

## **School of Geography & Geosciences**

### **Important Degree Information:**

#### **B.Sc./M.A. Honours**

The general requirements are 480 credits over a period of normally 4 years (and not more than 5 years) or part-time equivalent; the final two years being an approved honours programme of 240 credits, of which 90 credits are at 4000 level and at least a further 120 credits at 3000 and/or 4000 (H) levels. Refer to the appropriate Faculty regulations for lists of subjects recognised as qualifying towards either a B.Sc. or M.A. degree.

#### **B.Sc./M.A. Honours with Integrated Year Abroad**

The general requirements are 540 credits over a period of normally 5 years (and not more than 6 years) or part-time equivalent; the final three years being an approved honours programme of 300 credits, of which 60 credits are gained during the integrated year abroad, 90 credits are at 4000 level and at least a further 120 credits at 3000 and/or 4000 (H) levels. Refer to the appropriate Faculty regulations for lists of subjects recognised as qualifying towards either a B.Sc. or M.A. degree.

**Other Information:** In the case of students who spend part of the Honours Programme abroad on a recognised Exchange Scheme, the Programme Requirements will be amended to take into account courses taken while abroad.

<b>Degree Programmes</b>	<b>Programme Requirements at:</b>
(M.A. Honours or B.Sc. Honours): <b>Geography</b>	<p><b>Single Honours Geography:</b></p> <p><b>Level 1:</b> 40 credits comprising passes in GE1001 and GE1002</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in (GE2011 and GE2012) or (GE2001, GE2002, GG2003 and GG2004)</p> <p><b>Level 3:</b> Level 3 &amp; Level 4 (Single Honours Degree) Requirements: GE3001, GE3002, GE3004 and GE3005; <i>plus</i> either GE3006 or GE3007; <i>plus</i> either GE3008 or GG3011; <i>plus</i> GE4014, GE4018 and GE4019; <i>plus</i> 120 additional 3000 and 4000 level credits of which at least 90 credits must be from GE3025-GE3073, GE4026-GE4072 and/or GG3021-GG3089, GG4042-GG4073. Of the 240 credits required for an Honours degree, 90 credits must be at 4000 level.</p> <p><b>Level 4(H):</b> see above</p>

## Geography & Geosciences – Honours

Degree Programmes	Programme Requirements at:
<p>(M.A. Honours):  <b>Geography and Art History, Economics, English*, French^, Hebrew, International Relations, Italian^, Management~, Mediaeval History, Middle East Studies, Modern History, Psychology, Scottish History, Social Anthropology, Spanish^, Theological Studies.</b></p> <p>(B.Sc. Honours):  <b>Geography and Management~, Management Science, Mathematics, Statistics.</b></p> <p>^ available also as ‘with Integrated Year Abroad Degrees’</p> <p>~Timetable clash exists, therefore this combination is subject to arrangement with both Departments.</p> <p>* Timetable clash means that 2000 level English must be taken in the First year to do this combination</p>	<p><b>Geography element of Joint Honours Degrees:</b>  <b>Level 1:</b> 40 credits comprising passes in GE1001 and GE1002</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in (GE2011 and GE2012) or (GE2001, GE2002, GG2003 and GG2004)</p> <p><b>Level 3:</b> Level 3 &amp; Level 4 (Joint Honours Degree) Requirements: 30 credits from GE3001, GE3002, GE3004, GE3005, either GE3006 or GE3007, GE3008, GG3011, GE4014; <i>plus</i> GE4018; <i>plus</i> 60 additional 3000 and 4000 level credits from GE3025-GE3073, GE4026-GE4072 and/or GG3021-GG3089, GG4042-GG4073. Of the 240 credits required for an Honours degree, 90 credits from Joint Honours subjects must be at 4000 level.</p> <p><b>Level 4(H):</b> see above</p>
<p>(B.Sc. Honours):  <b>Geography and Environmental Biology</b></p>	<p><b>Geography element of Joint Degree:</b>  <b>Level 1:</b> 40 credits comprising passes in GE1001 and GE1002</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in (GE2011 and GE2012) or (GE2001, GE2002, GG2003 and GG2004)</p> <p><b>Level 3:</b> Level 3 &amp; Level 4 (Joint Honours Degree) Requirements: 30 credits from GE3001, GE3002, GE3004, GE3005, either GE3006 or GE3007, GE3008, GG3011, GE4014; <i>plus</i> GE4018; <i>plus</i> 60 additional 3000 and 4000 level credits from GE3025 – GE3073, GE4026 – GE4072 and/or GG3021 – GG3089, GG4042 – GG4073, GG4082. Of the 240 credits required for an Honours degree, 90 credits from Joint Honours subjects must be at 4000 level.</p> <p><b>Level 4(H):</b> see above</p>
<p>(M.A. Honours):  <b>Geography with Social Anthropology or Spanish^</b></p> <p>(B.Sc. Honours):  <b>Geography with French^</b></p> <p>^available also as ‘with Integrated Year Abroad Degree’</p>	<p><b>Geography element of Major Degrees:</b>  <b>Level 1:</b> 40 credits comprising passes in GE1001 and GE1002</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in (GE2011 and GE2012) or (GE2001, GE2002, GG2003 and GG2004)</p> <p><b>Level 3:</b> Level 3 &amp; Level 4 (Major Honours Degree) Requirements: GE3004, GE4014; <i>plus</i> any four of : GE3001, GE3002, GE3005, either GE3006 or GE3007, GE3008, GG3011; <i>plus</i> GE4018; <i>plus</i> 90 additional 3000 and 4000 level credits from GE3025-GE3073, GE4026-GE4072 and/or GG3021-GG3089, GG4042-GG4073. Of the 240 credits required for an Honours degree, 90 credits from major and/or minor subjects must be at 4000 level.</p> <p><b>Level 4(H):</b> see above</p>

