



Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

School of Natural Sciences

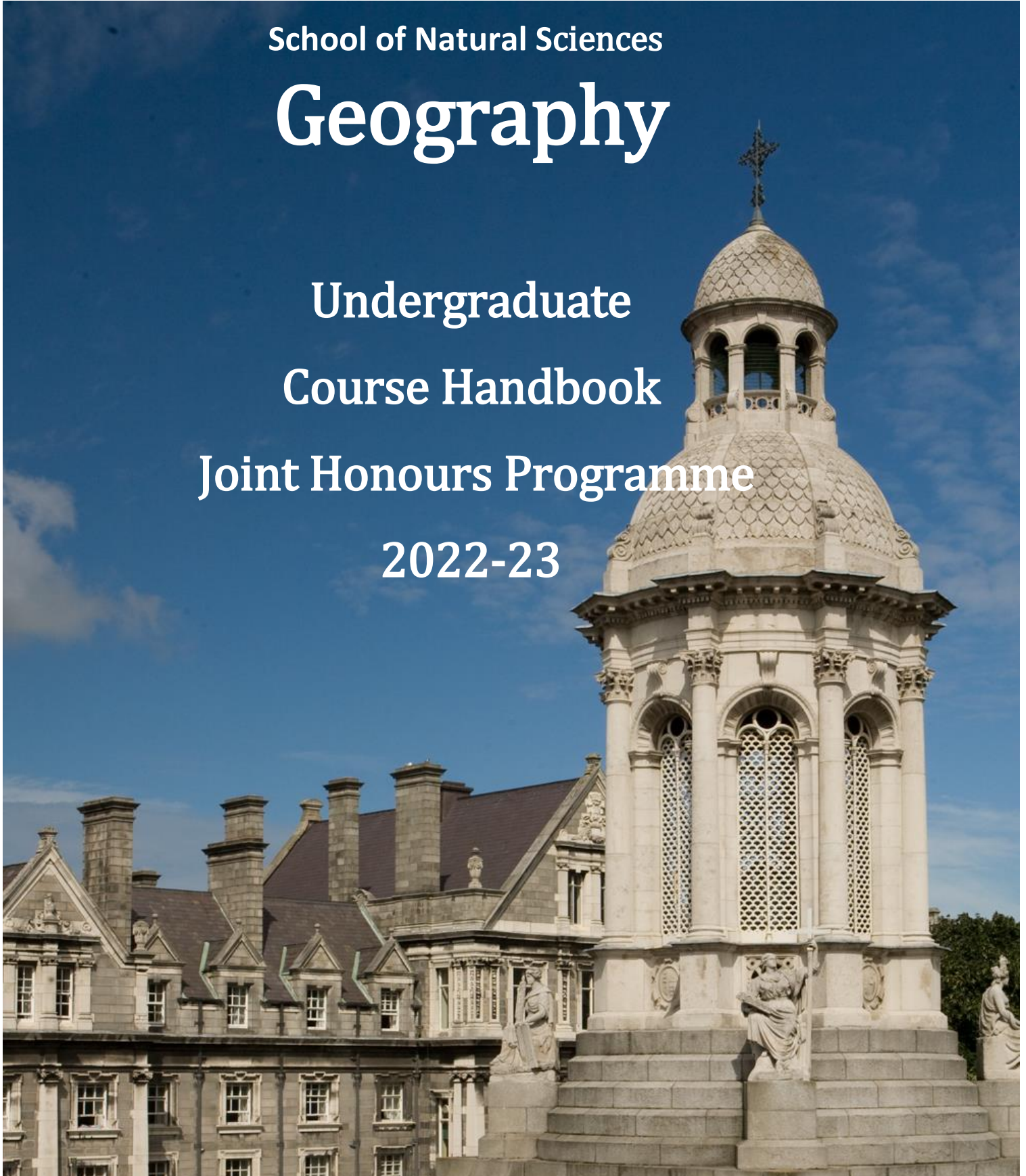
Geography

Undergraduate

Course Handbook

Joint Honours Programme

2022-23



Academic Year Structure 2022/023

Please refer to the college calendar at tcd.ie/calendar/academic-year-structure/ for up to date information. The below will be updated on release of calendar for 2022/23

