

PROGRAMME SPECIFICATION



1	Awarding Institution	Newcastle University
2	Teaching Institution	Newcastle University
3	Final Award	BSc (Hons)
4	Programme Title	Physical Geography
5	UCAS/Programme Code	FH82
6	Programme Accreditation	Not applicable
7	QAA Subject Benchmark(s)	Geography
8	FHEQ Level	Honours / Level 6
9	Date written/revised	Revised March 2014

10 Programme Aims

1. To examine core themes of physical geography and to enable students to develop their knowledge and understanding of the theoretical and empirical basis of the discipline by challenging their assumptions and the assumptions of others.
2. To provide FH82 students with opportunities to make well-reasoned arguments and to think both critically and creatively through active engagement with a wide range of geographical information.
3. To inspire students to think about their own place and responsibilities in the world and to critically examine the application of physical geography to problem-solving and improving quality of life.
4. To promote knowledge of the diverse range of specialist techniques and approaches involved in collecting, analyzing and presenting geographical information.
5. To promote the development of personal attributes and skills that foster initiative, innovation, self-reflection, effective communication, problem setting, problem solving, responsibility and teamwork.
6. To equip FH82 graduates with the knowledge and skills appropriate for a career in a wide range of specialist geographical and non-geographical professions or for further study.
7. To provide an award which meets the requirements at level 6 in the Framework for Higher Education Qualification and which conforms to University policies about quality assurance and QAA codes of practice.
8. To provide an award which meets the requirements of the QAA subject benchmark statement for geography.

11 Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas. The primary aims of provision (above) produce Intended Learning Outcomes (ILOs) in four key areas of; Knowledge and Understanding; Intellectual (Thinking) Skills; Practical and Professional Skills; and Key Transferable Skills. Each ILO has a corresponding suite of Teaching and Learning Methods and an appropriate Assessment Strategy.

Knowledge and Understanding

Graduates from FH82 Physical Geography should have an informed and critical awareness of:

- A1** the dynamic and contested nature of geographical thought and practice and the inter-relationships between the discipline and the physical and natural sciences
- A2** processes that shape the natural world at different temporal and spatial scales, patterns and processes of environmental change and their inter-relationships with human activities
- A3** the role of human activity in influencing natural processes and contested debates concerning a wide range of earth science systems and issues, including sustainability, geomorphologic processes, geo-hazards and global environmental change
- A4** the scientific and technical methods used to acquire, interpret and analyze earth systems data,
- A5** the importance of a multi-disciplinary and holistic approach to advancing knowledge of physical and biological processes and their impact on the environment
- A6** the inter-relationship between physical and human systems
- A7** the role of changes in technology in informing current practice in areas of physical geography data handling and application
- A8** professional and ethical responsibilities
- A9** the relevance of geographical perspectives to the development of environmental agendas and policies and action to address real-world problems

Teaching and Learning Methods

Geographical knowledge and understanding (A1-A9) are acquired throughout the curriculum through an emphasis on field-based and experiential learning alongside a mix of well-established and more experimental teaching and learning practices including: lectures, tutorials, staff and student-led seminars, guided independent study, oral and poster presentations and teamwork. This mix of cognate and experiential teaching and learning promotes creativity, critical thinking, active learning, problem setting and problem posing, information literacy, numeracy and spatial awareness.

A compulsory Stage 1 programme develops the main themes of the degree while an overview of disciplinary thought and practice (A1) is provided by compulsory Stage 2 modules. During Stages 2 and 3 students can follow particular pathways through the degree programme, specialising in physical geography, geomatics or a combination of both.

Assessment Strategy

Knowledge and understanding (A1-A9) are assessed by combinations of examinations (seen and unseen, including computer-aided assessments) and coursework (including essays, individual and group projects, dissertations, practical reports, oral presentations, poster presentations, portfolios and field-based project work).

Examinations are primarily intended to assess knowledge of core information while written and oral coursework places more emphasis on the development of critical analysis and understanding of the concepts within a wider geographical context. Fieldwork is central to the aims of the degree programme. Field-based project work, and individual and group presentations emphasise effective communication, data synthesis, personal enterprise, innovation, creativity and teamwork.

