The University has a 'Lone Working Policy and Procedure' that can be found [here](#).

Lone working is defined as working during either normal working hours at an isolated location within the normal workplace or when working outside of normal hours. The Geography department runs a range of different rooms, from general teaching, reading and computer facilities, to technical laboratories and analysis suites. Access to Queen's Building the Department is available from 08900 to 1700. Geography undergraduate students can swipe into the building on weekdays up to 10pm in order to access rooms for quiet study. The risk associated with using Departmental facilities varies, and thus there are different rules in force for different rooms. These are detailed below:

- Lone working is only permitted in teaching rooms and 'Library@Geography'. **Students may not work alone in any Laboratory area at any time.** Use of laboratories for individual project work, such as dissertations, should be arranged with the relevant member of technical staff.
- Inspections/risk assessments of work areas are carried out by the Departmental Health and Safety Coordinator or Laboratory Manager to ensure that hazards have been identified, risks controlled and provisions for emergencies are in place (e.g. escape routes open, firefighting equipment, first aid).

- In the field, students will work in groups when possible, such as when on fieldtrips. Staff will brief all students undertaking these activities on relevant health and safety issues. For dissertations, we advise you to have a second person with you wherever possible in the field, or if this is not possible, to obey basic rules of leaving contact details and details of return times, etc. Matters regarding health and safety for dissertation fieldwork will be dealt with on an individual basis with your dissertation advisor.

Any health and safety concerns should be brought to the attention of the Departmental Health and Safety Coordinator or the University Health and Safety Office.

## 9.5 Field trips

Whilst every effort is made to ensure that fieldwork provided by the University is safe, it has, by its nature some inherent risks. Severe weather conditions may be encountered in all seasons, especially near coasts or in upland areas. In accordance with the Health & Safety at Work Act 1974, module leaders have a responsibility to ensure that correct precautions are taken and have a duty to inform you of all health & safety issues relating to the work they are supervising. In law, **YOU** have a duty of care to yourself and others whilst engaged in any activity related to your studies at Royal Holloway. It is **imperative that students cooperate fully and behave responsibly** whilst on any fieldtrip or when doing fieldwork for personal study requirements (e.g. dissertations). **Potential dangers make it imperative that students cooperate by behaving responsibly in order to minimise the risk of accidents. Each individual is responsible for their own safety.**

Pre-trip meetings will be held where all relevant health and safety information will be passed on by the trip leader. Students will also be required to read and sign an appropriate Risk Assessment prior to all fieldwork. Instructions should be always observed by all members of the group. Anyone not conforming to the standards required may be disciplined and dismissed from the course. Such action could jeopardize continuation on the relevant course(s). If a member of your group should act in an unsafe manner, endangering themselves or others, you have a duty to report this to the field leader – you could save the person, or others, from serious injury. Relevant inoculations, including anti-tetanus, are advised – anyone who does not have the relevant vaccinations attend fieldtrips at their own risk. Safety equipment, such as hard hats and high visibility wear, will be provided by the Department where required.

Students will be asked to complete the School Health and Safety Form which includes a medical questionnaire. This information will be shared with field trip leaders so that adequate safety measures can be put in place. Ethical considerations forbid the Health Centre from passing on relevant health information regarding individual students to the Department.

All department-led fieldtrips are covered by University insurance. There may be some exemptions for students with particular health conditions. For independent fieldwork the University does **NOT** include personal accident cover for students..

All students are expected to carry their own basic first aid kit containing items such as plasters and any preferred painkillers and personal medication required. Staff will also carry first aid kits but they are not permitted to provide any form of medication to students.

## 9.6 Independent Fieldwork (Dissertation)

Students undertaking independent fieldwork (e.g. as part of their Dissertation) are responsible for their own safety in the field. Anyone planning independent field work will need to complete a pre-trip risk assessment. Your supervisor will help you do this. **You are not permitted to carry out any independent fieldwork until this is complete and no equipment can be borrowed from the department until a risk assessment has been approved.**

Plan your work carefully, bearing in mind your experience and training, the nature of the terrain, and the weather. Be careful not to over-estimate what can be achieved in a given time period.

**Do not carry out fieldwork in countries** or regions if the British Government, or other bodies, have advised against travel to, holiday or work in, that country or region. Information can be obtained from the Foreign Office [web site](#).

## 9.7 Practicals

There are many laboratories in the Geography Department. Our main teaching lab houses the Munro Fox Laboratory Building. Most group practicals will be held here and close attention should be given to any health and safety instructions provided by supervising staff. For any independent work in laboratories a laboratory induction is required prior to any work commencing. **You should not commence work until you have signed the necessary paperwork with the supervising technician.**

**A laboratory is a potentially dangerous area** as it contains many risk materials, e.g. acids, alkalis, gases, flammables, electrical and many other hazards. Great care must be taken by all who use these facilities and the rules must be complied with: Anyone failing to comply with the rules will be asked to leave the laboratory to prevent them causing harm to themselves and others.

- Always wash your hands before leaving the laboratory, for any reason.
- Never try to repair broken equipment yourself - ask a member of staff. If you attempt to carry out a repair you could do more damage and/or hurt yourself.
- Do not sit on laboratory benches - you never know what you may be sitting on.
- Make sure to clean and tidy your work area before leaving the laboratory.
- Put all rubbish in the bins, as labelled.
- Food and drink must not be consumed in, or even brought into, any laboratory.

### General Laboratory Guidelines

**Supervision.** A student may use laboratory facilities in the Department ONLY under the direct supervision of one of the members of staff, who should be present in person. Any lone working must be approved by the Lab Manager.

**Independent Project Work** must be approved beforehand by the member of academic staff responsible for the appropriate course.

**Accidents.** Relevant emergency action is displayed in each laboratory. Before starting work, you should make sure you know the precise location of:

- Fire extinguishers and blankets
- First aid kit
- Spill kit

### Chemical laboratories:

**Protective clothing.** Laboratory coats must be worn at all times. Safety glasses and gloves, supplied by the department, must be worn when indicated, and long hair tied back. These will be supplied by the Department. Open toed shoes and shorts are not permitted in labs.

**Chemicals.** All users **MUST** wear eye protection and disposable gloves and pay close attention to any instructions given by staff. Extremely dangerous chemicals must not be handled by students.

**CoSHH Forms** must be read and signed before using any chemical.

**Lone working** is not permitted for undergraduate students. Postgraduate students must be trained and show that they are competent before being allowed to work alone and without supervision.

**Other hazards.** Laboratory apparatus can also be dangerous if used improperly. Do not tamper with anything unless specifically authorised and instructed in operating procedures.

**Overnight use.** Some types of equipment are designed to run unattended overnight. Such use must be authorised by a staff member beforehand, and appropriately labelled with name and contact number.

**Breakages and spills.** Major spills should be reported immediately to supervising staff. Switch off all electrical equipment - at the equipment first - in the affected area. Do not attempt to switch off at the mains if overheating or smoking is taking place. If acids or solvents are involved, evacuate the

laboratory. Please report all breakages and defective or leaking containers to supervising staff immediately.

**Samples.** All samples should be labelled with your name, your supervisors/advisor's name, site location and what they are. Similarly, any chemical solutions made up as part of a set of analyses should be labelled with what they are, their concentration, and date of mixing. Any unlabelled samples or solutions are a hazard as it will not be clear to anybody else what these are.

### Non-Chemical Laboratories:

These laboratories contain very expensive equipment. While the general rules apply, do not move the equipment for any reason whatsoever. If this needs to be done, ask a member of staff. Do not attempt to repair, modify, or carry out maintenance on any piece of equipment.

Make sure that any equipment that you have used is switched off (using the correct shutting-down procedure) before leaving the laboratory (unless it is marked that it should be left on). Always switch equipment off at the machine first, then the electrical supply.

### Radiation Laboratories:

Students needing to use the Geochronology Laboratory must receive training and authorisation from the supervising staff member for that Laboratory or the Laboratory Manager.

## 10 Module Information

### 10.1 GG5291 Key Concepts in Past and Current Climate Change

#### Staff

Dr Ian Matthews (coordinator), CQR staff

#### Aims

The module aims to provide a comprehensive introduction to the different climatic drivers, archives and proxies. It will provide an overview of Quaternary climate forcing factors (both internal and external), events, cycles and thresholds, illustrated with a range of case studies.

#### Content

##### Topic 1: Drivers of long term and contemporary climate changes.

Overview of the structure of the Quaternary, characteristics, key terms; Onset of global cooling, potential causes for the onset of the Quaternary; Ice Age cycles, ideas of Orbital Forcing, the proxy record of Ice Age cycles in the benthic  $^{18}\text{O}$  record; The proxy record of Ice Age cycles in the ice core record; amplification of the orbital signal (albedo, dust and greenhouse gases); Abrupt climate change during the last Glacial; Heinrich events, D/O cycles and the Bi-Polar see-saw; proxy records of abrupt change and their correlation; Abrupt and short-term climate change during the Holocene; key events and their causes (8.2ka, Medieval Warm Period, Little Ice Age); response of ecosystems and landscapes.

##### Topic 2: Contemporary climate change and the future

An overview of abrupt climatic changes, instrumental and recent proxy data alongside a discussion about future climate change scenarios.

#### Teaching format

The module is based upon lectures and class discussion.

#### Assessment

Coursework accounts for 100% of the marks: 3000 word essay in the style of a UKRI-quality grant proposal, on a choice of palaeoclimatological topics.

#### Learning outcomes

By the end of this module, students should:

- Understand the nature and process of climate forcing factors during the Quaternary, including external (e.g. tectonics, orbital forcing, solar) and internal (e.g. ocean circulation, ice sheets, greenhouse gases) factors.

- Appreciate the archives available to provide Quaternary palaeoclimate records, particularly ocean and ice cores.
- Have an overview of Quaternary climate thresholds, cycles and events (e.g. onset of Northern Hemisphere glaciation, Mid-Pleistocene Revolution, Glacial-Interglacial cycles, Dansgaard-Oeschger cycles, Heinrich events, ENSO, NAO)
- Understand the physical expression of Quaternary palaeoclimate through a range of case studies

#### Assessment goals

The degree to which students have successfully attained these learning outcomes is evaluated:

- Directly through the coursework essay
- Indirectly through the dissertations which may benefit from an appreciation of the specific techniques and palaeoclimatic principles covered in the module

#### Promotion of transferable skills

Group discussion promotes evaluation and critique of published information. The coursework encourages the assimilation, summary and interpretation of palaeoclimatic datasets, requiring considerable organisation and presentation skills. The style of a UKRI grant proposal for the assignment promotes skills in designing and costing a research grant.

## 10.2 GG5201 Key Records of Past and Current Climate Change

### Staff

Professor Ian Candy & other CQR staff

### Aims

Learning Objectives:

This course aims to make students aware of how Quaternary sequences, the records that are used to reconstruct palaeoenvironmental and palaeoclimatic change, accumulate and the problems of linking them together in a stratigraphic record to produce long-climatic records. The students will be introduced to theoretical principles of sedimentology and stratigraphy, based around a discussion of sediment deposition and accumulation in different environments and the techniques that can be used to correlate deposits together. A strong emphasis is placed on understanding the strengths and weaknesses of such approaches. This will be supported by practical experience of sedimentological and stratigraphical fieldwork in various locations within the British Isles. The students will have the opportunity to develop key skills such as laboratory analysis and presentation skills.