<b>Degree Programmes</b>	<b>Programme Requirements at:</b>
<p>(M.A. Honours):  <b>Psychology, Russian<sup>^</sup>, Social Anthropology or Spanish<sup>^</sup> with Geography.</b></p> <p><sup>^</sup> available also as 'with Integrated Year Abroad Degree'</p>	<p><b>Geography element of Minor M.A. Degrees:</b>  <b>Level 1:</b> 40 credits comprising passes in GE1001 and GE1002</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in (GE2011 and GE2012) or (GE2001, GE2002, GG2003 and GG2004)</p> <p><b>Level 3:</b> Level 3 &amp; Level 4 (Minor Honours Degree) Requirements: (Geography element) 80 credits from GE or GG 3000 and 4000 level modules, at least 60 credits of which must be from GE3025-GE3073, GE4026-GE4072 and/or GG3021-GG3089, GG4042-GG4073. Of the 240 credits required for an Honours degree, 90 credits from major and/or minor subjects must be at 4000 level.</p> <p><b>Level 4(H):</b> see above</p>
<p>(B.Sc. Honours):  <b>Mathematics with Geography</b></p>	<p><b>Geography element of Minor B.Sc. Degree:</b>  <b>Level 1:</b> 40 credits comprising passes in GE1001 and GE1002</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in (GE2011 and GE2012) or (GE2001, GE2002, GG2003 and GG2004)</p> <p><b>Level 3:</b> Level 3 &amp; Level 4 (Minor Honours Degree) Requirements: (Geography element) 80 credits from GE or GG 3000 and 4000 level modules, at least 60 credits of which must be from GE3025-GE3073, GE4026-GE4072 and/or GG3021-GG3089, GG4042-GG4073. Of the 240 credits required for an Honours degree, 90 credits from major and minor subjects must be at 4000 level.</p> <p><b>Level 4(H):</b> see above</p>
<p>(B.Sc. Honours):  <b>Geoscience</b></p>	<p><b>Single Honours Geoscience:</b>  <b>Level 1:</b> 40 credits comprising passes in GS1001 and GS1002</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in (GG2003, GG2004, GS2001, and GS2002) or (GS2011 and GS2012)</p> <p><b>Level 3:</b> 90 credits comprising GS3002, GS3004, GS3012, GS3081, GG3082, and GS3090 and 30 credits from the group GG3021**, GG3023, GG3036, GG3041, GG4042, GG3052, GG3056**, GG3057**, GG3058, GG4059, GG3067, GG3068, GG3069, GS4083, GS4084, GG3089*.</p> <p><b>Level 4(H):</b> 60 credits comprising GS4005, GS4006, GS4007, GS4008, and 60 credits from the group GS4085, GS4086, GG4082, GS4088, GG3021**, GG3023, GG3036, GG3041, GG4042, GG3052, GG3056**, GG3057**, GG3058, GG4059, GG3067, GG3068, GG3069, GS4083, GS4084*.</p> <p>*NB in addition to GS4005, GS4006, GS4007, and GS4008, at least 30 credits of other 4000-level modules must be taken over the 2 years of Junior and Senior Honours.</p> <p>** these modules are available only to students who have taken GE2001, GE2002 or GE2011, GE2012</p>

## Geography & Geosciences – Honours

<b>Degree Programmes</b>	<b>Programme Requirements at:</b>
<p>(B.Sc. Honours): <b>Geoscience and Chemistry</b></p>	<p><b>Geoscience - Chemistry Joint Degree:</b>  <b>Level 1:</b> 40 credits comprising passes in GS1001 and GS1002 and 40 credits comprising Pass or bypass for CH1001, pass in CH1004</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in (GG2003, GG2004, GS2001, and GS2002) or (GS2011 and GS2012) and 60 credits comprising passes at 11 or better in CH2101, either CH 2102 or CH2103</p> <p><b>Level 3:</b> 120 credits comprising CH4512, CH3711, CH3521, CH3511, CH3721, CH3431 and GS3004, normally GS3081* and 1 from (GS4083 or GS4084).</p> <p><b>Level 4(H):</b> 120 credits comprising 3 from (CH4511, CH4611, CH4711, CH4712 and CH5711), CH4448§, CH5515, normally GS4083 or GS4084**, GS4005, GS4010, GS4009, 1 from (GS4088, GG3067, GG3068, GG3069 and GG3082)</p> <p>* With the approval of the Geoscience Adviser of Studies, a student may replace GS3081 and (GS4083 or GS4084) by 2 from GG3067, GG3068, GG3069, GG3082 in semester 2.</p> <p>** With the approval of the Geoscience Adviser of Studies, a student may replace GS4083 or GS4084 by a second module from the list GS4088, GG3067, GG3068, GG3069 and GG3082</p> <p>§With the approval of the Directors of Teaching, under some circumstances, students might conduct an integrated 35 credit project, ID4441, combining CH4448 with GS4009 and presenting a single, extended report.</p>
<p>(B.Sc. Honours): <b>Geoscience and Environmental Biology.</b></p>	<p><b>Geoscience element of Joint Degree:</b>  <b>Level 1:</b> 40 credits comprising passes in GS1001 and GS1002</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in (GG2003, GG2004, GS2001, and GS2002) or (GS2011 and GS2012) and Honours entry in the other subject</p> <p><b>Level 3:</b> 30 credits from GS3004, and 30 credits from the group GG3023, GG3067, GG3068, GG3069, GG3082.</p> <p><b>Level 4(H):</b> 30 credits from GS4005, GS4009, GS4010, and 30 credits from the group GG4082, GS4088, GG3023, GG3067, GG3068, GG3069, at least 15 credits of which must be at level 4000.</p>
<p>(B.Sc. Honours): <b>Geoscience and Management, Management Science.</b></p> <p><b>Geoscience and Computer Science</b> (not available to students entering the University after 2002)</p>	<p><b>Geoscience element of Joint Degree:</b>  <b>Level 1:</b> 40 credits comprising passes in GS1001 and GS1002</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in (GG2003, GG2004, GS2001, and GS2002) or (GS2011 and GS2012) and Honours entry in the other subject</p> <p><b>Level 3:</b> 30 credits from GS3004, and 30 credits from the group GG3023, GG3067, GG3068, GG3069, GG3082.</p> <p><b>Level 4(H):</b> 30 credits from GS4005, GS4009, GS4010, and 30 credits from the group GG4082, GS4088, GG3023, GG3067, GG3068, GG3069, at least 15 credits of which must be at level 4000.</p>

<b>Degree Programmes</b>	<b>Programme Requirements at:</b>
<p>(B.Sc. Honours): <b>Environmental Geoscience</b></p>	<p><b>Single Honours Environmental Geoscience:</b>  <b>Level 1:</b> 40 credits comprising passes in GS1001 and GS1002</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in GS2011 and GS2012</p> <p><b>Level 3:</b> 75 credits comprising GG3002, GG3082, GG3089, GG3110, GS3012, GS3090 and 45 credits from GG3021**, GG3023, GG3036, GG3041, GG4042, GG3052, GG3056**, GG4057**, GG3058, GG4059, GG3067, GG3068, GG3069, GS3081, GS4084.</p> <p><b>Level 4(H):</b> 60 credits comprising GG4110, GG4120, GS4008 and 60 credits from the group GG3021**, GG3023, GG3036, GG3041, GG4042, GG3052, GG3056**, GG4057**, GG3058, GG4059, GG3067, GG3068, GG3069, GS4082, GS4085, GS4088.  ** these modules are available only to students who have taken GE2001, GE2002 or GE2011, GE2012</p>
<p>(B.Sc. Honours): <b>Geoscience with French<sup>^</sup> or Spanish<sup>^</sup></b></p> <p><sup>^</sup> available also as 'with Integrated Year Abroad Degree'</p>	<p><b>Geoscience element of Major Degree:</b>  <b>Level 1:</b> 40 credits comprising passes in GS1001 and GS1002</p> <p><b>Level 2:</b> 60 credits comprising passes at 11 or better in (GG2003, GG2004, GS2001, and GS2002) or (GS2011 and GS2012) and Honours entry in French</p> <p><b>Level 3:</b> 60 credits from GS3002, GS3003, GS3004, GS3090 and 30 credits from the group GG3021, GG3023, GG3036, GG3041, GG4042, GG3052, GG3056, GG3057, GG3058, GG4059, GG3067, GG3068, GG3069, GS3081, GG3082, GS4083, GS4084, GG3089</p> <p><b>Level 4(H):</b> 60 credits from GS4005, GS4006, GS4007, GS4008, and 30 credits from the group GS4085, GS4086, GG4082, GS4088, GG3021, GG3023, GG3036, GG3041, GG4042, GG3052, GG3056, GG3057, GG3058, GG4059, GG3067, GG3068, GG3069, GS3081, GS3082, GS4083, GS4084</p>

## **Geography & Geosciences – Honours**

### **Modules**

Normally the prerequisite for each of the following Honours modules is entry to the Honours Programme(s) for which they are specified, as well as any additional specific prerequisite(s) given.