Intellectual Skills

On completing the FH82 programme students should be able to:

- B1** **gather**, abstract and synthesise data, text and information from a variety of sources using well developed skills of numeracy and information literacy
- B2** **assess** and critically evaluate the merits of contrasting theories, explanations, methods policies and action
- B3** **demonstrate** initiative, self awareness and reflection through well prepared and coherently structured oral and written communication
- B4** **develop** reasoned arguments and effective means of outward facing public engagement
- B5** **draw** on personal enterprise, innovation and creativity to solve problems and make reasoned decisions

Teaching and Learning Methods

Cognitive skills are introduced in Stage 1 modules and developed to advanced levels through Stage 2 and 3 modules. Seminars, projects and group work allow students to discuss and learn to evaluate arguments and evidence while fieldwork, and especially the dissertation, promotes personal enterprise, innovation and creativity alongside advanced intellectual skills of problem setting and problem solving.

Assessment Strategy

Cognitive skills are assessed by coursework essays, field-based projects, case studies, textual analysis, policy evaluations, practical write-up and portfolios and, to a lesser extent, via unseen written examinations. The dissertation provides a means of demonstrating the full range of cognitive/ intellectual skills.

Practical Skills

On completing the programme students should be able to:

- C1** **plan**, design, execute and report Physical Geography research both individually and as part of a team
- C2** **undertake** field and laboratory investigations in a responsible and safe manner, paying due attention to risk assessment, rights of access, relevant health and safety regulations, and sensitivity to the impact of investigations on the environment and stakeholders
- C3** **employ** a variety of technical and laboratory-based methods for the analysis and presentation of spatial and environmental information (e.g. GIS, water chemistry etc.)
- C4** **appreciate** issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory
- C5** **collect**, interpret and synthesise different types of quantitative and qualitative geographical data (primary and secondary data, in the field and as a desk study) including discourse analysis, techniques for exploring visual media and ways of presenting data spatially
- C6** **recognise** the ethical issues involved in debates and enquiries
- C7** **apply** practical insights and awareness of how different institutions and organisations work to future employment and their roles as world citizens

Teaching and Learning Methods

Subject-specific and professional skills are introduced and developed in dedicated and compulsory Stage 1 and 2 modules, and are developed to an advanced level in optional modules and the dissertation. Teaching and learning methods include lectures, seminars, computer based workshops, laboratory practicals and compulsory field-based experiential learning at stages 1 and 2.

Assessment Strategy

Subject-specific and professional skills are assessed by means of essays, oral and poster presentations, fieldwork and laboratory reports and written and computer-aided examinations. All skills (C1-C6) are assessed in Stage 3 by means of the dissertation. Students who take work-based learning modules learn and practice self-management skills for which assessment is by mock job interview (C7).

Transferable/Key Skills

On completing the programme students should be able to:

- D1 learn** in familiar and unfamiliar situations, both independently and in groups
- D2 communicate** effectively (in writing, verbally and through visual and new media presentations)
- D3 apply** numerical and computational skills to geographical information
- D4 use** information technology effectively and creatively with full regard to the quality control issues of knowledge production and communication (including use of spreadsheet, database and word processing programmes; Internet and e-mail)
- D5 identify**, retrieve, sort and exchange geographical information using a wide range of sources (including on-line computer searches)
- D6 work** as part of a team and to recognise and respect the viewpoints of others
- D7 manage** their time, show initiative and organise their work effectively

Teaching and Learning Methods

Stage 1 introduces all key skills (D1-7) and these are taught formally and further developed in a step-wise fashion throughout each stage of the programme. Communication skills (D2-3) are developed in written coursework and exams, projects, oral and poster presentations and via the dissertation. Compulsory modules at stages 1 and 2 support numerate skill development (D3) and the retrieval and use of information sources (D4-5). Self-management (D7) is promoted through a strict coursework and assessment timetable. The dissertation provides an opportunity for the development of a range of key skills, (D1-5, 7), particularly the ability to work independently (D1), while fieldwork provides opportunities to learn in unfamiliar situations (D1) and develop team-working skills (D6).