Learning Outcomes:

- Understand the processes that lead to the accumulation of sediment sequences
- Identify the strengths and limitations of sediments sequences as archives of palaeoenvironmental change
- Develop skills in recording sediment characteristics in both laboratory and field contexts
- To be able to explain the main techniques that are commonly used to construct terrestrial stratigraphies
- To develop key skills in presenting and describing scientific data

### Teaching format

The module is based upon lectures, field trips, practicals and class discussion.

### Assessment

Coursework accounts for 100% of the marks on the module. You will be required to produce a 3000 word report based on field and laboratory work completed in the module.

### Learning outcomes

By the end of this module, students should:

- Understand the processes that lead to the accumulation of sediment sequences
- Identify the strengths and limitations of sediment sequences as archives of palaeoenvironmental change
- Develop skills in recording sediment characteristics and attributes in the field
- Be able to explain the main techniques that are commonly used to construct stratigraphies
- Develop key skills in presenting and describing scientific data

### Assessment goals

The degree to which students have successfully attained these learning outcomes is evaluated:

- Directly through the coursework essay
- Indirectly through the dissertations which may benefit from an appreciation of the specific techniques and sedimentological/stratigraphical principles covered in the module

### Promotion of transferable skills

Group discussion promotes evaluation and critique of published information. The fieldwork encourages observational and descriptive skills. The coursework encourages the assimilation, summary and interpretation of sedimentological and stratigraphical datasets, requiring considerable organisation and presentation skills, in particular of stratigraphical logs.

## 10.3 GG5232 Biological Responses to Climate Change

### Staff

Professor Danielle Schreve and Dr Alice Milner

### Aims

This module will focus on equipping students with the knowledge, skills, and tools necessary to understand how palaeoecology can be used to study the responses of biological systems to environmental change, and to use this knowledge to support the conservation and management of these systems in the face of ongoing climate change and other human pressures. Learning objectives Progress will be measured by engagement and participation in individual sessions. 1. Understanding the basics of palaeoecology, including how it can be used to study the historical responses of biological systems to environmental changes. 2. Developing proficiency in using palaeoecological techniques and data to interpret the response of different biological systems to climatic change and human pressures. 3. Learning about the different types of environmental changes that can affect biological systems, including changes in temperature, precipitation, and land use. 4. Developing critical thinking skills to evaluate the implications of environmental changes for different biological systems and to identify potential conservation and management strategies. 5. Gaining an appreciation for the importance of palaeoecological research in informing our understanding of how biological systems respond to environmental changes and in supporting evidence-based decision-making.

### Teaching format

The module is based upon lectures, practical exercises and class discussion.

### Assessment

Coursework accounts for 100% of the marks on the module: a 3000 word course paper, reporting results of analysis of a palaeoecological data-set.

### Learning outcomes

By the end of this module, students should:

- Have an up-to-date overview of key methods used in Quaternary palaeoecology and chronology
- Have experience of how these approaches are combined to generate integrated models of environmental change
- Be able to judge which methods have the highest potential and reliability in different geographical, stratigraphical and site contexts
- Understand how palaeodata may be used to inform current and future management strategies.

### Assessment goals

The degree to which students have successfully attained these learning outcomes is evaluated:

- Directly through the coursework essay
- Indirectly through the dissertations which may benefit from an appreciation of the specific techniques and palaeoecological and geochronological principles covered in the module

### Promotion of transferable skills

Group discussion promotes evaluation and critique of published information. The laboratory work encourages observational and descriptive skills. The coursework encourages the assimilation, summary and interpretation of palaeoecological datasets, requiring considerable organisation and presentation skills.

## 10.4 GG5293 Climate Data Analysis and Communication

### Staff

Dr Ian Matthews and Dr Alice Milner.

### Aims

This module focuses on equipping students with the knowledge, skills, and techniques necessary to understand and communicate climate data effectively, in order to support informed decision-making and public engagement on climate issues. It develops students' transferrable skills in data analysis, visualisation and communication to varied audiences (scientists, policy, public) via practical sessions, presentations and the assessment (data visualisation and press release summary). Week 1 introduces sources of climate and environmental data. Weeks 2 – 6 focus on analysing, plotting and visualising different forms of climate and environmental data. Week 7 – 10 focusses on communicating and presenting scientific data to varied audiences, including understanding how science is used to inform environmental policy and practice decisions. Learning Outcomes: 1. Understanding the basics of climate science, including the key drivers of climate change and the impact of human activities on the Earth's climate. 2. Developing proficiency in using data analysis techniques and tools to interpret and communicate climate data effectively. 3. Learning how to communicate complex climate data to different audiences, using visualizations, graphics, and other forms of media. 4. Developing critical thinking skills to evaluate the credibility of different sources of climate data and to identify potential biases or limitations. 5. Gaining an appreciation for the importance of accurate and reliable climate data in informing policy decisions and public understanding of climate change.

### Teaching format

The module is based upon lectures, laboratory and computer practicals.

### Assessment

The student will be guided to choose and summarise some key climatic and environmental data to present in one or two figures (maximum). The summary needs to be written in the style of a press release and should be no longer than **300 words**. Supporting the submission, the student will supply a rationale for the choice of data (e.g. public or policy relevance, timeliness of the issue), the analysis and visualisation steps, and the code and files used to generate the figures (**max 2000 words**). The student will be given examples of effective data visualisation in climate and environmental science as a guide. Coursework accounts for 100% of the marks on the module:

### Learning outcomes

By the end of the module, students should:

- Be familiar with essential data collection and manipulation techniques;
- Be able to acquire and manipulate palaeoclimate data in R;
- Be proficient in presentational skills;
- Be proficient in the use of graphics for Quaternary sediment logs and other purposes
- Be able to communicate results academic and non-academic audiences.
- Be able to maximise employment or further research potential through acquisition of specific and transferrable skills

### Assessment goals

The degree to which students have successfully attained these learning outcomes is evaluated:

- Directly through the assessed summative element

### Promotion of transferable skills

The module provides experience and skills in relevant information-based technology. Skills in graphics, data science, science communication, and design also form an integral part of this module.

## 10.5 GG5237 Geospatial and Temporal Data Science

### Staff

Prof. Simon Armitage, Prof. Simon Blockley, and Dr Varyl Thorndycraft.

### Aims

The aim of this module is to introduce students to state-of-the-art geospatial and geochronological techniques that underpin understanding of the timing of past climate changes. Students will be equipped with a theoretical grounding in key geospatial and geochronological techniques and an overview of key illustrative case studies of their application. In the Geospatial Data section students will learn how large area geomorphological mapping underpins our current understanding of how landscapes, such as previously glaciated terrains, have responded to past climate change. A theoretical grounding will be provided on the use of rasters, vectors and data attributes in GIS. Students will gain practical GIS experience in handling Digital Terrain Models; large area landform datasets, geochronological databases and geomorphological mapping. Students will move from learning practical GIS skills to using geospatial analysis to critically evaluate landform and geochronological data. Experience in data visualisation will be provided through learning cartographic map design skills in GIS. In the Temporal Data section students will learn the role of geochronology within state-of-the-art Quaternary Science and geomorphic research, becoming familiar with the application of the main techniques used within these disciplines. A detailed theoretical examination of three techniques: luminescence dating; radiocarbon dating and tephrochronology, will be used to exemplify the strengths and weaknesses of individual dating methods. In each case students will gain experience in the evaluation, manipulation and interpretation of chronological data via computer practicals. The course concludes with students learning to integrate multiple lines of chronological information into a single chronology using Bayesian age modelling.

### Teaching format

The module is based upon lectures, laboratory and computer practicals.

### Assessment

The student will complete **two** elements of assessment. Element one consists of a map and critical commentary (**50%, maximum 1000 words**). Element two will be the write up of a Bayesian age modelling practical and additional critical commentary (50%, maximum 2000 words). Coursework accounts for 100% of the marks on the module:

### Learning outcomes

- Critically evaluate how geomorphological mapping and geospatial analyses can underpin our understanding of landscape response to past climate change;
- Apply a range of geospatial techniques using GIS software to interrogate landform and geochronology databases
- Determine the most appropriate chronological technique(s) for research questions in geomorphology and Quaternary Science
- Integrate multiple lines of geochronological evidence using Bayesian age modelling
- Assess the robustness of published age models

### Assessment goals

The degree to which students have successfully attained these learning outcomes is evaluated:

- Directly through the assessed summative element

### Promotion of transferable skills

The module provides experience and skills in relevant information-based technology. Skills in graphics, data science, and chronological techniques also form an integral part of this module.

## 10.6 GG5237 Landscape Dynamics and Hazards

### Staff

Prof. Ian Candy, Dr Christopher Satow, Dr Adrian Palmer and CQR staff.

### Aims

The Landscape Dynamics and Hazards module will provide an in depth understanding of how surface processes and landscapes respond to climate change. The module will illustrate this by using a range of process types (glaciers, rivers, drylands and volcanoes) from the Quaternary period (last 2.6 million years) and examining the response of these processes to climate change on a range of time scales (from millennia, through centuries to decades). The final part of the module will take these concepts and use them to inform our understanding of how processes may respond to future climate change and establish the importance, and the skills, necessary to convey these ideas to policymakers and stakeholders. The module will build on foundational principles where key concepts in the relationship between climate and surface processes are discussed then each week will develop these ideas by looking at the response of different process types to climate change in a range of latitudes over a range of timescales. The course will finish by discussing how these ideas can be used to understand the impact of future climate change. The course will be assessed through authentic/experiential assessment types that replicate work that graduates from the course may typically encounter in their careers.

### Teaching format

The module is based upon lectures, seminars, discussion, laboratory and computer practicals.

### Assessment

The student will complete **two** elements of assessment. Element one consists of a map and critical commentary (**50%, maximum 1000 words**). Element two will be the write up of a Bayesian age modelling practical and additional critical commentary (50%, maximum 2000 words). Coursework accounts for 100% of the marks on the module:

### Learning outcomes

- Understand how landscape processes, and the hazards that they present, are controlled by climate and climate change;
- Assess how different components of the landscape respond to climate change on a range of timescales (from millennia through centuries to decades);
- Evaluate the significance of current models outputs of future climate change to landscape processes and hazards across the 21st century and beyond;
- Develop skills in the communication of the ideas and concepts covered in this course to policy makers and stakeholders

### Assessment goals

The degree to which students have successfully attained these learning outcomes is evaluated:

- Directly through the assessed summative element

### Promotion of transferable skills

The module provides experience and skills in Understanding long term hazard risk in a changing climate.

## 10.7 GG5230 Scotland Field Training Programme

### Staff

Dr Adrian Palmer and Dr Ian Matthews

### Aims

This field module (currently based in the Western Highlands of Scotland) aims provides students with a sustained period in the field to gain in-depth experience of a range of field methods, including landform mapping, instrumental surveying, sub-surface coring, stratigraphic logging and applied numerical modelling. It also has been designed to bring together all of the relevant elements and approaches that the students have studied in the Core and Option modules. During the field module, these different threads are all brought to bear on a particular time period and landscape context, and a core theme. The theme is the extent, timing,

rate and causes of the growth and demise of the last glaciers to occupy the Western Highlands of Scotland. It is scheduled just before the date when students are required to select project topics for the dissertation element of the degree programme, and therefore provides instruction relevant to project design, execution and presentation. It therefore provides a bridge between the taught module in Terms 1 and 2, and the Dissertation (individual project) of Term 3.