Key Dates: TBC

Freshers'/Orientation Week:

Semester 1 Teaching begins:

Study/Reading Week:

Semester 1 Teaching ends:

Semester 1 Revision Week:

Semester 1 Assessment Week:

Scholarship Examinations:

Semester 2 Teaching begins:

Study/Reading Week:

Semester 2 Teaching ends:

Semester 2 Revision Week:

Semester 2 Assessment Week:

Trinity week:

Formal Assessment weeks ²:

Semester 1 examinations

Semester 2 examinations

¹ It may be necessary to hold some Foundation Scholarship examinations in the preceding week.

² Please note that the dates of formal assessment weeks may extend to begin earlier or run later – examination schedules may not be finalised at this time.

IMPORTANT NOTE: The details contained in this booklet are subject to change. In the event of any conflict or inconsistency between the General Regulations published in the University Calendar and information contained in this course handbook, the provisions of the General Regulations will prevail.

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1. Welcome from the Head of Geography

We are living through what feels like a pivotal period in our history on this, our, planet. As I write this, the war in Ukraine has been ongoing for months, precipitating the worst refugee crisis in Europe since the Second World War and perhaps connected in no small measure to the geo-political consequences of globalisation. We are also seeing global society beginning to learn to live with the Covid-19 virus that, no doubt, will continue to challenge us and our medical care systems over the next years. We are also seeing the increasing acceptance in all sectors of society that we must sharpen our efforts to mitigate climate change, as well as adapt to and live with those consequences of our past human footprint. In short, the past will resonate with us for some time to come but we must look to a future that actively addresses the challenges ahead.



Underpinning the above challenges are often conflicted human-environment relationships. It is those relationships that Geography has, for the past 200 years or so of its history, learnt to question and address. In no small measure, Geography at Trinity College Dublin delivers insights that help us know and understand a dynamic and rapidly changing world. It is a place of intensive and extensive geographical scholarship in Ireland. We teach and research across the discipline from development theory to coastal modelling, and from climate change to the workings of the social economy and we aim to challenge students intellectually, to foster and maintain world-class research and teaching in a supportive and collegial atmosphere. Geography is unique in offering a way of thinking about complex human-environment systems at different scales, from the global to the local, from milliseconds to millennia. It is an integrative subject with an international outlook and openness to interdisciplinary collaboration.

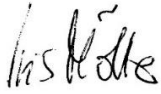
Whether face-to-face or (as we have all learnt during the pandemic) online, our research takes us far beyond the lecture theatre to international conferences, global editorial committees and policy-making think tanks, and our work is published in many formats including journals, books, research films, and on internet portals. We work to address major challenges for contemporary society including international development, environmental change and globalisation, but practically all issues we face have a geographical dimension, whether it is global climate change, regional sea level rise, or local flooding in a river catchment.

Our Geography graduates take critical analytical interdisciplinary skills and knowledge with them as they move on to their careers in a multitude of fields. Precisely the skills and knowledge that are required by those who make it their ambition to address critical societal challenges in a world that is rapidly changing. New technologies are continuously offering novel ways of interrogating the spatially diverse human-environment relations that are the focus of our discipline. And their employers know it: we see our graduates successfully join the public, private, educational, as well as charitable sectors alike, whether as part of multi-national organisations or as individual actors or entrepreneurs.

We are very proud of our students and our dedicated team of Geography staff, and the programmes that bring us together. Our modules form critical elements of the College's E3 (Environment, Engineering, Emerging Technologies) vision and we concentrate on providing high quality education through research-led teaching. Many Geography staff members are national and world leaders in their respective fields.

This handbook summarises the Geography undergraduate teaching programme in the School of Natural Sciences, and the regulations that are intended to ensure its effective implementation. Also included is a brief introduction to the staff in Geography and an indication of where a Geography

degree might lead. Please check the Geography website and associated websites (including that of the School of Natural Sciences) for any updates on the content provided below. I hope that you find the information useful, and that you enjoy your time in Geography.