**General degree students wishing to enter 3000 modules and non-graduating students wishing to enter 3000 or 4000 level modules must consult with the relevant Honours Adviser within the School before making their selection.**

### **Interdisciplinary (ID) Modules**

There is a module which relates to this School – **ID4441 Combine Chemistry and Geoscience Research Project** which is interdisciplinary and appears in the Interdisciplinary Section of the Catalogue (Section 21)

### **Geography (GE) Modules**

#### **GE3001 Cartographic Methods in Geography**

Credits: 10.0

Semester: 1

Availability: Available only to students in the first year of the Honours Programme.

Anti-requisite: GG3001

Description: This module provides an introduction to basic map design and production. The course syllabus begins with lectures outlining the ideas of generalisation, simplification and symbolisation. An introduction to computerised map production (e.g. using Adobe Illustrator) is provided. These themes form the basis for a series of practical classes, giving the student the opportunity to put these ideas into practice to produce both thematic and choropleth maps.

Class Hour: Friday 9.00 am - 12.00 noon and 2.00 - 5.00 pm during weeks 9-12.

Teaching: Two lectures and 12 hours of practicals in total, over 4 weeks.

Assessment: Practical Exercises = 100%

#### **GE3002 Field Class in Geography**

Credits: 10.0

Semester: 2

Availability: Available only to students in the first year of the Honours Programme.

Anti-requisite: GG3002

Description: An important part of geographical study is to put into practice what is learned in the classroom. To that end, this module is organised around a week-long residential course, usually undertaken in continental Europe

Class Hour: To be arranged.

Teaching: Between 5 and 12 days.

Assessment: Project Report = 100%

#### **GE3004 Ideas and Methods in Geography I**

Credits: 10.0

Semester: 2

Anti-requisite: GG3004

Description: A course of lectures and workshops covering the major philosophical and methodological debates which have arisen within geography over the last two decades. Topics range from an introduction to the nature of methodological analysis, through a consideration of the most recent developments in both human and physical geography, to a discussion of the relationships between nature and culture. Students are required to participate actively in the workshop sessions and discussion is encouraged throughout.

Class Hour: 2.00 - 4.00 Thursday.

Teaching: 20 hours of lectures and workshops in total.

Assessment: Course Work = 100%

**GE3005 Data Analysis in Geography**

Credits: 10.0 Semester: 1  
Availability: Available only to students in the first year of the Honours Programme.  
Anti-requisite: GG3005  
Description: This module is designed to give students an introduction to the handling, presentation and analysis of numerical data within the context of Geography. Topics will include: (i) understanding data types; (ii) data presentation and basic descriptive statistics; (iii) probability; (iv) hypothesis testing using parametric and non-parametric statistics; (v) correlation and regression; (vi) an introduction to the analysis of spatial data. The use of the MINITAB statistical software; is designed to allow these techniques to be employed with large data sets.  
Class Hour: 2.00 - 5.00 pm Friday.  
Teaching: One lecture and one two-hour practical class each week over 6 weeks.  
Assessment: 3 Hour Examination = 100%

**GE3006 Survey : Physical**

Credits: 10.0 Semester: 2  
Availability: Available only to students in the first year of the Honours Programme.  
Anti-requisite: GG3006  
Description: This is a practical class in which students are introduced to the principles and practice of basic topographic survey, the interpretation of aerial photographs and computer processing of field survey data. Based on a local field area, instruction is provided in the use of levels, theodolites and EDMs for simple field survey. Data collected from the field survey exercise will be analysed using 3D computer software models. Instruction is also provided on the theory and practice of deriving maps from aerial photographs.  
Class Hour: 2.00 - 5.00 pm Friday.  
Teaching: 20 hours of lectures, laboratories and field instruction in total.  
Assessment: Project Report = 100%

**GE3007 Survey : Social**

Credits: 10.0 Semester: 2  
Availability: Available only to students in the first year of the Honours Programme.  
Anti-requisite: GG3007  
Description: This module introduces students to the techniques of social survey design: problem identification; questionnaire construction; interviewing; sampling; data coding and analysis; report writing and evaluation. Students will be required to conduct a small field survey and present both a verbal and written report on their findings. Data will be analysed using the computer package SPSS for Windows. The module will be of particular use to those students contemplating a dissertation topic in human geography.  
Class Hour: 2.00 - 5.00 pm Friday.  
Teaching: 20 hours of lectures and practical work in total.  
Assessment: Project Report = 100%

## **Geography & Geosciences – Honours**

### **GE3008 Qualitative Methods in Geography**

Credits: 10.0 Semester: 1

Availability: Available only to students in the first year of the Honours Programme.

Description: This module introduces students to the basic differences between quantitative and qualitative field techniques and to the theoretical and epistemological arguments that inform the choice to use one or the other or both. It discusses a range of qualitative field methods and offers practical experimentation with several. Students design and undertake a qualitative research project on a contemporary local issue. This involves independent field work and analysis of the information collected which is written up in an assessed report.

Class Hour: 2.00 - 4.00 pm Thursday.

Teaching: 20 hours of lectures, laboratories and fieldwork in total.

Assessment: Project Report = 100%

### **GE3025 Development Studies I**

Credits: 15.0 Semester: 1

Availability: 2005-06

Anti-requisite: GG3025

Description: This module examines the development process in 'third world' countries and its association with economic growth, social development and political change. The course covers: the dimensions of development; the global structure of uneven development; theoretical and historical perspectives on development; North-South relations.

Class Hour: 11.00 am - 1.00 pm Tuesday.

Teaching: 16 hours of lectures and seminars in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

### **GE3029 Geography and Gender**

Credits: 15.0 Semester: 1

Availability: 2005-06

Anti-requisite: GG3029

Description: This module re-examines some of the areas of enquiry commonly covered by geographers, but seeks to highlight the gender dimensions of these issues. The module reviews the theoretical positions underpinning different feminisms and considers whether there might be a specifically feminist methodology. Students determine the direction of the latter part of the module through their choice and presentation of group seminars.

Class Hour: 2.00 pm Tuesday and 10.00 am Wednesday.

Teaching: 16 hours of lectures and seminars in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

### **GE3035 Cities, Society and Space**

Credits: 15.0 Semester: 1

Availability: 2004-05

Anti-requisite: GG3035

Description: The aim of this module is to provide an understanding of urban development and urban problems in the developed countries of Europe and North America. This module will document the changing character of developed world cities and seek an explanation of these changes in the interrelationships between the processes of economic growth, social development and political control.

Class Hour: 11.00 am - 1.00 pm Tuesday.

Teaching: 16 hours of lectures and seminars in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%



**GE3037 Population Studies I**

Credits: 15.0 Semester: 1

Availability: 2004-05

Anti-requisite: GG3037

Description: The first part of this module aims to equip students to execute and understand a variety of measures and concepts which are the basis of all demographic research, including: measures of mortality and fertility; period and cohort analysis; stable and stationary populations; natural fertility. The second part examines the major transformation of European populations from 1750 onwards, with particular attention given to Scotland. Students are encouraged to explore the many debates surrounding the explanation of this important episode in order to enhance their understanding of the complex interrelationships between social and demographic variables.

Class Hour: 2.00 - 4.00 pm Tuesday.