### Content

Two preparatory days are provided in advance of departure to Scotland, to set the regional and scientific context, explain the structure, aims and content of the module, and introduce the students to the literature available. The field module itself is structured as follows:

The first six days of the module introduce the students to the local landscape and key geological features, to existing theory and understanding, and to the outstanding questions that remain to be answered, particularly concerning the extent, timing and causes of the last glacier ice masses to have occupied the Scottish Highlands. The party visits different locations throughout the Highlands, the students are shown important elements of the field evidence, and are required to keep notes of their observations and of the field discussions. In the evenings, staff lead discussions on the evidence covered each day, invite questions, and provide a steer towards current gaps in knowledge. Data projectors are available for this purpose.

Day 7: The students are then given a full day to review the information gathered during the first six days, and to design their own team projects that address some of the key issues raised in earlier discussions. The project proposals are reviewed by the staff on the evening of Day 7, and equipment lists and other logistical requirements are agreed with each project team.

Days 8 and 9 are devoted to execution of the team projects, with the results and observations reviewed each evening. Students are encouraged to photograph the features they observe, the field methods employed, and any particularly problematic elements encountered, and in the evenings these can be shown to peers and staff, allowing the emerging evidence and project progress to be reviewed.

Day 10 is completed at RHUL and is student-led. In the morning each team co-ordinates their project results and prepares a PowerPoint presentation explaining the project's aims, methods, results and scientific implications. In the afternoon, a mock-conference session is held, during which each team presents their project results within predetermined time limits. Each presentation is followed by questions and discussion.

**Please note that in any given year, practical considerations may require a modification of the timetable outlined above.**

### Assessment

(a) A summative 4000 word Field Project Report, explaining the aims, methods, results and outcomes of the field project completed, with a 500-word appendix explaining the individual student's contribution to the project (100% of marks).

### Learning outcomes

By the end of the module, students should be able to:

- Plan and conduct field-based investigations that address key, modern research questions in Quaternary Science.
- Develop the optimal design strategies for field-based experiments, including the development of substantive aims and objectives for a project.
- Work as a team for the integration of linked field investigations and data synthesis
- Visualize field-based experimental results and evaluate their significance

The course also provides students with hands-on experience of a range of field equipment and illustrates the full module of progressive stages in field-based research, from conceptualising a problem, through experimental design, to delivery of results. The students will also have a much clearer idea of how the various topics taught in the Core and Option modules can be integrated for the reconstruction of relatively sophisticated palaeoenvironmental models.

### Assessment goals

The degree to which students have successfully attained these learning outcomes is evaluated:

- Directly through the field report
- Directly through a series of field and practical exercises on the fieldtrip
- Directly through the presentations
- Indirectly through the choice, design, content and execution of the research project

### Promotion of transferable skills

The module provides experience and skills in participating in field research and planning of field-based analyses. Fieldwork encourages individual observational and descriptive skills. Teamwork skills are developed through group co-operation for data synthesis and analysis. Students also present talks under conference-type formal proceedings, which fosters communication skills and promotes abilities in synthesizing information.

## 11 MSc Quaternary Science Dissertation

### 11.1 Overview

A dissertation forms an integral, assessed component of the MSc degree programme. This should report the results of an original piece of research that includes fieldwork and/or laboratory analyses on a topic relevant to the MSc programme syllabus. Dissertations must be submitted in electronic form via Turnitin.

#### Learning outcomes of the dissertation

By the end of the dissertation, students should be able:

- To plan, design and execute an advanced and rigorous piece of Quaternary Science research
- To undertake effective fieldwork/laboratory/desk-based analysis with due regard for safety and risk assessment
- To collect, combine, present, analyse and interpret different types of Quaternary Science data

#### Assessment goals

The degree to which students have successfully attained these learning outcomes is evaluated:

- Directly through the dissertation

#### Promotion of transferable skills

The dissertation develops a range of transferable skills including time management, problem solving, presentation, writing and critical analysis.

Formal requirements for the preparation and submission of the dissertation are outlined in Section 7. Section 8 outlines the dissertation marking guidelines and grade descriptors. Section 9 lists a selection of the topics chosen by students registered for the degree programme in recent years; this will give an indication of the wide range of topics and techniques available.

#### Dissertations should include:

- (i) a clear statement and explanation of the problem being examined;
- (ii) relevant background information, including a concise literature review and evaluation of proposed methodology;
- (iii) details of the data collected and the various analyses carried out;
- (iv) interpretation of results;
- (v) discussion of the wider context and relevance of the results;
- (vi) conclusion(s).

The written text should be supplemented by appropriate tables, maps, diagrams, photographs and other illustrative material. The dissertation should not exceed 10,000 words in the main text. This excludes the abstract, acknowledgements, title page, contents page, list of figures and tables, figure and table captions and the bibliography.

### 11.2 Choice of dissertation topic

Students are free to design their own research project, but may also choose to work on a project suggested by members of CQR staff. Potential dissertation topics that staff members are interested in supervising will be circulated after the Glen Roy Field Trip.

### 11.3 The dissertation supervisor

Your department will assign you a dissertation supervisor who will oversee your work. In most cases students are happy with the supervisory relationship. However, there are occasions where for some reason the supervisory relationship does not work and breaks down. If this happens, you should speak as soon as possible with the Course Director or your Personal Tutor to see whether the problem can be resolved informally, e.g. through mediation, changing supervisor. You should not wait until after you have received your final degree results to raise the matter as it is very difficult for the University to resolve such matters or take remedial action at that point.

Supervisors will provide guidance on appropriate techniques and approaches. During the summer vacation, there is no formally scheduled contact with supervisors during this period, although it is expected that students will consult them as appropriate to discuss progress of their research and writing.

Supervisors are, however, **NOT permitted** to comment on draft chapters of the dissertation beyond a short (less than 1000 words) report of progress, which should be submitted in writing to your supervisor in mid-July **unless** alternative arrangements have been made (such as a workshop, or personal meeting for oral report on progress).

#### 11.4 Dissertation archive

Past dissertations (grade at 65% and above) may be viewed on the MSc Quaternary Science dissertation archive, under 'Information for Current Students -> Postgraduate'. University log-in is required. Dissertation titles are provided in Appendix C.

<https://intranet.royalholloway.ac.uk/account/login.aspx?ReturnURL=http%3a%2f%2fwww.rhul.ac.uk%2fgeography%2fdissertations%2fhome.aspx>

#### 11.5 Dissertation proposal forms

Shortly after the Easter field course, a **draft dissertation proposal form** (found on the Geography PGT moodle page), counter-signed by the prospective supervisor, must be submitted to the director of the course. The proposal should include as full as possible an account of the main research aims, methodology, location of field or lab work and any budgetary considerations (e.g. costs of running particular analyses and how these will be financed).

In early May, each student will make a ten minute dissertation proposal oral presentation (followed by questions) of their dissertation project in front of staff and postgraduates, at which staff will give feedback to improve the proposals. **Final dissertation proposals**, taking into account this feedback should be approved by a supervisor.

**Students who have not submitted their research proposal will not be allowed to proceed to do their fieldwork and dissertation.** Approval of the research proposal is required before candidates are permitted to start field or laboratory work for the main research. The supervisor will then proceed, with the student, to complete the Departmental risk assessment forms.

#### 11.6 Ethical approval

All MSc students must apply for ethical approval for their dissertation using the online form:

<https://intranet.royalholloway.ac.uk/geography/documents/doc/currentstudents/geography-department-ethics-form.docx>

This form should be completed electronically. Hand-written forms will not be accepted. If you have any queries, please contact the Chair of the Departmental Ethics Committee. Email: [geographyethics@rhul.ac.uk](mailto:geographyethics@rhul.ac.uk)

#### 11.7 Field equipment request and risk assessment forms

Students wishing to undertake fieldwork as part of their dissertation should:

- Complete a fieldwork risk assessment:  
<https://intranet.royalholloway.ac.uk/geography/currentstudents/departmentalhsforstudents/departmentalhsforstudents.aspx>
- Complete a field equipment request form:  
(<https://intranet.royalholloway.ac.uk/geography/documents/pdf/currentstudents/fieldtrip/field-equipment-request-form.pdf>)

#### 11.8 Submission of dissertation title

Titles of dissertations in their final form must be submitted to the Course Director by email by the deadline indicated in the module outline table.

#### 11.9 Submission Details

- You must submit the thesis to Turnitin by the given deadline. This should be a single file.
- You should also complete and include the '**Declaration of Work**' form, which will be provided.

## 11.10 Content of dissertation

Dissertations must conform to the following layout unless alternative arrangements have been given prior approval by the Programme Director.

### Written Report

- (a) Dissertations should not be more than 10,000 words in length. You are advised that conciseness is a desirable quality in producing a scientific report and your ability to write concisely will be assessed. A report in excess of 10,000 words will be subject to the penalties outlined in University Postgraduate Taught Degree Regulations.
- (b) Page sizes for the dissertation are to be A4
- (c) Dissertations must be typed, using font size 12, preferably in Arial and line spacing 1.5 (single spacing may be used in figure captions, tables, headings and list of references, and also in appendices)
- (d) The title page of the dissertation should state the following:-
  - i. The title of the dissertation in capitals centrally placed.
  - ii. Centrally placed below the title, the author's name and initials.
  - iii. Towards the bottom of the page in smaller font, the words
  - iv. *"submitted as an integral part of the Masters of Science Degree in Quaternary Science, Royal Holloway, University of London. This report presents the results of original research undertaken by the author and none of the results, illustrations or text are based on the published or unpublished work of others, except where specified and acknowledged. This text does not exceed the 10,000-word limit, being...words in length (excluding bibliography, appendices and illustrations)".* (insert relevant word count).
  - v. At the bottom of the page, right-hand side, the date of submission and the candidate's signature.
- (e) The form and the sequence of the dissertation should be as follows:-
  - i. Title page
  - ii. Abstract (300 words maximum)
  - iii. Acknowledgements: outline all help you have received, and where you have used data provided by another party.
  - iv. Table of Contents
  - v. List of tables
  - vi. List of figures and maps
  - vii. Introduction/introductory chapters, outlining the scientific problem and approach, research aims and objectives, with (where appropriate) a concise literature review and a critical evaluation of the proposed methodology
  - viii. The main body of the dissertation, suitably arranged in parts, sections or chapters. This section should cover matters such as site descriptions, laboratory analyses, interpretations of results.
  - ix. Discussion, setting the results in the wider context and emphasising critical comparisons
  - x. Conclusion, concisely restating the findings and indicating the advances the work has made and its scientific relevance
  - xi. Bibliography, conforming to the style of presentation in *Journal of Quaternary Science* (title of journals and books must be in full).
  - xii. Appendix/appendices
- (f) Only **one side of a sheet** should be used for text or illustrative material (i.e. print single-sided).

To allow for binding, the left margin should be 3.5 cm and a 2.5 cm right margin is recommended. All pages must be numbered.