Prof Iris Moeller, Head of Geography

Geography and the School of Natural Sciences

Geography is part of the School of Natural Sciences (other disciplines in the School are Botany, Geology and Zoology). The School also houses two research centres: The Centre for the Environment and the Centre for Biodiversity and Sustainable Development which was launched by Sir David Attenborough in 2009. Natural Sciences is one of the largest schools in the Faculty of Engineering, Mathematics and Science and conducts research, and delivers teaching, on all aspects of the natural world, from the formation of the earth, the behaviour of the environment, the evolution and ecology of its organisms and its interactions with human society. We are engaged with solving some of the major challenges facing human society through our teaching, research and partnership with industry and policy development both nationally and globally. We currently accommodate ca. 43 academic staff, 30 support staff, 30 postdoctoral research fellows and over 100 graduate research students. We have an annual research income in excess of €4 million and produce an average of 150 publications per year. The School delivers eight undergraduate and three taught master's degree programmes in Development Practice, Biodiversity and Conservation and Environmental Science.

Learning Outcomes

On successful completion of your Geography degree, you will be able to:

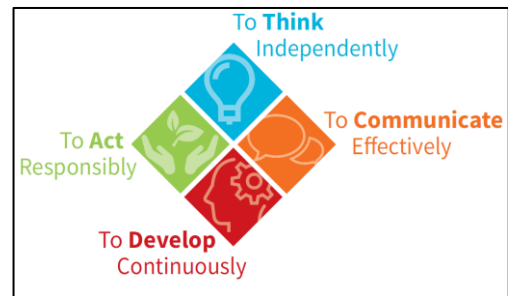
- Discuss Geographical theories, concepts, methods and processes.
- Demonstrate a detailed knowledge of one or more specialised areas in Geography by, for example, being able to identify, analyse and resolve problems. Some of this geographical knowledge will be at the current boundaries of research.
- Apply this knowledge and comprehension in a manner that indicates a thorough and informed approach to your work, and have competences typically demonstrated through devising and sustaining arguments and formulating and solving problems.
- Use a number of specialised skills and tools, such as spatial data analysis and statistical techniques, which you can use selectively to address complex problems, or to conduct closely guided research.
- Devise data gathering experiments, and to gather and interpret relevant data to inform independent judgements which include reflection on relevant social, scientific or ethical issues.
- Communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.
- Undertake further study with a high degree of autonomy.

Graduate Attributes

The Trinity Graduate Attributes represent the qualities, skills and behaviours that you will have the opportunity to develop as a Trinity student over your entire university experience, in other words, not only in the classroom, but also through engagement in co- and extra-curricular activities (such as summer work placements, internships, or volunteering).

The four Trinity Graduate Attributes are:

- To Think Independently
- To Act Responsibly
- To Develop Continuously
- To Communicate Effectively



Why are the Graduate Attributes important?

The Trinity Graduate Attributes will enhance your personal, professional and intellectual development. They will also help to prepare you for lifelong learning and for the challenges of living and working in an increasingly complex and changing world.

The Graduate Attributes will enhance your employability. Whilst your degree remains fundamental, also being able to demonstrate these Graduate Attributes will help you to differentiate yourself as they encapsulate the kinds of transversal skills and abilities, which employers are looking for.

How will I develop these Graduate Attributes?

Many of the Graduate Attributes are 'slow learned', in other words, you will develop them over the four or five years of your programme of study.

They are embedded in the curriculum and in assessments, for example, through undertaking independent research for your final year project, giving presentations and engaging in group work.

You will also develop them through the co-curricular and extra-curricular activities. If you help to run a club or society you will be improving your leadership skills, or if you play a sport you are building your communication and team-work skills.

2. The Undergraduate Degree Programmes

Geography at Trinity may be studied via one of two routes.