Teaching: 16 hours of lectures and seminars and one laboratory in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

**GE3046 The European Union and Central and Eastern Europe**

Credits: 15.0 Semester: 1

Prerequisite: Entry to Honours Geography or one of IR1003 or IR1004.

Anti-requisite: GG3046

Description: The module will introduce students to the theory of the integrated space economy, and to the economic geography of Europe, with special reference to the links between the countries of central and eastern Europe and the European Union. It will also introduce students to some of the sources of data about those links.

Class Hour: 12.00 noon Wednesday and 12.00 noon Thursday.

Teaching: Two classes each week.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

**GE3048 The Growing Awareness of Landscape I**

Credits: 15.0 Semester: 2

Availability: 2004-05

Prerequisite: Entry to Honours Geography or one of AH2001 or AH2002.

Anti-requisite: GG3048

Description: This module seeks to answer the question 'Why do we think that some landscapes are beautiful and others ugly?' Following an introduction to landscape aesthetics, the course proceeds by charting the changing definitions of beautiful landscapes within the post-Renaissance Western European tradition. Topics covered include: landscapes of the Renaissance; the age of geometry; picturesque landscapes in England; the English discovery of the Scottish Highlands; industrial landscapes in the nineteenth century; changing views of the rural scene 1800-1950; and Utopian planning and twentieth century landscapes.

Class Hour: 10.00 am Tuesday and 4.00 pm Tuesday.

Teaching: Two classes each week.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

**GE3051 Environmental Management in Scotland**

Credits: 15.0 Semester: 1

Availability: 2004-05

Anti-requisite: GG3056

Description: This module focuses on current environmental management issues in Scotland. It presents the primary systems of land & resource management (eg. forestry, agriculture & crofting, wildlife, freshwater resources, conservation), and examples of the ways in which these systems interact. The aim is to leave students with an informed conceptual framework for evaluating management proposals and their implications for environmental, economic and social change. A particular focus, employing topical case studies and a field visit, is the conflicts that arise as interest groups with contrasting philosophies & value systems compete to determine the future of Scotland's natural heritage within a devolved political framework.

Class Hour: 9.00 am Monday and 11.00 am Wednesday.

Teaching: 16 hours of lectures or seminars and a one-day field visit.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

## **Geography & Geosciences – Honours**

### **GE3060 Geographies of Imperialism and Colonialism I**

Credits: 15.0 Semester: 1

Availability: 2004-05

Anti-requisite: GG3060

Description: This module will survey modern European imperialism and colonialism from a broadly geographical perspective. Emphasis will be placed on the issues of possession: on the various ways in which Europeans imagined, explored, represented, and went about taking, settling and controlling non-European space. Arguments and examples will be drawn from different parts of the imperial world.

Class Hour: 12.00 noon and 2.00 pm Monday.

Teaching: 16 hours of lectures and seminars in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

### **GE3070 Migration and Health**

Credits: 15.0 Semester: 2

Availability: 2005-06

Anti-requisite: GG3034

Description: This module has three elements. The first introduces human migration, discussing theoretical approaches to migration, the varying types of mobility that exist, and the relationship between migration and issues such as employment, gender and the freedom to migrate. The second introduces the geography of health, focussing on socio-economic and spatial inequalities in health provision and outcomes. The third integrates these themes; topics include the role of migration in the spread of disease, adaptation to new environments and access to health care provision. The module will complement courses on population studies offered elsewhere in the honours degree programme.

Class Hour: 10.00 am - 12.00 noon Thursday.

Teaching: 16 hours of lectures and seminars in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

### **GE3073 Geography of Health**

Credits: 15.0 Semester: 1

Description: This module introduces the principal concerns of the geography of health, including the spatial distribution of diseases, disability and medical conditions, the relationship of health to environmental, social and cultural factors, and the organisation of health care services. It will cover general principles in the geography of health and also specific issues of contemporary political concern. It is primarily based on the contemporary experience of the United Kingdom and other Western societies, although there will be some discussion of the historical geography of health and of the geography of health in the developing world. The module will include practical elements, including consideration of data sets on the geography of health and of qualitative and quantitative methods of analysis.

Class Hour: 10.00 am – 12 noon Monday.

Teaching: 16 hours of lectures and seminars in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

### GE4014 Ideas and Methods in Geography II

Credits: 10.0 Semester: 2  
Availability: Available only to students in the second year of the Honours Programme  
Prerequisite: GE3004  
Anti-requisites: GG3003, GE3003

Description: This module extends the work of GE3004 and encourages students to discuss the scope and diversity of geographical inquiry in preparation for the Ideas and Methods examination at the end of their two honours years. The module involves a series of lectures and seminars that will augment the understanding of theoretical, methodological and applied issues gained in the rest of the honours programme. Discussion will range across a variety of topics including geography as experimental science, geography and local government, research and relevant geographies, and geographical understandings of topical issues. Students will also be required to attend lectures on selected topics and staff-led seminars.

Class Hour: 11.00 am - 1.00 pm Friday.  
Teaching: 20 hours of lectures and seminars in total.  
Assessment: 3 Hour Examination = 100%

### GE4018 Dissertation in Geography

Credits: 30.0 Semester: 1  
Prerequisite: Available only to students who intend an Honours Degree in Geography.  
Anti-requisites: GG3018, GE3018

Description: Students select a topic connected with one of the 3000-level option modules in Geography, mount a research programme to investigate the topic, and write a dissertation on the work. The topic is selected during the second semester of the junior honours year; data are collected during the following vacation and the dissertation is written during the first semester of the second year of the Honours Programme. Each student is supervised by a member of the teaching staff who will ensure that the topic chosen is viable and advise students on data collection and analysis. The dissertation is about 10,000 words in length.

Teaching: One lecture plus individual supervision.  
Assessment: Dissertation = 100%

### GE4019 Review Essay in Geography

Credits: 20.0 Semester: 2  
Prerequisite: Available only to students in the second year of the Honours Programme.  
Anti-requisites: GG3019, GE3019

Description: This module involves the student in isolating a particular geographical topic, not directly involved in a selected option module, conducting a bibliographic search on that topic and then presenting a critical review of the content of the material obtained from a reading of the relevant books and journal articles. The topic chosen arises from a student's own particular interests but is finalised in discussions with a tutor. The final report is about 7,000 words in length.

Teaching: One lecture plus individual supervision.  
Assessment: Essay = 100%

## **Geography & Geosciences – Honours**

### **GE4026 Development Studies II: Geographies of South East Asia**

Credits: 15.0 Semester: 2

Availability: 2005-06

Prerequisite: GE3025

Anti-requisite: GG3026, GE3026

Description: This module builds on the theoretical and conceptual analysis of GE3025. It is designed to allow students to examine a variety of third world development policies and practices, with a focus on South East Asia. Following an introductory lecture, students will evaluate a range of issues of topical concern in rural and urban 'third world' environments. Students will be responsible for developing an understanding of their selected topics and will be required to make a presentation to the class, for group discussion, on one of their chosen topics.

Class Hour: 11.00 am - 1.00 pm Tuesday.