### 11.11 Presentation of figures

Figures (including maps) should be clear and produced to a publishable standard. Normally this will involve production using a graphics package (eg. Adobe Illustrator) but hand-drawn is acceptable. Allowance for margins should be as described above. Maps or diagrams larger than A4 should be avoided if possible, and kept to a minimum where essential.

Descriptive, clearly worded legends should accompany all the maps, diagrams, figures, tables and plates, and the source(s) must be cited always. Captions should be typed at the base of the figure (not on figures) in the fashion adopted by major science journals.

### 11.12 Referencing

Referencing should follow guidelines as set out in Appendix A

Referencing within the dissertation should conform to the Harvard System, ie. references in the text should give the surname of the author and the year of publication in brackets, for example, Collins (1970) or (Smith & Jones, 2001), followed by a, b, etc. when two or more references to work by one author are given for the same year - e.g. (Harris, 1996c). Page numbers should be given for quotes, for example, (Collins, 1970: 42). At the end of the text the references should be listed in a single bibliographical list, in alphabetical order of authors' names and in chronological order for each author.

### 11.13 Appendices

Any raw data should be summarised and included in tabulated form in the main body of the thesis. Raw data in full should be included as an appendix to the thesis, either as printed forms, memory stick of data, or via an online repository. Royal Holloway subscribes to figshare where data can be kept and made accessible.

Information on how to use figshare is provided via the following link:

<https://intranet.royalholloway.ac.uk/staff/tools-and-links/the-library/research-support/research-data-management/tools/figshare-for-institutions.aspx>.

### 11.14 Word count

The dissertation must not exceed 10,000 words. Please refer to the PGT Regulations for information on over-length penalties. In addition to the text, the word count should include quotations and footnotes.

Please note that the following are excluded from the word count: candidate number, title, module title, preliminary pages (including abstract and acknowledgements), table of contents, illustrations, bibliography and appendices.

You should not use tables for large bodies of text. Tables should only be used for the presentation of data. Your abstract should be no longer than 300 words.

## 12 MSc Quaternary Science Marking Criteria

### 12.1 Coursework essays and reports

Class		%	Grade description for Coursework essays and reports	Marking criteria	
Distinction	High	100	Deep understanding; near-comprehensive knowledge; significant originality in interpretation or analysis; coherent structure (may show significant innovation in organisation); intensive, detailed and critical reading with independent reading beyond reading lists; excellent presentation; referencing and bibliography of publishable standard; incisive and fluent style with no or very minor errors of spelling, punctuation or grammar; high levels of ability in analysis of quantitative or qualitative information (where appropriate) <b>Worthy of retention for future reference in teaching or research.</b>	An exemplary piece of work	
		98		Outstanding performance in most criteria 1-7	
		95			
		92			
	Mid	88	Deep understanding; very detailed knowledge; substantial originality in interpretation or analysis; coherent structure (may show some innovation in organisational form); in-depth and detailed reading (with either independent reading beyond any reading list given or intensive, detailed and critical reading of suggested material); excellent presentation; referencing and bibliography of publishable standard; incisive and fluent style with no of very minor errors of spelling, punctuation or grammar; high levels of ability in analysis of quantitative or qualitative information (where appropriate).	Evidence of excellence in most criteria 1-7	
		85			
		82			
	Low	78	Deep understanding; detailed knowledge; may show some originality in interpretation or analysis; coherent structure (may show some innovation in organisational form); in-depth reading (with either independent reading beyond any reading list given or intensive, detailed and critical reading of suggested material); excellent presentation; referencing and bibliography close to publishable standard; incisive and fluent style with no significant errors of spelling, punctuation or grammar; high levels of ability in analysis of quantitative or qualitative information (where appropriate).	Evidence of excellence in some criteria, particularly 1-4	
		75			
		72			
	Merit	High	68	Good understanding; wide-ranging knowledge; direct focus on subject; coherent structure; evidence of in-depth reading; well-presented with detailed referencing and properly-formatted bibliography; fluent style, few errors of spelling, punctuation or grammar, generally effective analysis of quantitative or qualitative information (where appropriate)	A good performance in most criteria 1-7
		Mid	65		A good performance in some criteria, particularly 1-3
Low		62	Does sufficiently well in criteria 1-4 to show evidence of good understanding		
Pass	High	58	Basic understanding and awareness of the main issues, concepts, underlying principles and of some key literature but lacking in-depth reading; maintains focus on question; satisfactory organisation and presentation but may have some errors of spelling, punctuation or grammar; familiarity with correct strategies for analysis of quantitative or qualitative data (where appropriate) but possibly with errors in process of analysis; analysis and/or synthesis not well developed	A good attempt but insufficient critical analysis (criteria 2-4) for a Merit	
	Mid	55		Usually an adequate performance in most criteria	
	Low	52		May be weaknesses but sufficient evidence of understanding for a pass	
<b>PASSMARK 50%</b>					
Condonable Fail	High	48	Some general understanding and knowledge; weakness in detail; may lack clear focus on the assignment; simple structure; content drawing exclusively on lecture material; no or very limited evidence of outside reading; significant weakness in presentation; little or no referencing; inadequate or missing bibliography; simple style; significant errors in grammar, spelling, and punctuation; familiarity with correct strategies for analysis of quantitative data, but significant errors in the process of analysis.	Likely to be a lack of focus on the assignment (criteria 1) with insufficient evidence in criteria 2-4 to merit a Pass	
	Mid	45		Weak performance in some criteria, particularly 1-4	
	Low	42	Limited general understanding; sketchy coverage, with some significant errors in factual details; lack of clear focus on question; poor structure, drawing exclusively on direct teaching, but with significant weaknesses; no evidence of further reading; poorly presented; little or no referencing; inadequate or absent bibliography; sketchy style; significant errors of spelling, punctuation or grammar; bare familiarity with correct strategies for analysis of quantitative data, with substantial errors in the process of analysis.	Likely to be weak in all criteria	

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Non-condonable Fail	35	No understanding of the subject; fails to address the topic in any meaningful way; information largely erroneous or has little or no relevance to the question; inadequate structure, with no sense of logical argument; no evidence of further reading; poorly presented; no referencing; inadequate or absent bibliography; inadequate style; significant errors of spelling, punctuation or grammar; significant confusion over appropriate analysis of quantitative data; analytical work incomplete and erroneous.	Criteria 1-4 not addressed to a satisfactory level.
	25	Work is unacceptable for the level. No understanding of the subject; fails to address the topic in any meaningful way; information erroneous or has no relevance to the topic; incomplete, fragmentary or chaotic structure; no evidence of further reading; poorly presented; no referencing; inadequate or absent bibliography; inadequate style; substantial errors of spelling, punctuation or grammar; substantial error and confusion over appropriate analysis of quantitative data; complete inability to analyse information.	Poor performance in most criteria
	15		Very poor performance in most criteria
	0		No work submitted within 24 hours of deadline

**Marking criteria for coursework essays and reports:**

1. Focus on the question/assignment
2. Level of critical understanding
3. Extent to which arguments are supported by further reading
4. Evidence of independent thought in argument or analysis
5. Appropriate bibliography and referencing style
6. Effective communication
7. Presentation of work

## 12.2 Web presentations

Class	%	Grade description for Website presentations	Marking criteria	
Distinction	High	100	An exceptionally effective presentation. Deep understanding of the task and topic; near-comprehensive knowledge; extremely clear structure, with ideas linked coherently; aims presented clearly and evidence of comprehensive research; intensive, detailed and critical use of literature; excellent use of language, structure and design, written with an incisive and fluent style; excellent and inventive use of limited space to communicate complex ideas; sophisticated understanding of audience and purpose; considerable novelty in construction and design; pages visually well balanced with appropriate font, size and use of colour; excellent use of illustrations; excellent functionality with links all working; perfectly pitched to promote public understanding of science (authoritative yet accessible); absence of jargon and/or comprehensive glossary provided. Excellent spelling and grammar; referencing and bibliography appropriate to the task (e.g. use of hyperlinks) and of an exemplary standard. <b>Produced to a professional standard</b>	An exemplary piece of work
		98		
		95		
		92		
	Mid	88	A highly effective presentation. Deep understanding of the task and topic; detailed knowledge; very clear insight into purpose; very clear structure, with ideas linked coherently; in-depth and critical reading of the literature or appropriate sources; language, structure and design of a very high standard; aims presented clearly and evidence of comprehensive research on show; clear insight into audience and their needs; may show novelty in construction and design; very high standards of visual presentation, pages very visually well-balanced with appropriate font, size and use of colour, limited space and words used effectively to communicate complex ideas; excellent use of illustrations; excellent functionality with links all working; ideally pitched to promote public understanding of science (authoritative yet accessible); absence of jargon or comprehensive glossary provided. Excellent spelling and grammar; referencing and bibliography appropriate to the task (e.g. use of hyperlinks) and of an exemplary standard. <b>Produced to an excellent and close to professional standard.</b>	Evidence of excellence in most criteria 1-7
		85		
		82		
	Low	78	An effective presentation. Deep understanding of the task and topic; detailed knowledge; very clear structure, with ideas linked coherently; aims presented clearly and evidence of comprehensive research on show; clear understanding of audience and their needs; limited space and words used to communicate complex ideas effectively; may show some novelty in construction and design; pages visually well-balanced with appropriate font, size and use of colour; very good use of illustrations; excellent functionality with links all working; very well pitched to promote public understanding of science (authoritative yet accessible); absence of jargon or comprehensive glossary provided. Website produced to a very high standard. Excellent spelling and grammar; referencing and bibliography appropriate to the task (e.g. use of hyperlinks) and of a high standard.	Evidence of excellence in some criteria, particularly 1-5
		75		
72				
Merit	High	A good presentation. Clear understanding of the task and topic; logical structure, with ideas mostly linked coherently; aims generally clear and research presented with a good level of detail; in-depth reading with evidence of critical analysis of literature and appropriate sources; clear identification of audience and shows clear understanding of their needs; pages visually well balanced with appropriate font, size and use of colour; good use of illustrations; good use of space and limited words to communicate complex ideas effectively; may be some minor errors in functionality of links; generally achieves objective of promoting public understanding of science but may occasionally lapse into jargon or be too simplistic in places. Good spelling and grammar; referencing and bibliography appropriate to the task.	A good performance in most criteria 1-7	
	Mid		A good performance in some criteria, particularly 1-4	
	Low		Does sufficiently well in criteria 1-5 to show evidence of good understanding	
Pass	High	An adequate but basic presentation. General understanding and knowledge of the task and topic; limited wider reading and writing is largely descriptive; limited awareness of wider debates; structure may be confused in places; simple statement of research aims; research findings presented adequately but may lack detail; some attempt to identify audience and identify their needs, but understanding of audience and purpose may not be clear; design is simple but presentation could be improved in terms of attractiveness and legibility; some useful illustrations; may be some minor errors in functionality of links; adequate attempt to promote public understanding of science but may lapse into jargon or be too simplistic in places. May be some errors in spelling or grammar, bibliography and referencing.	A good attempt but insufficient critical analysis (criteria 2-4) for a Merit	
	Mid		Usually an adequate performance in most criteria	
	Low		May be weaknesses but sufficient evidence of understanding for a pass	
PASSMARK 50%				