Assessment Strategy

Key skills are assessed by a combination of examination and coursework assignments, including essays, project and practical reports, portfolios, oral and poster presentations and computer-aided assessments. A wide range of key skills are typically assessed within the dissertation.

12 Programme Curriculum, Structure and Features

Basic structure of the programme

Newcastle and its regions provide an ideal environment in which to study Physical Geography. From coasts to mountains, rivers to moorlands, and in landscapes displaying a rich record of their evolution over lengthy timescales, the north-east of England offers a superb outdoor laboratory for students of physical geography.

The breadth and flexibility of Physical Geography make it an ideal degree to study, bridging the gap between the physical environment and our interaction with it. In these changing and challenging times, an integrated knowledge of the myriad interactions within natural systems - *of which we are a part* - is essential for sensitive and sustainable management. This degree programme aims to provide such a knowledge base to participants. Landscape studies are diverse and exciting and demand a wide range of academic and practical skills. The FH82 modules cover methods and theory of Physical Geography along with those used to study the physical environment in order to fully interpret landscapes.

The concerns and skills of geographers range from mapping to numerical analysis, from national and international studies of landscape formation and change to economic activity, and from cultural differences to regional analysis of social deprivation or geomorphology. Physical Geographers can influence policy in essential areas such as conservation, urban redevelopment or the scientific, legislative and managerial aspects of pollution control and water supply in both the industrial and the developing worlds. As Physical Geographers, graduates will be well placed to monitor changes in the environment, to understand and predict the effect of human activity on the world we live in, to analyse political and social development, and to locate the natural resources on which we all depend.

Measuring the landscape using land surveying techniques is part of geomatics, as is managing the data which has been captured in computer-based information systems such as GIS (Geographical Information Systems). The display of data using cartography is also an element of geomatics. The package of geomatics modules offered for the FH82 degree denote four major subject streams - survey, imaging, GIS, mapping. These form a coherent whole and link with specialist optional modules in positioning (including GPS), geophysics and other technology-led areas.

The focus on both lab-based practicals and outdoor work are designed to appeal to those who are interested in the environment and methods of handling the data which pertains to it. The intellectual core of the discipline stresses appreciation of accuracy, mastery of data manipulation and analysis, and concern for the effective dissemination and use of spatial data by geographers.

Key features of the programme (including what makes the programme distinctive)

- The programme provides a broad foundation in the discipline while allowing students the option of specialising in geography with an emphasis on both conceptual and empirical approaches, geomatics with an emphasis on earth observation, or a combination of both
- A compulsory dissertation provides students with first-hand experience of conducting and reporting original physical geography research
- The curriculum is strongly linked to leading geographical and geomatics research conducted by staff
- All students have the opportunity to undertake fieldwork in abroad and in the UK, including trips to the American southwest, Morocco, west of Ireland, Iceland and a non-residential Northumberland trip
- Students may opt to study abroad for one semester (via the Erasmus Programme)

Students benefit from the flexible nature of the FH82 degree, which is intended to allow individuals to specialize in the areas that interest him/her most. In dedicated tutorials as well as lectures, seminars and fieldwork, students will gain experience of a variety of transferable skills such as report writing, oral presentation, interpersonal communication, problem solving, initiative and adaptability, as well as hands-on experience of information technology and statistics. This will make our graduates highly employable in a wide range of careers – everything from teaching, public service and journalism to development work and environmental management. It is aimed that promising undergraduate students will be encouraged to return to Newcastle University to participate in postgraduate Geography, Geomatics or Environmental Science degree programmes at the Masters and PhD level, in both the Faculties of HASS and SAgE.