Teaching: 16 hours of lectures and seminars in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

### **GE4030 Geographies of Gender, Health and Place**

Credits: 15.0 Semester: 2

Availability: 2004-05

Prerequisite: GE3073 or GE3029

Anti-requisite: GE3030

Description: Health geographers emphasise the connections between social processes and place in understanding geographies of health and health care. In this course, we will investigate how place is implicated in the gendered construction, experience, and utilisation of health and health services. We will consider both men's and women's health and relationships between them. We will seek to understand how people negotiate their health in the context of gendered relations and processes operating at different scales, ranging from global-local relations to individual bodies. We will critically assess a range of theoretical and methodological approaches to understanding relationships between health, place, and gender. Potential topics may include policies, access and use of services, social movements and activism, reproductive health, and identity. You will be encouraged to develop and expand your own research interests in light of the approaches covered in the course. The course will be taught through a combination of lectures, seminars, and individual or group-based practical work. Evaluation will be ongoing.

Class Hour: 11.00 am - 1.00 pm Monday

Teaching: 16 hours of lectures and seminars in total.

Assessment: Continuous Assessment = 33%, one 2 Hour Examination = 67%

### **GE4038 Population Studies II**

Credits: 15.0 Semester: 2

Availability: 2004-05

Prerequisite: GE3037

Anti-requisites: GG3038, GE3038

Description: This module builds upon the expertise acquired in GE3037 Population Studies I (which is a pre-requisite) and applies it to analysis of contemporary population issues, including: the 'poverty trap'; mortality, fertility and economic-development; fertility, employment and attitudes to marriage; recent trends in mortality; ageing and the future of European populations. The final section of the module is devoted to a consideration of population policies in various parts of the world, including China and Singapore. It ends by asking whether Europe needs a population policy.

Class Hour: 2.00 - 4.00 pm Tuesday.

Teaching: 16 hours of lectures and seminars in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

**GE4047 The Enlargement of the European Union**

Credits: 15.0 Semester: 2

Prerequisite: GE3046

Anti-requisites: GG3047, GE3047

Description: This module will examine the processes of change which are occurring in the European space economy and assess the possibilities for the closer integration of the countries of central and eastern Europe with the European Union in the period up to the year 2020.

Class Hour: 12.00 noon Wednesday and 12.00 noon Thursday.

Teaching: Two classes each week.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

**GE4061 Geographies of Imperialism and Colonialism II**

Credits: 15.0 Semester: 2

Availability: 2004-05

Prerequisite: GG3060 or GE3060

Anti-requisites: GG3061, GE3061

Description: This module will illustrate some of the general arguments about modern European imperialism and colonialism advanced in GG3060/GE3060. The themes considered include: North America and 'noble savage', Africa and 'the white man's burden', and Asia and the discourse of Orientalism. This module concludes with a discussion of whether we now live in a 'postcolonial' age.

Class Hour: 12.00 noon and 2.00 pm Monday.

Teaching: 16 hours of lectures and seminars in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

**GE4072 HIV/AIDS in Africa**

Credits: 15.0 Semester: 2

Availability: 2005-06

Prerequisites: GE3073 or GE3025

Anti-requisite: GE3072

Description: This module addresses the uneven global geography of the HIV/AIDS pandemic and its concentration in Africa. It examines why social scientific, not just biomedical, research is vital and explores the regionally specific dimensions of the virus's rapid spread in this context. The module also investigates the social, political and economic implications of HIV/AIDS for Africa's development. It concludes by looking towards future local and global initiatives that might help reduce transmission and ease the human suffering caused by HIV/AIDS in Africa. The module consists of an introductory and concluding lecture and a programme of student-led seminars.

Class Hour: 3.00 - 5.00 pm Monday.

Teaching: 16 hours of lectures and seminars in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

## **Geography & Geosciences – Honours**

### **Geography – Geoscience (GG) Modules**

#### **GG3011 Introduction to Geographical Information Systems**

Credits: 10.0 Semester: 1

Availability: Available only to students in the first year of their Honours Programme.

Description: This module aims to introduce how to acquire, store, analyse and display spatial digital data and to provide students with the skills necessary to perform standard data manipulation on a number of datasets with a variety of visualisation techniques. Topics will include: 1) an overview of the software and hardware available for handling digital data; 2) the structure and formats of digital data and how to interpolate and manipulate data; 3) 2D and 3D spatial analysis, including producing contoured and shaded relief maps of various datasets; and 4) overlaying multiple datasets on 2D and 3D data. The module will end with a small individual project that begins by building a G.I.S. project plan and incorporates a dataset chosen from one of a number of provided sources including both human and physical geography and geoscience.

Class Hour: 9.00 am - 12.00 noon Friday.

Teaching: One lecture and one two-hour practical class each week over 6 weeks.

Assessment: Continuous Assessment = 50%, 1 Hour Examination = 50%

#### **GG3021 Applied Biogeography**

Credits: 15.0 Semester: 1

Prerequisites: GE2011, GE2012

Description: The aim of this module is to examine (i) the cumulative and catastrophic impact of human activities on selected ecosystems, and (ii) some of the conservation measures possible to reverse, neutralise or prevent human degradation of aquatic and terrestrial ecosystems.

Class Hour: 9.00 am Tuesday and 9.00 am Wednesday.

Teaching: Two classes each week.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

#### **GG3023 Biogeography : Palaeoecology**

Credits: 15.0 Semester: 2

Availability: 2005-06

Prerequisites: GE2011 and GE2012 or GS2011 and GS2012

Description: This module aims to examine the changes which have occurred to vegetation and soils over long timescales. Although the course will begin with an examination of factors such as the beginning of life and evolution, the greater part of the course will concentrate on vegetation and soil changes which took place during the Quaternary period. The theoretical material will be reinforced through a laboratory study of pollen sampled from a core collected from a lake or peat bog.

Class Hour: 9.00 - 11.00 am Tuesday.

Teaching: One 2 hour class each week and two full-day field excursions.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

#### **GG3036 Periglacial Geomorphology**

Credits: 15.0 Semester: 1

Availability: 2005-06

Prerequisites: GE2011 and GE2012 or GS2011 and GS2012

Description: This module investigates landform development in past and present periglacial environments, with emphasis on geomorphic processes and environmental controls. Topics include: (i) permafrost and frost action processes; (ii) periglacial weathering; (iii) nivation and cryoplanation; (iv) the role of running water in permafrost environments; (v) solifluction; (vi) protalus ramparts and rock glaciers; (vii) patterned ground and its significance; (viii) the periglaciation of upland Scotland. Students may be required to attend a one-day field course.

Class Hour: 10.00 am Tuesday and 4.00 pm Tuesday.

Teaching: Two lectures each week and one field day excursion.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

**GG3041 Quaternary Geomorphology of Scotland I**

Credits: 15.0 Semester: 1

Availability: 2005-06

Prerequisites: GE2011 and GE2012 or GS2011 and GS2012

Description: This course provides an introduction to the chronology and significance of Quaternary events in Scotland, and of the techniques used to establish past environmental conditions. Topics covered include: (i) pre-Quaternary landscape evolution; (ii) the Quaternary timescale; (iii) pre-Devensian glacials and interglacials; (iv) the Devensian glacial stage; (v) the Loch Lomond Stadial: glaciation, periglaciation and climate; (vi) sea-level changes; (vii) Holocene landscape changes.

Class Hour: 10.00 am - 12.00 noon Thursday.