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Condonable Fail	High	48	A poor presentation. structure is confused, with no clear linkage of ideas; aims are present but not adequately defined; research is presented in cursory fashion or so jargon-heavy as to be of limited use to a non-specialist audience; limited attempt to identify audience and understand their needs; lacks a clear focus and understanding of the task; no or very limited wider reading and awareness of key debates; poor design with page layout jumbled, inappropriate use of fonts and colour; images poorly chosen, unclear, too many or too few; text may have significant errors of spelling, punctuation or grammar; overall functionality poor; makes little attempt to engage with wider public understanding of science	Likely to be a lack of focus on the assignment (criteria 1) with insufficient evidence in criteria 2-4 to merit a Pass
	Mid	45		Weak performance in some criteria, particularly 1-4
	Low	42		Likely to be weak in all criteria
Non-condonable Fail		35	An extremely poor presentation, making no attempt to engage with the task; very little understanding of the topic and the task; knowledge may contain significant errors; inadequate and/or illogical structure; aims absent; research findings presented in very cursory fashion or so jargon-heavy as to be completely ineffective to a non-specialist audience; no attempt to identify the audience and understand their needs; serious issues over functionality and technical flaws throughout; colour and illustrations absent or used to very poor effect; substantial errors of spelling, punctuation or grammar; no attempt to make pages accessible or interesting to a non-specialist audience	Criteria 1-4 not addressed to a satisfactory level.
		25		Poor performance in most criteria
		15		Very poor performance in most criteria
		0		No work submitted within 24 hours of deadline

#### Marking criteria for website presentations:

1. Focus on the question/assignment
2. Level of critical understanding
3. Effective communication including clarity, succinctness and appropriate language
4. Extent to which the text is supported by wider academic literature or appropriate sources
5. Awareness of wider debates and contexts, both in academic scholarship and beyond
6. Effective presentation and design of blog and posts
7. Appropriate referencing and bibliography style

## 12.3 Research proposals

Class		%	Grade description for GG5291 Palaeoclimatology research proposal	Marking criteria	
Distinction	High	100	Has the potential to make a significant and highly original contribution to Quaternary Science; professional level of understanding of the main issues, concepts, underlying principles and mastery of the relevant literature; significant originality in construction of main research aims; innovative materials and methods used to achieve research objectives; critical commentary on research design and methodology; incisive and fluent style; professionally presented with referencing and bibliography of publishable standard; no or very minor errors of spelling, punctuation or grammar; <b>no or very limited additional work required to bring to professional standards of research design.</b>	An exemplary piece of work	
		98		Outstanding performance in most criteria 1-7	
		95			
		92			
	Mid	88		Deep understanding of subject area; clear originality in construction of research aims; detailed scientific background and research rationale; clear statement of research aims and questions; materials and methods proposed ideally suited to achieving research objectives; critical commentary on research design and methodology; excellent and clear structure; in-depth and detailed critical reading; excellent presentation with referencing and bibliography of publishable standard; no or very minor errors of spelling, punctuation or grammar; <b>some additional work would be required to bring to professional standards of research design.</b>	Evidence of excellence in most criteria 1-7
		85			
		82			
	Low	78		Deep understanding of subject area; some originality in construction of research aims; detailed scientific background and research rationale; clear statement of research aims and questions; materials and methods proposed ideally suited to achieving research objectives; critical commentary on research design and methodology; coherent structure; in-depth reading; excellent presentation with referencing and bibliography of publishable standard; no or very minor errors of spelling, punctuation or grammar.	Evidence of excellence in some criteria, particularly 1-4
		75			
72					
Merit	High	68	Good understanding of subject area; appropriate research aims; good scientific background and research rationale; clear statement of research aims and questions; scientific objectives achievable using the materials and methods proposed; commentary on research design and methodology; coherent structure; in-depth reading; well-presented with referencing in acceptable style and properly-formatted bibliography; fluent style; few errors of spelling, punctuation or grammar	A good performance in most criteria 1-7	
	Mid	65		A good performance in some criteria, particularly 1-3	
	Low	62		Does sufficiently well in criteria 1-4 to show evidence of good understanding	
Pass	High	58	Basic understanding of subject area; simple or unoriginal research aims and questions; basic scientific background and research rationale, possibly containing minor factual errors; basic statement of research aims and questions; familiarity with appropriate materials and methods (some errors in application); basic account of methods; adequate structure; some evidence of reading; adequately presented, some referencing and short bibliography; straightforward style; some errors of spelling, punctuation or grammar	A good attempt but insufficient critical analysis (criteria 2-4) for a Merit	
	Mid	55		Usually an adequate performance in most criteria	
	Low	52		May be weaknesses but sufficient evidence of understanding for a pass	
PASSMARK 50%					
Condonable Fail	High	48	Limited understanding of subject area; confused or vague research aims or questions; limited scientific background and research rationale, possibly containing significant factual errors; vague statement of research aims and questions; very general familiarity with appropriate techniques (significant errors in application); simple account of methods; very limited further reading; significant weaknesses in presentation; little or no referencing and an inadequate or absent bibliography; simple style; significant errors of spelling, punctuation or grammar.	Likely to be a lack of focus on the assignment (criteria 1) with insufficient evidence in criteria 2-4 to merit a Pass	
	Mid	45		Weak performance in some criteria, particularly 1-4	
	Low	42	Very limited understanding of subject area; confused or vague research aims or questions; very limited scientific background; research rationale entirely unoriginal or based upon significant misunderstandings; no statement of research aims or questions; bare familiarity with appropriate techniques (substantial errors in application); vague or confused discussion of methods; sketchy structure; no further reading; poorly presented; little or no referencing and an inadequate or absent bibliography; sketchy style; significant errors of spelling, punctuation or grammar.	Likely to be weak in all criteria	

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Non-condonable Fail	35	No understanding of subject area; no clear research aims or questions; no or largely erroneous scientific background and research rationale; serious confusion over techniques; no serious discussion of methods; inadequate structure; no further reading; poorly presented, with no referencing of sources and an inadequate or absent bibliography; inadequate style; significant errors of spelling, punctuation or grammar.	Criteria 1-4 not addressed to a satisfactory level.
	25	No understanding of subject area; no clear research aims or questions; no or entirely erroneous scientific background and research rationale; techniques inappropriate; inadequate structure — fragmentary; incoherent or incomplete; no further reading; poorly presented, with no referencing of sources and an inadequate or absent bibliography; inadequate style; substantial errors of spelling, punctuation or grammar.	Poor performance in most criteria
	15		Very poor performance in most criteria
	0		No work submitted within 24 hours of deadline

**Marking criteria for research proposal:**

1. Clear research design: clear research aims, appropriate methodology
2. Justification for original fieldwork or other independent research
3. Use of appropriate analytical methods
4. Analysis and engagement with wider literature on the topic
5. Structure and presentation of the work
6. Appropriate bibliography and referencing style
7. Effective communication

## 12.4 Poster presentations

Class		%	Grade description for Poster presentations	Marking criteria
Distinction	High	100	The aim of the poster is very apparent from immediate impressions; there is considerable originality in the formatting of the poster and exceptional and effective presentation of complex themes; excellent summary of main ideas demonstrating deep awareness of key debates; significant evidence of further reading, with well synthesised supporting information; text excellently presented, quantity and font size extremely effective; clear, relevant illustrations that enhance purpose and interest of poster through synthesis of large datasets and/or ideas ; excellent spelling and grammar; fluent style; innovative poster design, allows rapid communication of message; very neat and presentable; good source of further information and excellently presented bibliography. <b>Poster produced to first-rate conference poster session standard.</b>	An exemplary piece of work
		98		Outstanding performance in most criteria 1-7
		95		
		92		
	Mid	88	The aim of the poster is immediately apparent; excellent summary of main ideas demonstrating deep awareness of key debates; significant evidence of further reading, with well synthesised supporting information; text excellently presented, quantity and font size extremely effective; clear, relevant illustrations that enhance purpose and interest of poster through synthesis of large datasets and/or ideas ; excellent spelling and grammar; fluent style; innovative poster design, allows rapid communication of message; very neat and presentable; good source of further information and excellently presented bibliography. <b>Poster presented to high quality conference poster session standard.</b>	Evidence of excellence in most criteria 1-7
		85		
		82		
	Low	78	The aim of the poster is very apparent from immediate impressions; excellent summary of main ideas demonstrating deep awareness of key debates; significant evidence of further reading, with well synthesised supporting information; text excellently presented, quantity and font size very effective; clear, relevant illustrations that enhance purpose and interest of poster through synthesis of large datasets and/or ideas; excellent spelling and grammar; fluent style; innovative poster design, allows rapid communication of message; very neat and presentable; good source of further information and excellently presented bibliography. <b>Poster presented to conference poster session standard.</b>	Evidence of excellence in some criteria, particularly 1-4
		75		
		72		
Merit	High	68	The aim of the poster is very clear; provides a good summary of main ideas demonstrating awareness of key debates; evidence of further reading, with good supporting information given; text well presented, quantity and font size effective; clear, relevant illustrations that add to purpose and interest of poster and provide a synthesis of key data or ideas; good spelling, grammar and written style; very good poster design, allows communication of message; neat and presentable; further information and bibliography well presented.	A good performance in most criteria 1-7
	Mid	65		A good performance in some criteria, particularly 1-3
	Low	62		Does sufficiently well in criteria 1-4 to show evidence of good understanding
Pass	High	58	The poster has a title, but it is unclear immediately what the poster concerns; the main ideas are appropriate to the topic; little evidence of further reading, little supporting information given; text reasonably presented, quantity and font size adequate; there are few illustrations, some appropriate with an attempt to synthesis data or ideas; numerous errors in spelling, grammar or written style; reasonable poster design, allows communication of message; basically presentable; little further information and inadequate bibliography	A good attempt but insufficient critical analysis (criteria 2-4) for a Merit
	Mid	55		Usually an adequate performance in most criteria
	Low	52		May be weaknesses but sufficient evidence of understanding for a pass
PASSMARK 50%				
Condonable Fail	High	48	The main ideas behind the poster are inappropriate to topic with evidence of error and confusion; no evidence of further reading, little supporting information given; text may be ineffective, too small, unclear; few or no illustrations, uninformative or irrelevant; significant errors in spelling or grammar; sketchy style; poor poster design, hinders communication of message; untidy, messy; no bibliography or further information included	Likely to be a lack of focus on the assignment (criteria 1) with insufficient evidence in criteria 2-4 to merit a Pass
	Mid	45		Weak performance in some criteria, particularly 1-4
	Low	42		Likely to be weak in all criteria

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Non-condonable Fail		35	The poster may lack a title and makes little attempt to engage with the task, such as the main ideas being inappropriate to the topic; there are numerous errors and ineffective communication of ideas. No supporting information provided and illustrations are either uninformative, poorly reproduced or irrelevant. text is ineffective, too small, unclear; significant errors in spelling, grammar or written style; poor poster design, hinders communication of message; untidy, messy; no bibliography or further information included	Criteria 1-4 not addressed to a satisfactory level.
		25		Poor performance in most criteria
		15		Very poor performance in most criteria
		0		No work submitted within 24 hours of deadline

**Marking criteria for poster presentations:**

1. Focus on the assignment
2. Level of critical understanding
3. Evidence of wider reading
4. Aim of poster clear from first impressions
5. Design and layout of the poster
6. Use of illustrative material enhances poster
7. Clarity and succinctness of text.