Northumberland and its region provide access to a wide variety of environments for physical geographers. FH82 students will be able to study at first-hand rivers, reservoirs, wetlands, uplands and coastal areas, the human interface with these landscapes and aspects of the history and management of the countryside. The region is a rich resource for physical geography fieldwork, which forms an integral part of the degree programme and particularly at Stages 1 and 2. We also require FH82 students to partake in residential fieldwork overseas with current destinations for 2012-13 including the American southwest and the west of Ireland. In Stage 3 students are required to undertake an independent research project using the skills base developed in Stages 1 and 2. At Stage 3 there is a residential GIS field module (northern Britain) and optional field trips to either Greenland or New Zealand (latter two will only run if enough students choose them).

The concerns and skills of geographers range from mapping to numerical analysis, from national and international studies of landscape formation and change to economic activity, and from cultural differences to regional analysis of social deprivation or geomorphology. Physical Geographers can influence policy in essential areas such as conservation, urban redevelopment or the scientific, legislative and managerial aspects of pollution control and water supply in both the industrial and the developing worlds. As Physical Geographers, our graduates will be excellently placed to monitor changes in the environment, to understand and predict the effect of human activity on the world we live in, to analyse political and social development and to locate the natural resources on which we all depend.

Programme regulations (link to on-line version)

<http://www.ncl.ac.uk/regulations/programme/>

13 Criteria for admission

Entry qualifications

The following gives an indication of the type and level of entrance qualifications we will look for:

'A' levels: ABB, including A level Geography and excluding General Studies. GCSE Mathematics to 'B' grade is also required.

Scottish qualifications: AABBB at Higher Grade including Geography and preferably Mathematics. Combinations of Highers and Advanced Highers are accepted.

Under the new post 16 arrangements in England:

6 credit vocational A level accepted as one of the three A levels.

Applicants with 12 credit vocational A levels will be considered on their merits

2 AS levels will be accepted instead of one of the A levels (subject other than those at A level)

Skills qualifications will not generally be included in offers

Admissions policy/selection tools

The main admission criterion is that the student should be capable of achieving the learning outcomes of the degree. This is assessed from evidence of previous examination successes. All students who are offered a place will be invited to an Open Day. We aim to talk individually to each applicant at their Open Day.

We recognize that students will apply to our degree programmes with a range of qualifications. We will consider each applicant on an individual basis, taking into account the information on the UCAS form including past academic performance and potential.

Non-standard Entry Requirements

International Baccalaureate: A minimum of 35 points with Geography at Higher Level grade 6 or above.

Access to HE courses: Candidates offering Access to HE courses are welcomed and considered on an individual basis. A module in a geography-related subject is desirable, as is a mathematics-oriented module (three modules at Credit grade for HEFC).

We welcome applications from students with qualifications other than the ones described above, including a full range of European and international qualifications, and are pleased to advise anyone interested with regard to choosing an appropriate preparatory course of study.

Additional Requirements

n/a

Level of English Language capability

All new students whose first language is not English are required to take an English Language test in the Language Centre. Where appropriate, in-session language training can be provided. The Language Centre houses a range of resources for learning other languages which may be particularly appropriate for those interested in an Erasmus exchange.

14 Support for Student Learning

The Student Services portal provides links to key services and other information and is available at: <http://www.ncl.ac.uk/students/>

Induction

During the first week of the first semester students attend an induction programme. New students will be given a general introduction to University life and the University's principle support services and general information about the School and their programme, as described in the Degree Programme Handbook. New and continuing students will be given detailed programme information and the timetable of lectures/practicals/labs/ tutorials/etc. The International Office offers an additional induction programme for overseas students.

Study skills support

Students will learn a range of Personal Transferable Skills, including Study Skills, as outlined in the Programme Specification. Some of this material, e.g. time management is covered in the appropriate Induction Programme. Students are explicitly tutored on their approach to both group and individual projects.

Numeracy support is available through Maths Aid and help with academic writing is available from the Writing Development Centre (further information is available from the Robinson Library).

Academic and Pastoral support

Each undergraduate and taught postgraduate student will be assigned a personal tutor.* A personal tutor is one part of a wider network of advice and guidance available to students to support their personal and general academic development. The module leader acts as the first point of contact for subject-specific academic advice. Thereafter the Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the Student-Staff Committee, and/or at the Board of Studies. Within the academic unit, students may also receive additional academic and pastoral advice from a range of other student-facing staff including degree programme directors, dissertation/project supervisors, and administrative support staff.