1. The Joint Honours Moderatorship. <https://www.tcd.ie/courses/undergraduate/joint-honors/draft/index.php>,
2. Geography and Geoscience (TR062). During the first two years students study a common programme but can choose to specialise in Geography in the final two years. (Please see the TR062 handbook for details of this programme). Further information can be found at tcd.ie/Science/TR062/

Foundation Scholarship Examination in Geography

The Scholarship examination in Geography (Joint Honors) will consist of a total of three papers. Paper one is a 3 hour paper. Paper two is a 1.5 hour paper and Paper 3 is a 2 hour paper.

The first paper will examine the subjects covered in the Freshman 'Spaceship Earth' and 'Anthropocene' courses. The second paper will deal with more general topics within the discipline of Geography. The third paper is labelled as a 'Special Topics in Geography' paper and will consist of a specific theme or topic selected by the Head of Geography in consultation with staff members each year.

The Foundation Scholarship examination papers in Geography are constructed in such a way as to test the depth and breadth of the candidates' overall understanding of the discipline.

The first three-hour paper is specifically designed to allow candidates to demonstrate a superior appreciation of the course-based material of the junior freshman programme. In the second 1.5-hour paper candidates will have an opportunity to demonstrate their ability to synthesise knowledge and appraise, critically, the broader issues; thus allowing them to integrate disparate elements in the intellectual discourses within the discipline of Geography. In this regard, candidates are required to write two essays selected from an unseen list of broadly-themed topics within Geography which will change from year to year.

The third and final paper will consist of a specially selected cross-cutting theme, which will be changed each year. The students will be presented with an outline of the theme and associated readings. The exam will involve the selection of two essay questions from a choice of six questions drawn from the theme as outlined. Students will be advised by the Head of Geography and an appointed representative on how their chosen pathway corresponds to the number of exams they will need to undertake in geography. This will be done in a way that ensures students undertake the required amount of hours of exams so as to fulfill the requirements of the

Foundation Scholarship exam.

Students should note the following: If students have dropped Geography or are taking it as a minor subject, or are minoring in it and

taking 3 papers in their other subject, they should sit Paper 3; When students are studying their two subjects equally or where they have opted to take two papers in both their major and minor, they should sit Papers 1 and 2; Where students have gone towards a Single Honors or have majored in Geography and opted for the 3/1 paper structure, they should sit Papers 1, 2, and 3

Erasmus/Study Abroad

Students may study abroad in their Junior Sophister year.

All students wishing to study abroad must agree a Teaching Contract with Geography's Study Abroad Co-ordinator, Dr Mark Hennessy – mhnessy@tcd.ie

Students to be nominated for an Erasmus exchange and mobility grant will be selected on the basis of their overall Junior Fresh grade and a 600-word statement relating to their suitability for an exchange, to be submitted to the Study Abroad Coordinator by the last day of Michaelmas term in their Senior Fresh year.

For details of the Department's exchange partnerships see the Geography website - Erasmus

Modules and ECTS for Erasmus/Study Abroad students

Ensure you have completed your module choice form correctly. Students who are away for one semester only, must ensure that their module information and ECTS are correct for Trinity modules at the usual time.

1. For a full year abroad, email the Geography Office to ensure you are exempted from any compulsory modules.
2. For a student away for either Semester 1 or Semester 2 only, check your my.tcd.ie student account. Contact the Geography Office if your module codes or ECTS for your home semester are incorrect.

This information generates your end of year Coursework and Examination requirements.

Regulations for dissertation proposal - Erasmus/Study Abroad students

As part of their Geography degree, depending on their JH Pathway students are **required** to undertake an undergraduate dissertation (GGU44930).

The preparation and dissertation proposal are usually undertaken in GGU33928 (Advanced Research Methods 1), but it is not possible for TCD students on an Erasmus programme abroad in their Junior Sophister Year to undertake this module. However, the dissertation is still a requirement for their Senior Sophister mark so they are still required to prepare a dissertation proposal and to have that approved by their potential supervisor in consultation with the coordinator for the Advanced Research Methods module Dr. Pádraig Carmody – carmodyp@tcd.ie

Prior to departure on their Erasmus year the students should contact the GGU33928 coordinator to arrange for submission of the dissertation proposal while they are away. The dissertation proposal is prepared in portions and submitted during the course of GGU33928. TCD Erasmus students should submit these portions for feedback at the same time as others taking the Advanced Research Methods. Once the final proposal has been prepared and accepted the student will then proceed to prepare the dissertation.