## 12.5 Fieldwork report

Class	%	Grade description for Fieldwork Report	Marking criteria	
Distinction	High	100	Exemplary formulation of the project aims and structure; very clear scientific and regional context provided that underlie the project's rationale; extensive reference to relevant literature concerning the project setting is succinct and incisive; the appropriate methods and their limitations are clearly explained; the data are presented in a cogent manner, and represent an excellent body of work within the time allowed; Excellent presentation of figures, tables, text, reference list and appendices (where appropriate), including spelling and grammar; the report shows significant critical awareness of the limitations in (i) the methods adopted, (ii) the data collected and (iii) interpretations of the data throughout the report; a set of succinct and well-conceived conclusions are provided that summarise in a cogent manner the overall achievements of the project. For an A+ grade, all of these criteria should be met	An exemplary piece of work
		98		Outstanding performance in most criteria 1-7
		95		
		92		
	Mid	88	Exemplary formulation of the project aims and structure; very clear scientific and regional context provided that underlie the project's rationale; extensive reference to relevant literature concerning the project setting is succinct and incisive; the appropriate methods and their limitations are clearly explained; the data are presented in a cogent manner, and represent an excellent body of work within the time allowed; Excellent presentation of figures, tables, text, reference list and appendices (where appropriate), including spelling and grammar; the report shows significant critical awareness of the limitations in (i) the methods adopted, (ii) the data collected and (iii) interpretations of the data throughout the report; a set of succinct and well-conceived conclusions are provided that summarise in a cogent manner the overall achievements of the project. For an A grade, most of these criteria should be met.	Evidence of excellence in most criteria 1-7
		85		
		82		
	Low	78	Highly effective formulation of the project aims and structure; very clear scientific and regional context provided that underlie the project's rationale; reference to relevant literature concerning the project setting is succinct and incisive; the appropriate methods and their limitations are clearly explained; the data are presented in a cogent manner, and represent an excellent body of work within the time allowed; the standard of presentation of figures, tables, text, reference list and appendices (where appropriate) are of excellent quality, including spelling and grammar; the report shows appropriate critical awareness of the limitations in (i) the methods adopted, (ii) the data collected and (iii) interpretations of the data throughout the report; a set of succinct and well-conceived conclusions are provided that summarise in a cogent manner the overall achievements of the project. For an A- grade, a number of these criteria should be met.	Evidence of excellence in some criteria, particularly 1-4
		75		
72				
Merit	High	68	Clear formulation of the project aims and structure; clear scientific and regional context that underlie the project's rationale; adequate reference to relevant literature concerning project setting; appropriate methods and limitations adequately explained; data presented in a reasonably clear manner, and represent a solid body of work within the time allowed; standard of presentation of figures, tables, text, reference list and appendices (where appropriate) are of good quality, including spelling and grammar; some critical awareness of limitations in (i) the methods adopted, (ii) the data collected and (iii) interpretations of the data; a set of clear conclusions are provided that summarise the overall achievements of the project. For a B+ grade, all of these criteria should be met; for a B or B- grade, several of these criteria should be met, the grade awarded depending on the overall balance.	A good performance in most criteria 1-7
	Mid	65		A good performance in some criteria, particularly 1-3
	Low	62		Does sufficiently well in criteria 1-4 to show evidence of good understanding
Pass	High	58	Project aims and structure are adequate, but could be fuller and clearer; scientific and regional context that underlie the project's rationale are addressed, but could be better explained; limited reference to relevant literature concerning the project setting; appropriate methods and their limitations are not fully explained; data are presented, but could be organised better or explained more clearly; the amount of data presented are less than might reasonably be expected in the time available; the standard of presentation of figures, tables, text, reference list and appendices (where appropriate) are of variable quality, including spelling and grammar; the report lacks critical awareness of the limitations in (i) the methods adopted, (ii) the data collected and (iii) interpretations of the data; no clear conclusions are provided, or they may not adequately reflect the data and the project's rationale; Where all or the majority of these criteria apply, a C- grade will be awarded; where performance exceeds some of these criteria, a C or C+ will be awarded, depending on the overall balance of performance.	A good attempt but insufficient critical analysis (criteria 2-4) for a Merit
	Mid	55		Usually an adequate performance in most criteria
	Low	52		May be weaknesses but sufficient evidence of understanding for a pass
PASSMARK 50%				

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Condonable Fail	High	48	The project aims are poorly explained and overall structure is weak; the scientific and regional context that underlies the project's rationale are not well formulated; reference to relevant literature concerning the project setting is limited; the appropriate methods and their limitations are poorly explained; the data are presented, but are inadequate in amount or quality; the standard of presentation of figures, tables, text and appendices (where appropriate) is generally poor; the report lacks critical awareness of the limitations in (i) the methods adopted, (ii) the data collected and (iii) interpretations of the data; no conclusions are provided or they are not clearly related to the limitations in the data presented. Where all or the majority of these criteria apply, a D- grade will be awarded; where performance exceeds some of these criteria, a D or D+ grade will be awarded, depending on the overall balance of performance.	Likely to be a lack of focus on the assignment (criteria 1) with insufficient evidence in criteria 2-4 to merit a Pass
	Mid	45	The project aims are poorly explained and overall structure is weak; the scientific and regional context that underlies the project's rationale are not well formulated; reference to relevant literature concerning the project setting is limited; the appropriate methods and their limitations are poorly explained; the data are presented, but are inadequate in amount or quality; the standard of presentation of figures, tables, text and appendices (where appropriate) is generally poor; the report lacks critical awareness of the limitations in (i) the methods adopted, (ii) the data collected and (iii) interpretations of the data; no conclusions are provided or they are not clearly related to the limitations in the data presented. Where all or the majority of these criteria apply, a D- grade will be awarded; where performance exceeds some of these criteria, a D or D+ grade will be awarded, depending on the overall balance of performance.	Weak performance in some criteria, particularly 1-4
	Low	42		Likely to be weak in all criteria
Non-condonable Fail		35	No project aims are provided or the aims are not achievable in the time available; the report lacks structure; little or no scientific and regional context is provided; there is little or no reference to relevant literature concerning the project setting; the appropriate methods and their limitations are very poorly explained; few data are presented, or they are very inadequate in amount or quality; the standard of presentation of figures, tables, text, reference list and appendices (where appropriate) is very poor, including spelling and grammar; the report lacks critical awareness of the limitations in (i) the methods adopted, (ii) the data collected and (iii) interpretations of the data; no conclusions are provided concerning the data presented. Where all or the majority of these criteria apply, an F- grade will be awarded; where performance exceeds some of these criteria, an F or F+ grade will be awarded, depending on the overall balance of performance.	Criteria 1-4 not addressed to a satisfactory level.
		25		Poor performance in most criteria
		15		Very poor performance in most criteria
		0		No work submitted within 24 hours of deadline

#### Marking criteria for poster presentations:

1. Clarity of aims and research questions
2. Clarity and appropriateness of methodology
3. Quantity and quality of data
4. Analysis and engagement with wider literature on the topic
5. Structure and presentation of the work
6. Appropriate referencing and bibliography style
7. Effective communication

## 12.6 Oral presentations

Class		%	Grade description for Oral Presentations	Marking criteria	
Distinction	High	100	Original and thought-provoking presentation, identifying subtleties in detail of research presented; clear and original structure of content and conclusions; ideas linked coherently and authoritatively; evidence of comprehensive research and original thought in evaluation; pitch of voice and audio-visual aids used to a professional standard; appropriately paced and perfectly to time; eye contact and body language excellent; gauged the needs of the audience and encouraged appropriate involvement and questioning, answering with authority and/or originality. <b>Standard of a first-rate conference presentation</b>	An exemplary piece of work	
		98		Outstanding performance in most criteria 1-7	
		95			
		92			
	Mid	88	Presentation addresses explicitly the topic, identifying subtleties in detail of research presented; clear and effective structure of content or conclusions; ideas linked coherently; evidence of original thought with respect to structure of content or conclusions; explicit, well-structured and relevant analysis; consultation and evaluation of a broad range of relevant sources; clearly audible presentation, audio-visual aids used to very effectively; appropriately paced and ran close to time; eye contact and body language used throughout the presentation; obvious attempt to gauge audience needs; encouraged appropriate involvement and questioning, demonstrating extensive knowledge and understanding in answers. <b>Standard of a professional conference presentation</b>	Evidence of excellence in most criteria 1-7	
		85			
		82			
	Low	78	Presentation addresses explicitly the topic, identifying subtleties in detail of research presented; clear and appropriate structure of content or conclusions; ideas linked coherently; evidence of original thought with respect to structure of content or conclusions; explicit, well-structured and relevant analysis; consultation and evaluation of a broad range of relevant sources; clearly audible presentation, audio-visual aids used to increase effectiveness; almost entirely appropriately paced and ran close to time; eye contact and body language used for most of the presentation; obvious attempt to gauge audience needs; encouraged appropriate involvement and questioning, demonstrating knowledge and understanding in answers	Evidence of excellence in some criteria, particularly 1-4	
		75			
		72			
	Merit	High	68	Explicitly addresses the topic, structure evident but could be more focussed; evidence of coherent links between ideas; commenced and concluded appropriately; included relevant analysis; evidence of a broad range of relevant sources, and evidence of some evaluation; clearly audible and audio-visual aids used to increase effectiveness; almost entirely appropriately paced and ran close to time; eye contact and body language used for most of the presentation; obvious attempt to gauge audience needs; encouraged appropriate involvement and questioning, demonstrating knowledge and understanding in answers	A good performance in most criteria 1-7
		Mid	65		A good performance in some criteria, particularly 1-3
Low		62	Does sufficiently well in criteria 1-4 to show evidence of good understanding		
Pass	High	58	Addresses the topic; evidence of structure but could be improved; evidence of coherent links between most ideas; commencement and conclusion could have been more appropriate; included some analysis; evidence that some relevant sources were consulted but could have been evaluated more effectively; audible for all of the presentation and audio-visual aids were used, although some lack of planning; pace not always appropriate and ran over/under time; more use of eye contact and body language could have been made; audience needs not well-gauged and limited encouragement to participate/question; answers with basic understanding or hesitancy	A good attempt but insufficient critical analysis (criteria 2-4) for a Merit	
	Mid	55		Usually an adequate performance in most criteria	
	Low	52		May be weaknesses but sufficient evidence of understanding for a pass	
<b>PASSMARK 50%</b>					
Condonable Fail	High	48	Only partially addresses the topic; some evidence of appropriate structure but presentation is partially rambling or unfocussed; ideas could have been linked more coherently; commenced and concluded with some hesitation or confusion; included little or no analysis; few relevant sources presented and little evaluation made; presentation ran over/under time; presentation paced too fast or too slow to be effective; presenter slightly inaudible; audio-visual aids not very effective (including having too many slides); little use of eye contact or body language; audience needs not taken into account in design of the presentation; no attempt to encourage appropriate audience involvement and questioning, and some weaknesses in basic understanding indicated in answers	Likely to be a lack of focus on the assignment (criteria 1) with insufficient evidence in criteria 2-4 to merit a Pass	
	Mid	45		Weak performance in some criteria, particularly 1-4	
	Low	42		Likely to be weak in all criteria	