*Arrangements may vary for students taking special types of provision.

The University also offers a wide range of institutional services and support upon which students can call, such as the Writing Development Centre, Careers Service and Student Wellbeing Service. This includes one-to-one counselling and guidance or group sessions / workshops on a range of topics, such as emotional issues e.g. stress and anxiety, student finance and budgeting, disability matters etc. There is specialist support available for students with dyslexia and mental health issues. Furthermore, the Student Union operates a Student Advice Centre, which can provide advocacy and support to students on a range of topics including housing, debt, legal issues etc.

Support for students with disabilities

The University's Disability Support team provides help and advice for disabled students at the University - and those thinking of coming to Newcastle. It provides individuals with: advice about the University's facilities, services and the accessibility of campus; details about the technical support available; guidance in study skills and advice on financial support arrangements; a resources room with equipment and software to assist students in their studies.

Learning resources

The University's main learning resources are provided by the Robinson and Walton Libraries (for books, journals, online resources), and Information Systems and Services, which supports campus-wide computing facilities.

All new students whose first language is not English are required to take an English Language Proficiency Test. This is administered by INTO Newcastle University Centre on behalf of Newcastle University. Where appropriate, in-session language training can be provided. The INTO Newcastle University Centre houses a range of resources which may be particularly appropriate for those interested in an Erasmus exchange.

Discipline-specific resources provided by the School of GPS include the following:

- laboratory space and equipment supporting a wide range of analytical facilities (including grain size, water and sediment geochemistry and microfossil analysis) appropriate to physical geography modules and dissertation study, including a dedicated teaching room, fully refurbished geomorphology laboratory and a microscope room (with a dedicated computer and image processing and analysis software) in the Daysh Building. Laboratory facilities are supported by two technicians.
- Physical geography fieldwork equipment appropriate for sediment coring, sampling and analysis, field survey (including levels, theodolites and GPS sets), hydrological analysis and water sampling and assessment. Two inflatable boats (with appropriate safety equipment) facilitate extraction of lake sediment and water samples. Additional field survey equipment may be obtained from the School of Civil Engineering and Geosciences.

15 Methods for evaluating and improving the quality and standards of teaching and learning

Module reviews

All modules are subject to review by questionnaires which are considered by the Board of Studies. Changes to, or the introduction of new, modules are considered at the Board of Studies and/or the School Teaching and Learning Committee. Student opinion is sought at the Student-Staff Committee and/or the Board of Studies. New modules and major changes to existing modules are subject to approval by the Faculty Learning, Teaching and Student Experience Committee.

Programme reviews

The Board of Studies conducts an Annual Monitoring and Review of the degree programme and reports to Faculty Learning, Teaching and Student Experience Committee. The FLTSEC takes an overview of all programmes within the Faculty and reports any Faculty or institutional issues to the University Learning, Teaching and Student Experience Committee.

External Examiner reports

External Examiner reports are considered by the Board of Studies. The Board responds to these reports through Faculty Learning, Teaching and Student Experience Committee. External Examiner reports are shared with institutional student representatives, through the Student-Staff Committee.

Student evaluations

All modules and stages* are subject to review by student questionnaires. Informal student evaluation is also obtained at the Student-Staff Committee, and the Board of Studies. The National Student Survey is sent out every year to final-year undergraduate students, and consists of a set of questions seeking students' views on the quality of the learning and teaching. The results from student surveys are considered as part of the Annual Monitoring and Review of the programme and any arising actions are captured at programme and School / institutional level and reported to the appropriate body.

*With the exception of intercalating years and the final stages of undergraduate programmes.

Mechanisms for gaining student feedback

Feedback is channelled via the Student-Staff Committee and the Board of Studies.