Teaching: Two lectures each week.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

**GG3052 Coastal Environments and Sea Level Change**

Credits: 15.0 Semester: 1

Prerequisites: GE2011 and GE2012 or GS2011 and GS2012

Description: Processes affecting coastal lowlands are considered at different scales from the global to the epicontinental sea and to the local scale. The role of sea-level changes over different time periods is assessed as a fundamental factor in understanding the history and evolution of coasts. Examples are taken from landforms of unconsolidated sediments, particularly sand dunes, saltmarshes, deltas, lagoon and tidal flats. Case studies will be given from Brazil, Bangladesh, India, Southern China and North-west Europe.

Class Hour: 11.00 am - 1.00 pm Monday.

Teaching: Sixteen hours plus a field class.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

**GG3056 Glaciers and Glacial Processes I**

Credits: 15.0 Semester: 1

Availability: 2004-05

Prerequisites: GE2011, GE2012

Anti-requisite: GE3051

Description: This module focuses on glaciers in all their diversity of form and dynamics - how they form, flow, and fluctuate, the complex ways in which they interact with the world's climate system, and the processes by which they modify the landscape through erosion.

Class Hour: 10.00 am Monday and 2.00 pm Monday.

Teaching: Sixteen hours of lectures or seminars.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

**GG3058 Quaternary Environmental Reconstruction I**

Credits: 15.0 Semester: 1

Availability: 2004-05

Prerequisites: GE2011 and GE2012 or GS2011 and GS2012

Description: This module will develop an understanding of the theory and practice of Quaternary environmental reconstruction. It will consider the types of evidence used in such reconstructions and the methods used to collect, analyse and interpret such evidence. The critical role of long-term records of environmental change through the Quaternary will also be introduced.

Class Hour: 12.00 noon Wednesday and 12.00 noon Thursday.

Teaching: Two classes each week.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

## **Geography & Geosciences – Honours**

### **GG3067 Oceans and Climate**

Credits: 15.0 Semester: 2

Availability: 2005-06

Prerequisites: GE2011 and GE2012 or GS2011 and GS2012

Description: The aim of the module is to provide an understanding of the role played by oceans in the global climate system. Particular objectives are: (1) to foster understanding of changes in oceanic and climatic circulation, the possible mechanisms for such changes, and wider implications in terms of past, present and future global and regional climates; and (2) to provide practical experience of some research methods employed to determine oceanographic changes.

Class Hour: 11.00 am - 1.00 pm Monday.

Teaching: Two classes.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

### **GG3068 Atmospheric Pollution**

Credits: 15.0 Semester: 2

Prerequisites: GE2011 and GE2012 or GS2011 and GS2012

Description: The aim of the module is examine human impact on the atmosphere, and the implications that atmospheric change has for human societies. The module explores a range of air pollution issues, including: urban and indoor air quality; long range air pollution (e.g. acid rain, Gulf War fires, Indonesian forest fires); radioactive air pollution (including the effects of atmospheric bomb testing and the Chernobyl reactor accident); stratospheric ozone destruction; natural and anthropogenic climate change. The module examines the basic physics and chemistry of the formation, transport, and deposition of atmospheric pollutants, and considers the human and environmental implications of air pollution. The module concludes with a consideration of the ways in which human damage to the atmosphere can be controlled. Prior knowledge of physics, chemistry and meteorology is helpful but not essential.

Class Hour: 10.00 am - 12.00 noon Wednesday.

Teaching: Two classes.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

### **GG3069 Climate and Weather Systems**

Credits: 15.0 Semester: 2

Availability: 2004-05

Prerequisites: GE2011 and GE2012 or GS2011 and GS2012

Description: This module covers the behaviour of the earth's atmosphere and its circulation at a range of scales, from small-scale processes operating within clouds, up to the global climate system. It aims to strike a balance between description (using a wide selection of satellite images, photographs, and videos) and explanation (using in-class demonstrations of physical processes wherever possible). Physical laws will be introduced to describe basic concepts such as the behaviour of gases and the motion of the atmosphere.

Class Hour: 11.00 am – 1.00 pm Tuesday.

Teaching: Two classes.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%



### **GG3082 Sedimentary Environments and Depositional Frameworks**

Credits: 15.0 Semester: 2

Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012)

Description: This module provides a training in critical examination and interpretation of the Earth's sedimentary rock record. The module teaches the skills and techniques for observing, recognising, recording, and assessing sedimentological and stratigraphic data. The major sedimentary depositional environments and their characteristic stratal frameworks and facies are presented within a basinal setting. The practical skills of section logging and facies interpretation are developed principally in the field setting.

Class Hour: To be arranged.

Teaching: 13 lectures, 3 seminars, at least 4 days of field study.

Assessment: Continuous Assessment = 50%, 2 Hour Examination = 50%

### **GG3089 Environmental Geoscience**

Credits: 15.0 Semester: 1

Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012)

Description: The module focuses on methodologies used for solving problems facing environmental geoscientists, particularly in waste disposal, ground contamination, soil erosion, sustainability of resources and land conservation. The necessary theoretical background in geotechnical engineering, environmental geophysics, hydrogeology and environmental geochemistry is supplemented with a training in remote investigation, particularly geophysics. Case histories are used extensively.

Class Hour: To be arranged.

Teaching: 17 lectures, 15 hours of laboratory classes, two or more field classes.

Assessment: Continuous Assessment = 50%, 2 Hour Examination = 50%

### **GG3110 Applied Environmental Geoscience Field Methods**

Credits: 15.0 Semester: 2

Prerequisites: GG3002, GG3089, GS3012, GS3090

Description: This module forms the introduction to methodologies and training in applied environmental reconstruction techniques. It will provide first-hand experience in field examination of geotechnical, environmental and industrial sites in the UK and the methodologies used to solve geo-environmental problems. The module enables hands-on training in using coring tools, hydrological sampling methods, onshore to nearshore marine geophysical surveying (seismic refraction, magnetometry, electrical and electromagnetic methods for land surveys; bathymetric sidescan, acoustic ground discrimination, sub-bottom profiling for lacustrine and marine surveys) and remote sensing applications.

Class Hour: To be arranged.

Teaching: Fortnightly seminar and 2 one-week field excursion/courses.

Assessment: Continuous Assessment = 100%

### **GG4042 Quaternary Geomorphology of Scotland II**

Credits: 15.0 Semester: 2

Availability: 2005-06

Prerequisites: GG3041

Anti-requisite: GG3042

Description: The aim of this course is to explore the role of climatic change during the Quaternary in producing the complex natural environment of Scotland today. Knowledge of Quaternary history is important in that it provides direct evidence of the rate at which natural processes can occur. The geomorphological evolution of selected areas of Scotland will be examined by a series of regional studies of their Late Quaternary history. All students will select a particular region and will write a report on the Quaternary geomorphology of the area and present the results of their investigations, in seminar format, to the remainder of the class.

Class Hour: 10.00 am - 12.00 noon Thursday.

Teaching: Two lectures each week.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

## **Geography & Geosciences – Honours**

### **GG4057 Glaciers and Glacial Processes II**

Credits: 15.0 Semester: 2

Availability: 2004-05

Prerequisites: GG3056

Description: This module, building on the foundations laid in GG3056, focuses on the interactive links between glacial processes, and the landforms, landscapes and sediments that those processes produce, whether under the ice, on land around glaciers, or in aquatic settings around ice margins. A theme running through the course is the way in which studies of the products of glacial action can illuminate glacial processes, and the converse - how studies of glacial processes facilitate the interpretation of glacial landforms and sediments.

Class Hour: 10.00 am Monday and 2.00 pm Monday.