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Non-condonable Fail	35	Largely fails to address the topic; rambling or unfocussed; commenced and concluded with hesitation or confusion; included little or no analysis; few relevant resources consulted, and little evaluation made of them; partially inaudible; audio-visual aids not used or used ineffectually; ran severely over- or under-time; presentation paced too fast or too slow to be effective; did not engage the audience with eye contact or body language; no attempt to gauge audience needs; no attempt to encourage appropriate audience involvement and questioning; answers largely erroneous or had little or no relevance to the topic	Criteria 1-4 not addressed to a satisfactory level.
	25	Fails to address the topic; very rambling and unfocussed; commenced and concluded with hesitation or confusion; included no analysis; no resources consulted; presenter was fully or partially inaudible; audio-visual aids not used or used ineffectually; ran severely over- or under-time; presentation paced too fast or too slow to be effective; did not engage the audience with eye contact or body language; no attempt to gauge audience needs; no attempt to encourage appropriate audience involvement and questioning; unable or unwilling to answer questions	Poor performance in all criteria; shows minimal effort
	15		Very poor performance in most criteria
	0		Did not present

**Marking criteria for oral presentations:**

1. Focus on the topic/assignment
2. Level of critical understanding
3. Level of detailed knowledge
4. Evidence of wider reading
5. Use of illustrative materials
6. General body language and engagement with literature
7. Pacing and timing of presentation

## 12.7 Dissertation

Class		%	Grade description for Dissertation	Marking criteria
Distinction	High	100	Significant and highly original contribution to Quaternary Science; professional level of understanding of the main issues, concepts, underlying principles and mastery of the relevant literature; significant originality in construction of main research aims and questions; substantial original fieldwork or other independent research; high ability in appropriate techniques; critical commentary on research design and methodology; incisive and fluent style; professionally presented with referencing and bibliography of publishable standard; no or very minor errors of spelling, punctuation or grammar; <b>publishable as a journal paper with only minor revision.</b>	An exemplary piece of work
		98		Outstanding performance in most criteria 1-7
		95		
		92		
	Mid	88	Excellent understanding of subject area; originality in construction of main research aims and development of cogent research questions; substantial original fieldwork or some other independent research; excellent ability in appropriate techniques; critical commentary on research design and methodology; coherent structure; in-depth reading; excellent presentation with referencing and bibliography of publishable standard; no or very minor errors of spelling, punctuation or grammar; only minor additional work would be required to bring to publishable standard but <b>demonstrates professional standards of research.</b>	Evidence of excellence in most criteria 1-7
		85		
		82		
	Low	78	Deep understanding of subject area; some originality in construction of main research aims and questions; substantial original fieldwork or some other independent research; high ability in appropriate techniques; critical commentary on research design and methodology; coherent structure; in-depth reading; excellent presentation with referencing and bibliography of publishable standard; only very minor errors of spelling, punctuation or grammar; some additional work would be required to bring to publishable standard but <b>demonstrates professional standards of research.</b>	Evidence of excellence in some criteria, particularly 1-4
		75		
72				
Merit	High	68	Good understanding of subject area; clear statement of research aims and questions; significant original fieldwork or some other independent research; effective ability in appropriate techniques; commentary on research design and methodology; coherent structure; in-depth reading; well-presented with referencing in acceptable style and properly-formatted bibliography; fluent style; few errors of spelling, punctuation or grammar	A good performance in most criteria 1-7
	Mid	65		A good performance in some criteria, particularly 1-3
	Low	62		Does sufficiently well in criteria 1-4 to show evidence of good understanding
Pass	High	58	Basic understanding of subject area; simple statement of research aims and questions; original fieldwork or some other independent research; familiarity with appropriate techniques (some errors in application); basic account of methods; adequate structure; some evidence of reading; adequately presented, some referencing and short bibliography; straightforward style; some errors of spelling, punctuation or grammar.	A good attempt but insufficient critical analysis (criteria 2-4) for a Merit
	Mid	55		Usually an adequate performance in most criteria
	Low	52		May be weaknesses but sufficient evidence of understanding for a pass
PASSMARK 50%				
Condonable Fail	High	48	Limited understanding of subject area; confused or vague research aims or questions; limited original fieldwork or other independent research; very general familiarity with appropriate techniques (significant errors in application); simple account of methods; very limited further reading; significant weaknesses in presentation; little or no referencing and an inadequate or absent bibliography; simple style; significant errors of spelling, punctuation or grammar.	Likely to be a lack of focus on the assignment (criteria 1) with insufficient evidence in criteria 2-4 to merit a Pass
	Mid	45		Weak performance in some criteria, particularly 1-4
	Low	42	Very limited understanding of subject area; confused or vague research aims or questions; very limited original fieldwork or other independent research; bare familiarity with appropriate techniques (substantial errors in application); vague or confused discussion of methods; sketchy structure; no further reading; poorly presented; little or no referencing and an inadequate or absent bibliography; sketchy style; significant errors of spelling, punctuation or grammar.	Likely to be weak in all criteria

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Non-condonable Fail	35	No understanding of subject area; no clear research aims or questions; no evidence of original fieldwork or other independent research; serious confusion over techniques; no serious discussion of methods; inadequate structure; no further reading; poorly presented, with no referencing of sources and an inadequate or absent bibliography; no referencing and an inadequate or absent bibliography; inadequate style; significant errors of spelling, punctuation or grammar.	Criteria 1-4 not addressed to a satisfactory level.
	25	No understanding of subject area; no clear research aims or questions; no original fieldwork or other independent research; no analytical work; no discussion of methods; inadequate structure — fragmentary; incoherent or incomplete; no further reading; poorly presented, with no referencing of sources and an inadequate or absent bibliography; no referencing and an inadequate or absent bibliography; inadequate style; substantial errors of spelling, punctuation or grammar.	Poor performance in all criteria; shows minimal effort
	15		Very poor performance in most criteria
	0		Did not present

#### Marking criteria for Dissertations:

1. Research design: clear aims and appropriateness of methodology
2. Amount of original fieldwork or other independent research
3. Critical analysis of results
4. Analysis and engagement with wider literature on the topic
5. Structure and presentation of the work
6. Appropriate bibliography and referencing style
7. Effective communication

Please note, that **non-submission** for any assessed piece of work results in a **mark of zero**.

Work submitted for assessment will be graded by using a set of marks with the pattern X2, X5 or X8. This means that a merit piece of work would be awarded 62%, 65% or 68%. This approach, which is called **stepped marking**, has been found to help in better aligning grades with marking criteria and for providing greater clarity to students about the standard of their work and how close they are to lower and upper grade boundaries. For example a 62% represents a low merit, while a 68% indicates a high merit, for marks in the distinction range, the following marks are intended to be allocated in the same pattern (e.g. 72, 75, 78, 82 etc.) all the way up to 100.

## APPENDIX A Referencing & Bibliographies Examples

### Example of a Journal Article (Single Author)

Trudgill, S. (2012) 'Do theories tell us what to see? The 19th-century observations of Darwin, Ramsay and Bonney on glacial features', *Progress in Physical Geography*, 36(4), pp. 558–566.

### Example of a Journal Article (Multiple Authors)

Fedman, D. and Karacas, C. (2012) 'A cartographic fade to black: mapping the destruction of urban Japan during World War II', *Journal of Historical Geography*, 38(3), pp. 306–328.

### Example of a Book (Single Author)

Cottrell, S. (2008) *The study skills handbook*. 3rd edn. Basingstoke: Palgrave Macmillan.

### Example of a Book (Edited)

Driver, F. and Gilbert, D. (eds) (1999) *Imperial cities: landscape, display and identity*. Manchester: Manchester University Press.

### Example of a Chapter in Edited Book

Willis, K. (2010) 'Gender, poverty and social capital: the case of Oaxaca City, Mexico', in Chant, S. (ed.) *The international handbook of gender and poverty*. Cheltenham: Edward Elgar Publishing, pp. 385–390.

### Example of a Research Report

Brisley, R., Welstead, J., Hindle, R., and Paavola, J. (2012) *Socially just adaptation to climate change* [Online]. Available at [http://www.jrf.org.uk/sites/files/jrf/climate-change-adaptation-full\\_o.pdf](http://www.jrf.org.uk/sites/files/jrf/climate-change-adaptation-full_o.pdf) (Accessed: 6 August 2012).

Or, without an author cited:

European Commission (2010) *Europe's ecological backbone: recognising the true value of our mountains*. Luxembourg: Office for Official Publications of the European Communities.

### Example of an Article in an Online-Only Journal (NOTE: This is different from a printed journal which is available electronically, which should follow the conventions of a journal article)

Davidson M. (2012) 'Sustainable city as fantasy', *Human Geography*, 5(2) [Online]. Available at: [http://www.hugeog.com/index.php?option=com\\_sectionex&view=category&id=5&Itemid=64#catid47](http://www.hugeog.com/index.php?option=com_sectionex&view=category&id=5&Itemid=64#catid47) (Accessed: 6 August 2012).

### Example of an Unpublished Thesis

Whittall, D.J. (2012) *Creolising London: black West Indian activism and the politics of race and empire in Britain, 1931–1948*. Unpublished PhD thesis. Royal Holloway, University of London.

### Example of an Official Publication

Department of Energy and Climate Change (2011) *National policy statement for renewable energy infrastructure*. London: The Stationery Office.

### Example of an Unpublished Conference Paper

Brickell, K. (2012) "'Plates in a basket will rattle": gendered experiences of abandonment, separation and divorce in Cambodia', RGS-IBG Annual Conference. University of Edinburgh, 3–5 July.

### Example of a Published Conference Paper

Sharp, J.I. and Kiyari, J.R. (2007) 'Geographic variation of truth claims: reporting on Iraq', *Papers of the Applied Geography Conferences*. Indianapolis, Indiana, 17–20 October. Binghampton: Applied Geography Conferences Inc., pp. 215–225.

### Example of a Newspaper Article

McCracken, K. (2011) 'Danger in the demographics', *Otago Daily Times*, 26 May, p. 17.

Or, without an author cited:

The Times (2008) 'Bank accounts', 14 June, p. 7.

Or, from an online edition:

Neville, S. (2012) 'Prize fund for carbon capture projects shrinks by £800m', The Guardian, 5 August [Online].

Available at: <http://www.guardian.co.uk/environment/2012/aug/05/value-carbon-capture-fund-declines>

(Accessed: 6 August 2012).

#### **Example of a WWW page with obvious author and clear date of last update**

Haszeldine, S. (2011) Diagenesis at Edinburgh.

Available at: <http://www.geos.ed.ac.uk/research/subsurface/diagenesis/> (Accessed 6 August 2012) [Reference in text as (Haszeldine, 2011) where the date is the date of last update.]