Faculty and University Review Mechanisms

Every six years degree programmes in each subject area undergo periodic review. This involves both the detailed consideration of a range of documentation, and a review visit by a review team (normally one day in duration) which includes an external subject specialist and a student representative. Following the review a report is produced, which forms the basis for a decision by University Learning, Teaching and Student Experience Committee on whether the programmes reviewed should be re-approved for a further six year period.

Accreditation reports

Additional mechanisms

16 Regulation of assessment

Pass mark

The pass mark is 40 (Undergraduate programmes)

Course requirements

Progression is subject to the University's Undergraduate Progress Regulations and Undergraduate Examination Conventions. In summary, students must pass, or be deemed to have passed, 120 credits at each Stage. Limited compensation up to 40 credits and down to a mark of 35% is possible at each Stage and there are re-assessment opportunities, with certain restrictions.

Weighting of stages

The weighting of marks contributing to the degree for Stage 2 is one-third and for Stage 3 is two-thirds i.e. credits for module taken at Stage 3 are double-weighted.

Common Marking Scheme

The University employs a common marking scheme, which is specified in the Undergraduate Examination Conventions, namely:

	Honours	Non-honours
<40	Fail	Failing
40-49	Third Class	Basic
50-59	Second Class, Second Division	Good
60-69	Second Class, First Division	Very Good
70+	First Class	Excellent

Role of the External Examiner

An External Examiner, a distinguished member of the subject community, is appointed by Faculty Teaching and Learning Committee, after recommendation from the Board of Studies. The External Examiner is expected to:

- See and approve examination papers
- Moderate examination and coursework marking
- Attend the Board of Examiners
- Report to the University on the standards of the programme

The External Examiner may wish to talk to students to assess their opinion and enjoyment of their degree programme.

In addition, information relating to the programme is provided in:

The University Prospectus: <http://www.ncl.ac.uk/undergraduate/>

The School Brochure: <http://www.ncl.ac.uk/marketing/services/print/publications/ordering/>

Degree Programme and University Regulations: <http://www.ncl.ac.uk/regulations/docs/>

The Degree Programme Handbook

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

Mapping of Intended Learning Outcomes onto Curriculum/Modules

Module	Type	Intended Learning Outcomes			
		A	B	C	D
GEO1005	Compulsory	1,2,3,4,5,6,7	1,2,3,4,5	5,6,7	1,2,4,5,7
GEO1096	Compulsory	1,2,3,4,5,6,7,8,9	1,2,3,4,5	1,5	1,2,4,5,6,7
GEO1103	Compulsory	2,4,5	1,2,3,4,5	1,2,3,5,6	1,2,3,4,5,6,7
GEO1020	Compulsory	1,2,3,4,5,6,7	1,2,3,4,5	5,6,7	1,2,4,5,7
GEO1019	Compulsory	1,2,3,4,5,6,7,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
GEG1702	Compulsory	2,4,5,6,7	1,3,5	1,2,3,4,5	1,2,3,4,5,6,7
CEG1706	Compulsory	2,4,5,7	1,3,5	1,2,3,4,5	1,2,3,4,5,6,7
CEG1705	Compulsory	2,4,5,6,7	1,3,5	1,2,3,4,5	1,2,3,4,5,6,7

GEO2106	Compulsory	1,2,3,4,5,6,7	1,2,3,4,5	1,2,3,4,	1,2,3,4,7
GEO2037 <i>OR</i> GEO2113	Compulsory	1,2,3,4,5,6,7,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
GEO2111	Compulsory	1,2,3,4,5,6,7,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
GEO2024	Optional	2,3,4,5,6,7,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
GEO2107	Optional	1,2,3,4,5,6,7,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
CEG2709	Compulsory	2,3,4,5,7	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
CEG2704	Compulsory	2,3,4,5,7	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
CEG2708	Optional	2,3,4,5,7	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
ACE2052	Optional	2,3,4,5,6,7,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7