Teaching: Sixteen hours of lectures or seminars.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

### **GG4059 Quaternary Environmental Reconstruction II**

Credits: 15.0 Semester: 2

Availability: 2004-05

Prerequisites: GG3058

Anti-requisite: GG3059

Description: This module, based upon the knowledge gained in GG3058, will illustrate the application of the methods used for Quaternary environmental reconstruction by considering a number of critical case studies. These will include both regional and thematic examples. The Quaternary history of specific regions of Britain and current developments in Quaternary science were also examined.

Class Hour: 12.00 noon Wednesday and 12.00 noon Thursday.

Teaching: Two classes each week.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

### **GG4073 Evolution of the Scottish Cultural Landscape**

Credits: 15.0 Semester: 2

Availability: 2004-05

Prerequisites: **either** GG3021 **or** GG3023

Anti-requisite: GG3073

Description: The module examines the human impact on the Scottish physical environment during the period since the last glacial stage. A series of themes are explored (e.g. the evidence for human impact before the elm decline, the validity of theories used to explain the elm decline, early farming cultures and their impact) and readings for the module concentrate on the palaeoecological and archaeological literature. From this students will appreciate the difficulties of interpreting the available evidence and will be able to identify ways in which these difficulties might be overcome. The module also emphasises the long history of human action which is contained within the present landscape of Scotland.

Class Hour: 9.00 - 11.00 am Thursday.

Teaching: 16 hours of lectures, seminars and fieldwork in total.

Assessment: Continuous Assessment = 33%, 2 Hour Examination = 67%

**GG4082 Physical Processes in the Geosciences**

Credits: 15.0 Semester: 2

Prerequisites: GG3082

Anti-requisite: GS4087

Description: This module provides a quantitative assessment of some of the hallmark natural processes in Earth Sciences involving basic concepts of mass transfer, momentum and heat exchange. A conceptual understanding of the physical basis controlling the character and nature of such processes will be reinforced through laboratory and modeling exercises that permit students to explore the varying behaviour and outcome associated with different sets of initial conditions. Examples include the nature of heat transfer in the lithosphere, sedimentary basin and landscape evolution, wind-driven ocean circulation, and surface and subsurface hydrology.

Class Hour: To be arranged.

Teaching: 12 lectures, seminars and practicals in total.

Assessment: Continuous Assessment = 50%, 2 Hour Examination = 50%

**GG4110 Environmental Geoscience Mapping & Analysis**

Credits: 15.0 Semester: 1

Prerequisites: GG3002, GG3004, GG3082, GG3089, GS3012, GS3090

Description: This module is designed to provide training in a variety of mapping and geochemical analytical techniques of utility to solving geo-environmental problems. Mapping exercises will include use of aerial photographs, thematic mapping and GIS and application of applied geophysical surveying techniques. Analytical techniques will focus on environmental problems and include x-ray diffraction, grain-size analysis and the compositional analysis of natural waters.

Class Hour: To be arranged.

Teaching: Lectures and practical classes

Assessment: Continuous Assessment = 100%

**GG4120 Environmental Geoscience Case Studies & Presentations**

Credits: 15.0 Semester: 1

Prerequisites: GG3002, GG3004, GG3082, GG3089, GS3012, GS3090

Description: This module forms the introduction to the fundamental skills required to assess, write-up and present the outcome of studies investigating and understanding geo-environmental problem solving and issues. The module centres on student-defined and led analyses of case studies relevant to industry and the geo-environmental science field. Students will present their results in a professional-style group presentation setting and industry experts will be invited to participate in and discuss the evaluation of the style and quality of the presentations.

Class Hour: To be arranged.

Teaching: 6 two-hour seminars

Assessment: Continuous Assessment = 100%

**Geoscience (GS) Modules****GS3002 Data Analysis and Numerical Methods in Geoscience**

Credits: 10.0 Semester: 1

Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012)

Anti-requisite: GE3005

Description: This module is designed to give students an introduction to the handling, presentation and analysis of numerical data within the context of Geoscience. Topics will include (i) understanding data types, (ii) data presentation and basic descriptive statistics, (iii) probability, (iv) hypothesis testing using parametric statistics, (v) correlation and regression, (vi) introduction to numerical methods in Geoscience. The MINTAB statistical package will be used to apply these techniques to the analysis of large data sets.

Class Hour: To be arranged.

Teaching: One lecture and one practical class each week

Assessment: 3 Hour Examination = 100%

## **Geography & Geosciences – Honours**

### **GS3004 Field Mapping and Map Interpretation**

Credits: 30.0 Semester: Whole Year

Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012)

Description: This module will train students to observe, record and interpret geological features in the field and on maps. Emphasis will be placed on developing models from observations and devising tests of these models. Specifically, students are trained to think in three spatial dimensions as well as time. As well as field and interpretive skills, students will develop the key skills of logistical organisation, team working and presentation of reports.

Class Hour: To be arranged.

Teaching: Two field courses of 14 and 7 days respectively, plus 5 three hour laboratory classes.

Assessment: Continuous Assessment = 100%

### **GS3012 Analytical Methods In Geoscience**

Credits: 10.0 Semester: 1

Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012)

Description: This module covers the principles behind, and the practical application of, common analytical methods used in the Geosciences. The module begins with the design of field sampling strategies and their application in students collecting environmental and geological materials. The theory of some important analytical methods is then presented and students are given the opportunity to apply some of these in practice on their own materials under technical supervision. Emphasis will be placed on estimating precision and accuracy, and on methods of data presentation and interpretation. Each student will have an opportunity to research an unusual analytical method, relevant to their own particular interests.

Class Hour: To be arranged.

Teaching: One lecture fortnightly, one 2 hour tutorial, one 2 hour practical class.

Assessment: Continuous Assessment = 100%

### **GS3081 Earth Internal Processes**

Credits: 15.0 Semester: 1

Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012)

Description: This is a core module in Geoscience delivered early in the honours programme providing a framework for interpreting the major processes acting within the earth's crust and mantle. The module serves as preparation for a range of optional modules on related themes, and will provide some theoretical and practical preparation for honours dissertations involving igneous petrology, metamorphic petrology and/or structural geology.

Class Hour: To be arranged.

Teaching: 19 lectures, 28 hours of practical, two or more days of field training.

Assessment: Continuous Assessment = 50%, 2 Hour Examination = 50%

### **GS3090 Introduction to Geographical Information Systems (GIS) in Geosciences**

Credits: 10.0 Semester: 1

Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012)

Anti-requisite: GG3011

Description: This module introduces the concepts and methodologies of acquiring, storing, analysing and displaying digital data in a spatial context. Topics include an overview of software and hardware requirements and developments, data sources, structure, and models, spatial analysis and visualisation techniques. Students will work within ArcView 3.2 and develop the skills necessary to design a GIS project with a variety of primary and secondary datasets. The laboratory exercises expose students to a wide variety of digital data, their uses and application in geoscience and their sources.

Class Hour: 9.00 am – 12.00 noon Friday.

Teaching: 1 lecture and a two hour practical.