#### **Example of a WWW page from an organization**

Department of Geography, Royal Holloway, University of London (2012) Arctic geopolitics researcher to join Department of Geography. Available at:

<http://www.rhul.ac.uk/geography/research/researchgroups/pds/news/newsarticles/professorphilsteinberg,arcticgeopoliticsresearcherjoinsroyalholloway.aspx> (Accessed: 6 August 2012)

#### **Example of a WWW page from an organisation, no clear date of last update**

Department of Geography, Royal Holloway, University of London. PDS research themes. Available at:

<http://www.rhul.ac.uk/geography/research/researchgroups/pds/themes.aspx> (no date) (Accessed: 6 August 2012)

#### **Example of an episode of a TV series**

'The Arctic' (2008) Wilderness Explored. BBC Four, 28 October.

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## Appendix B MSc Quaternary Science Prizes

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The MSc in Quaternary Science annual awards several prizes to high-achieving students, and nominates students for society prizes. They are usually awarded annually at the London Quaternary Lectures (LQLs).

### Ed Derbyshire Award

The Ed Derbyshire Award is presented annually as a course prize for the student in the cohort with the highest overall grade. The award is a cheque for £125 and is presented on the occasion of the London Quaternary Lectures in the year of completion of the course. The prize was set up by Lanzhou University in China to commemorate the work of Ed, a visiting professor of long-standing in our department.

Travel and one night accommodation (if required) are paid to allow the winner to attend the LQLs.

### Philippa Holmes Book Prize

The Philippa Holmes Book Prize is awarded annually for the best dissertation in sedimentology and stratigraphy.

The Philippa Holmes Memorial Prize was set up in 2010 in memory of Philippa, who gained a Distinction in the M.Sc in Quaternary Science at Royal Holloway. The prize consists of a cheque for £50 (to be spent on books) and is awarded to the student with the best dissertation in any aspect of stratigraphy or sedimentology.

The award is presented on the occasion of the London Quaternary Lectures in the year of completion of the course. Attendance at the LQLs is funded for the prize winner.

### Curry Prize

The Curry Prize (£1000) is awarded each year by the Geologists' Association for the best MSc thesis on a geological topic arising from a geoscience taught course in a UK university. If there is a dissertation of sufficiently high quality, it is nominated by CQR for this prize.

The Curry Fund of the Association was established in 1986 by a gift of Dennis Curry (1912-2001). Although Curry is best known as joint Managing Director (1946-1968) and Chairman (1968-1984) of the high street electrical goods chain Currys Ltd, he was also a gifted non-professional geologist and palaeontologist, with over 130 publications in the field. He was Visiting Professor at University College London (1971-84), where he taught micro-palaeontology to the Marine Geology MSc course. He joined the Association in 1934, was its President (1964-66), was honoured with its Foulerton Award in 1962 and was made an Honorary Member in 1971.

The aim of the Curry Prize is to encourage student excellence. The prize is awarded to the best one or more Master's degree theses in the opinion of the judging panel on a geology-related topic arising from an MSc taught course in a UK university. Each prize consists of £1000 plus membership of the Geologists' Association for the following calendar year. Prize winners will also be invited to submit a manuscript based on their thesis to the *Proceedings of the Geologists' Association* for consideration for publication (subject to the normal refereeing process). The judging panel has the right to withhold the award in any year if the quality of the entries is deemed insufficient. The prizes will be awarded at the AGM of the GA (usually in early May) for theses produced in the previous year.

## Appendix C Selected dissertation topics

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### Selected dissertation topics 2018/2019

A late Holocene palaeoenvironmental reconstruction from the annually-laminated sediments of Diss Mere, Norfolk: A multiproxy approach

Using distal Azores tephra to produce the first tephrostratigraphic isochron on the Iberian Peninsula and reveal spatio-temporal climate patterns

The glacial and fluvioglacial geomorphology of the upper Chico catchment in central Patagonia

Understanding Changing Ice Dynamics On Alexander Island, Antarctic Peninsula

Freshwater Availability in North Africa during Marine Isotope Stage 5

A reconstruction of vegetation and land-use change during the late Mesolithic to the late Bronze Age from an archaeological site at Staad Abbey, County Sligo, Ireland

Developing a regional tephrostratigraphic framework for the Ararat Depression, Armenia

Fire responses at the transition to Megadrought conditions (118-114 kyr BP) during the Last Interglacial at Lake Challa, East Africa

Evaluating evidence for environmental instability in early-mid Holocene lacustrine sediments from Loch Balnagowan, western Scotland

Investigating the deglaciation of the Patagonian Ice Sheet: Glacial geomorphology and varve chronology at Lago Blanco, Argentina

An Introductory Study of Visible and Crypto-tephra on Peninsule Courbet, Kerguelen Island

A Late Holocene response of the Gepatsch Glacier to environmental change.

An assessment of environmental variability in response to abrupt climatic change using a high-resolution palaeoenvironmental record from Lismore, north-west Scotland during the Last Glacial-Interglacial Transition.

Integrating the contemporary lake system and late Holocene palaeoenvironment at Diss Mere: a pilot study.

Mapping glaciogeomorphology in Swaledale, Yorkshire, and implications for our understanding of regional glaciation in the Pennines

The mammalian assemblage of Lime Kiln Hill Quarry, Somerset: insights from sedimentological and palaeoecological analyses

Palaeoecology of the red fox *Vulpes vulpes* L. 1758 in Britain: investigating body mass and diet during the Late Pleistocene and Holocene'

Reconstructing the Pleistocene mammalian assemblages of Badger Hole and Rhinoceros Hole caves at Wookey Hole, Somerset, UK

### Selected dissertation topics 2017/18

Trace element analysis of Borrobol-type cryptotephra in Scottish records

Testing the use of 2D modelling to quantify palaeoflood magnitude in Holocene floodplains

Charcoal analysis completed around cryptotephra layers in sediments from Lake Challa to understand the role of volcanism in palaeofire events

A high-resolution Mid-Late Holocene tephrostratigraphic study of Kiteschee Lake, King George Island, Sub-Antarctica

A re-examination of the timing of ice maximum during the Loch Lomond Readvance in Glen Spean, Scotland.

Mapping the glacial dynamic changes in South Georgia

Developing the Eastern Mediterranean tephrostratigraphy

Testing the potential of the laminated sediments of Lac Pavin (France) for high quality palaeoclimate

reconstruction

#### Selected dissertation topics 2016/17

Early Holocene climate variability in the British Isles as recorded in the varved sediments of Diss Mere, East Anglia.

A taphonomic analysis of a late Pleistocene pollen and bone assemblage from Gully Cave, Somerset.

Reconstructing North African Monsoon Variability in the Last ~150ka through the use and experimentation of Optical Stimulated Luminescence (OSL) dating methods from marine core ODP658B.

Assessing Isostatic Rebound during the Last Glacial to Interglacial Transition in north-west Scotland: A multi-proxy study of the Ardtoe Isolation basin.

Establishing a conservation evidence base for UK rewilding using long-term archives: the Dalmatian pelican as a case study.

Chironomid inferred temperatures of The White Bog, Co. Down, Northern Ireland: assessing landscape response to short term climatic oscillations during the Last Glacial Interstadial.

Sedimentology and dating of pro-glacial outwash deposits in the Firth of Forth.

Investigating the suitability of Lairigmor and Rannoch Station for restraining the timing of deglaciation at Rannoch Moor during the Loch Lomond Stadial-Holocene transition: A pilot study.

The mammalian assemblage from the 'Bear Den' stratum of Gully Cave, Ebbor Gorge, Somerset: taphonomy, palaeoenvironment and age.

A high-resolution Lateglacial to early Holocene palaeotemperature record from Wykeham Quarry, North Yorkshire.

#### Selected dissertation topics 2015/16

A lateglacial interstadial chironomid inferred temperature record from the site of Tirinie, Scotland.

Detailed sedimentological and tephrochronological study of annually-laminated deposits at Svardsklova, Southeastern Sweden.

OSL dating of palaeofired hearths from the western Nefud Desert, Saudi Arabia.

A comparison of chironomid-inferred summer temperatures with a Lateglacial pollen record from Tanera Mor, NW Scotland.

Combined use of high resolution remote sensing and field mapping to determine iceflow dynamics on Rannoch Moor, Scotland, during the Loch Lomond Stadial.

Sedimentology of a new deep-water core from Llangorse covering the Last Termination, helping refine the timing of deglaciation.

Chronology and palaeoenvironments of lacustrine sediments in the western Nefud desert, Saudi Arabia.

#### Selected dissertations topics 2013/14

An investigation into the Lateglacial vegetation history of Arisaig, northwest Scotland.

Utilising palynology and tephrochronology to assess the onset of the Holocene and its potential timing from Kingshouse 2, Rannoch Moor, NW Scotland.

Evidence for and timing of polyphase deformation in a multiple till sequence at Balglass Burn, Central Scotland: A micromorphological approach.

An oxygen isotopic investigation of the Flixton area, North Yorkshire: Implications for the human reoccupation of Britain across the Pleistocene-Holocene transition.

A diatom assessment of a lake sequence from Tanera Mor, Scotland.

A geoarchaeological investigation into the Mid- to Late-Holocene Queens Sedgemoor, Somerset Levels: Pollen and micro-charcoal evidence.

The ability of Bayesian age modelling to refine glacial chronologies in the Late Quaternary: A case study from Highland Asia.

A tephrochronology investigation of Straloch Loch, Scotland.

A lateglacial environmental and temperature record from Wykeham, Yorkshire, interpreted from subfossil beetles (Coleoptera)

A microscale sedimentary investigation of annually laminated sediments in Middle Glen Roy: the implications for site varve chronology.

Stable oxygen isotope ratios in chitin from Alaskan fossil water beetles: Palaeoecological implications and development towards a new palaeotemperature proxy.

An assessment of North African and Arabian palaeoclimatic and palaeoanthropological chronologies from 60-160ka.

The Lateglacial mammalian assemblage from Bridged Pot Shelter, Somerset: taphonomy, palaeoenvironment and age.

Vertebrate response to climatic deterioration in Britain during MIS 5a.

#### Selected dissertation topics 2012/13

Using the 'Varian VF-50J' X-ray source in routine luminescence dating of quartz.

Assessing the evidence for a short-lived environmental disturbance event during the early Holocene at Lake Llangorse, South Wales.

A high resolution isotopic record for the Lateglacial Interstadial from Star Carr, North Yorkshire.

The provenance and transport history of igneous clasts in late Quaternary deposits, Northwest Scotland; A pilot study into the use of geochemical methods to discriminate between glacial deposits of different age.

Chironomid-inferred Lateglacial interstadial temperatures from Muir Park, Southern Scotland.

Identification and correlation of cryptotephra from Lake Kushu on Rebun Island, Japan.

The Late-Glacial palaeoenvironmental record from Tirinie, south-east Grampian Highlands: Assessing the vegetative response to abrupt short term climatic change.

Testing the potential for tephra to time glacial retreat: tephrostratigraphic analyses of four Early Holocene sequences from the Scottish Highland.

The Mammalian Assemblages of The Crypt, Creswell Crags, Nottinghamshire.

The landscape evolution of the View Point area of the Glen Roy valley, NW Scotland, during the Loch Lomond Readvance; A detailed sedimentological and geomorphic analysis.

A tephrostratigraphic investigation of mire deposits associated with Viking occupation sites in Greenland

A macro-scale and micromorphological investigation of the genesis of a glacial diamicton complex - an example from Happisburgh, North Norfolk.

Lateglacial Stadial paleoclimate reconstruction for the British Isles using high resolution isotope records from carbonate lake systems.