GEO3099	Compulsory	1,2,3,4,5,6,7,8,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,7
GEO3117	Optional	1,2,3,4,5,6,7,9	1,2,3,4,5	1,5	1,2,3,4,5,6,7
GEO3110	Optional	1,2,3,4,5,7,9	1,2,3,4,5	1,3,5	1,2,3,4,5,6,7
GEO3128	Optional	1,2,3,4,5,7,9	1,2,3,4,5	1,3,5	1,2,3,4,5,6,7
GEO3132	Optional	1,2,3,4,5,7,9	1,2,3,4,5	1,3,5	1,2,3,4,5,6,7
GEO3118	Optional	1,2,3,4,5,7,9	1,2,3,4,5	1,3,5	1,2,3,4,5,6,7
GEO3126	Optional	1,2,3,4,5,7,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
CEG2708	Optional	1,2,3,4,5,6,7,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
CEG3701	Optional	1,2,3,4,5,6,7,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
CEG3707	Optional	1,2,3,4,5,7,9	1,2,3,4,5	4,5	1,2,3,4,5,7
CEG3715	Optional	1,2,3,4,5,6,7,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7
ACE3015	Optional	1,2,3,4,5,6,7,9	1,2,3,4,5	1,2,3,4,5	1,2,3,4,5,6,7

Codes used in Table mapping Intended Learning Outcomes onto Curriculum/Modules

- A1** The dynamic and contested nature of geographical thought and practice and the inter-relationships between the discipline and the physical and natural sciences
- A2** Processes that shape the natural world at different temporal and spatial scales, patterns and processes of environmental change and their inter-relationships with human activities
- A3** The role of human activity in influencing natural processes and contested debates concerning a wide range of earth science systems and issues, including sustainability, geomorphologic processes, geo-hazards and global environmental change
- A4** The scientific and technical methods used to acquire, interpret and analyze earth systems data
- A5** The importance of a multi-disciplinary and holistic approach to advancing knowledge of physical and biological processes and their impact on the environment
- A6** The inter-relationship between physical and human systems
- A7** The role of changes in technology in informing current practice in areas of physical geography data handling and application
- A8** Professional and ethical responsibilities
- A9** The relevance of geographical perspectives to the development of environmental agendas and policies and action to address real-world problems

- B1** Gather, abstract and synthesize data, text and information from a variety of sources using well-developed skills of numeracy and information literacy
- B2** Assess and critically evaluate the merits of contrasting theories, explanations, methods policies and action
- B3** Demonstrate initiative, self-awareness and reflection through well prepared and coherently-structured oral and written communication
- B4** Develop reasoned arguments and effective means of outward facing public engagement
- B5** Draw on personal enterprise, innovation and creativity to solve problems and make reasoned decisions

- C1** Plan, design, execute and report Physical Geography research both individually and as part of a team
- C2** Undertake field and laboratory investigations in a responsible and safe manner, paying due attention to risk assessment, rights of access, relevant health and safety regulations, and sensitivity to the impact of investigations on the environment and stakeholders
- C3** Employ a variety of technical and laboratory-based methods for the analysis and presentation of spatial and environmental information (e.g. GIS, water chemistry etc.)
- C4** Appreciate issues of sample selection, accuracy, precision and uncertainty during collection, recording and analysis of data in the field and laboratory
- C5** Collect, interpret and synthesize different types of quantitative and qualitative geographical data (primary and secondary data, in the field and as a desk study) including discourse analysis, techniques for exploring visual media and ways of presenting data spatially
- C6** Recognize the ethical issues involved in debates and enquiries
- C7** Apply practical insights and awareness of how different institutions and organizations work to future employment and their roles as world citizens

- D1** Learn in familiar and unfamiliar situations, both independently and in groups
- D2** Communicate effectively (in writing, verbally and through visual and new media presentations)
- D3** Apply numerical and computational skills to geographical information
- D4** Use information technology effectively and creatively with full regard to the quality control issues of knowledge production and communication (including use of spreadsheet, database and word processing programs; Internet and e-mail)
- D5** Identify, retrieve, sort and exchange geographical information using a wide range of sources (including on-line computer searches)
- D6** Work as part of a team and to recognize and respect the viewpoints of others
- D7** Manage time, show initiative and organize work effectively