Assessment: Continuous Assessment = 50%, 1 Hour Examination = 50%

**GS3099 Field Methods Geosciences**

Credits: 30.0 Semester: 2

Prerequisites: Must be studying Geoscience at an overseas university

Anti-requisite: GS3004

Description: This module is designed exclusively for non-graduating overseas undergraduate students seeking advanced training in geological field methods. It consists of hands-on experience honing observational and mapping skills by participating in highly focused residential and one-day excursions and associated laboratory classes. The module takes full advantage of the University's location close to some classic geological locations, including the Moine thrust system, the Buchan and Barrovian metamorphic zones, the Girvan-Ballantrae ophiolite and the Hebridean Tertiary plutonic and volcanic centres.

Class Hour: none – field-based module

Teaching: Occasional lectures, tutorials and practicals

Assessment: Continuous Assessment = 100%

**GS4005 Honours Field Excursion**

Credits: 10.0 Semester: Summer vacation between JH & SH

Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012), and admission to Honours Geoscience

Description: Building on the field training of JH this module is designed to develop the field observation and interpretation skills of collecting, recording, interpreting and synthesising data in the field. The field course will be thematic and examine all aspects of a region using an integrated approach. Theme and location may vary but the excursion will generally be based within a well-exposed orogenic belt with the aim of traversing from the foreland to the interior.

Class Hour: not applicable

Teaching: About 12 days of field-based instruction and exercises

Assessment: Continuous Assessment = 100%

**GS4006 Research Review and Presentations**

Credits: 10.0 Semester: 1

Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012), and admission to Honours Geoscience

Description: The student selects a particular geoscience topic, one that is not directly dealt with in a subject module, conducts literature and web research and then writes a critical review of ca. 3500 words. The topic is also reported in the form of both an illustrated poster, and in a short seminar followed by questions. There will be a short course on giving verbal presentations.

Class Hour: not applicable.

Teaching: One lecture and four class meetings.

Assessment: Continuous Assessment = 100%

**GS4007 Map Interpretation and Remote Sensing**

Credits: 10.0 Semester: 1

Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012), and admission to Honours Geoscience

Description: This module continues the training in the interpretation of the geology of a region as represented on a geological map. In addition, students will be trained in the techniques of interpreting remotely sensed images of the Earth's surface by aerial photography and satellite imagery.

Class Hour: To be arranged.

Teaching: 10 laboratory sessions

Assessment: Continuous Assessment = 100%

## **Geography & Geosciences – Honours**

### **GS4008 Research Dissertation**

Credits:	30.0	Semester:	Whole Year
Prerequisites:	(GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012), and admission to Honours Geoscience		
Description:	An individual research project which allows the student to pursue in depth a topic of personal interest. The student works largely independently of supervision and has the opportunity to demonstrate individuality, initiative and enterprise. Skills of planning and executing research are learnt, as well as the ability to work independently, and present the results orally and in dissertation form (up to 10,000 words).		
Class Hour:	Not applicable.		
Teaching:	none		
Assessment:	Dissertation = 100%		

### **GS4009 Joint Honours Research Project**

Credits:	15.0	Semester:	Whole Year
Prerequisites:	(GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012), and admission to Honours Geoscience		
Description:	An individual research project which allows the student to pursue in depth a topic of personal interest. The student works largely independently of supervision and has the opportunity to demonstrate individuality, initiative and enterprise. Skills of planning and executing research are learnt, as well as the ability to work independently, and present the results orally and in dissertation form (up to 5,000 words).		
Class Hour:	not applicable.		
Teaching:	none		
Assessment:	Dissertation = 100%		

### **GS4010 Joint Honours Research Review**

Credits:	5.0	Semester:	1 or 2
Prerequisites:	(GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012), and admission to Honours Geoscience		
Description:	The student identifies a particular geoscience topic, one that is not directly dealt with in a subject module, conducts literature and web research and then writes a critical review.		
Class Hour:	Not applicable.		
Teaching:	none		
Assessment:	Continuous Assessment = 100%		

### **GS4083 Granites and Basalts**

Credits:	15.0	Semester:	2
Availability:	2004-05		
Prerequisites:	(GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012), and admission to Honours Geoscience or Honours Geography, and GS3081		
Description:	The earth's crust is largely created by acid and basic magmatism. The module explores the nature of that magmatism, the petrography and geochemistry of the rocks created, and the petrogenesis and evolution of the magma. The petrological characteristics of the continental crust and of the upper mantle, the principal sources of acid and basic magmas, are examined in detail for the influence which these have on the magmas created by partial melting.		
Class Hour:	To be arranged.		
Teaching:	18 lectures, 15 hours of laboratory work, 18 hours of field study.		
Assessment:	Continuous Assessment = 50%, 2 Hour Examination = 50%		

**GS4084 Composition of the Solid Earth**

Credits: 15.0 Semester: 2  
Availability: 2005-06  
Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012), *and* admission to Honours Geoscience or Honours Geography, *and* GS3081

Description: The lithosphere is a major geochemical system that operates on a range of scales from sub-microscopic (e.g. the behaviour of atoms in individual crystals), to mesoscopic (e.g. the movement of atoms between crystals in rocks), to macroscopic (e.g. the creation of magma above a subduction zone). This module develops an understanding of aspects of lithosphere composition including mineral composition and its determination, mineral structures and how they respond to changes in the physical and chemical environment, the composition of the crust and the relationship between rocks, minerals and fluids, paying particular attention to the crustal-fluid processes leading to the creation of ore deposits.

Class Hour: To be arranged.  
Teaching: Total of 32 hours lectures and laboratory classes.  
Assessment: Continuous Assessment = 50%, 2 Hour Examination = 50%

**GS4085 Geodynamics**

Credits: 15.0 Semester: 1  
Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012), *and* admission to Honours Geoscience or Honours Geography, *and* GS3081

Description: A study of the geodynamic evolution of the earth's crust and associated atmosphere and hydrosphere since the Archaean. The module contrasts geodynamic evolution in the Archaean, Proterozoic, Palaeozoic and Mesozoic using a number of case studies, including examples visited in the field. The module develops skills of geodynamic interpretation, field observation, report writing and oral presentation.

Class Hour: To be arranged.  
Teaching: 12 lectures, 1 laboratory class, 2 days in the field  
Assessment: Continuous Assessment = 50%, 2 Hour Examination = 50%

**GS4086 Tectonics and Structural Geology**

Credits: 15.0 Semester: 1  
Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012), *and* admission to Honours Geoscience or Honours Geography, *and* GS3081

Description: This module analyses deformation at different crustal depths and within different tectonic environments, as applied to sedimentary, metamorphic and igneous rocks. Scenarios are developed using global examples and particular case studies from the Caledonides, some of which will be examined in the field. The module develops skills of structural and tectonic interpretation, field and laboratory observation, and report writing.

Class Hour: To be arranged.  
Teaching: 12 lectures, 2 laboratory classes, two or more days in the field  
Assessment: Continuous Assessment = 50%, 2 Hour Examination = 50%

**GS4088 Petroleum Exploration and Geophysics**

Credits: 15.0 Semester: 2  
Prerequisites: (GS2001, GS2002, GG2003, GG2004) or (GS2011 & GS2012), *and* admission to Honours Geoscience or Honours Geography

Description: The fundamental concepts, techniques and practices of the hydrocarbon exploration industry are presented. Students will gain a thorough understanding of the geoscience of petroleum exploration, particularly using geophysical methods, and a working knowledge of modern concepts in oil and gas geology.

Class Hour: To be arranged.  
Teaching: 17 lectures, 15 hours laboratory classes, field classes  
Assessment: Continuous Assessment = 50%, 2 Hour Examination = 50%