3. Course Structure and Module Outlines

The Geography programmes at Trinity have a modular structure that combines compulsory and optional elements, thereby giving you more module choice as you progress with your studies.

For information and guidance regarding your choice of Pathway in the Joint Honours programme go to:

<https://www.tcd.ie/tjh/currentstudents/year1/pathways/>

and

<https://www.tcd.ie/courses/undergraduate/your-trinity-pathways/assets/Explore-your-pathways-JH.pdf>



Every element of the teaching programme at Trinity is associated with a credit value.

The credits used in this book are equivalent to the European Credit Transfer and Accumulation System (ECTS). This is a student-centred system that is based upon the workload required to achieve the programme objectives. One year of study comprises work totalling 60 credits (equivalent to 60 ECTS).

++ One ECTS credit is equivalent to approximately 25 hours of student input ++

Note: Student input does not correlate with the number of contact hours (i.e. how long you will spend in lectures, seminars and practical sessions). Instead it measures YOUR input and includes not only your attendance at lectures etc. but also the time taken for completing assessment tasks and individual study including assigned reading, revision and examinations. Working outside of class is a vital element of your studies at Trinity and to meet the credit requirements it will sometimes be necessary to work outside of term time or the regular (5-day) working week. Module descriptions include illustrative breakdowns of input time to assist you in planning your work. These breakdowns are guides and precise input hours will inevitably vary between individuals.

Semesters and Module Teaching Blocks

Teaching is delivered in two semesters with week seven of each semester a “Study Week”. Taught modules valued at 10 ECTS normally run for the entire length of a semester while this may vary for 5 ECTS modules, which may be half a semester in length.

Check the module descriptions for timetable information and guidance on required student input.

Students who register after the beginning of a Geography module (e.g. by transferring in after the start of the module) may miss examinations and course work. If this happens the student will be expected to take missed parts of the module at the Supplemental Session.

Please note that the “Study Week” is not a holiday! You are expected to undertake academic work during this period in each semester.

Most modules will have online material including notes, reading lists and assessment details. You should check the Geography Website and Blackboard regularly for updates and information relating to your modules.

General enquiries not covered within this booklet or on the website should be directed to the relevant course coordinator.

For Joint Honours (JH) and TSM, Dr Federico Cugurullo – cugurulf@tcd.ie

For Erasmus/Exchange, Dr Mark Hennessy - mhnessy@tcd.ie

Programme Overview Academic Year 2022-23

	MODULE	ECTS	
		Semester	Credits
Year 1 (JF)	GGU11926 Human Geography: Society & Space	1&2	10
	GSU11003 The Anthropocene	2	10
	GSU11004 Spaceship Earth: An Introduction to Earth System Science	1	10
Year 2 (SF)	GGU22006 Physical Geography: Dynamic Earth	2	10
	GGU22008 History and Philosophy of Geography	1	5
	GGU22009 Introduction to Geospatial data and GIS	2	5
	GGU22923 Geography Student Seminars (Geography Major)	1&2	10
	GGU22925 Human Geography: Changing Worlds	1	10
Year 3 (JS)	GGU33010 Living on the Edge: Estuaries and Coasts)	1	5
	GGU33011 Earth's Climate: Past, Present, and Future	2	5
	GGU33012 Natural Hazards	1	5
	GGU33014 Research Frontiers in Geography	2	5
	GGU33915 Globalisation and Geopolitics	2	5
	GGU33928 Advanced Research Methods in Geography	2	5
	GGU33931 Environmental Governance 1	2	5
	GGU33933 Geographical Information, Data and Tools	1	5
	GGU33937 Urban Economic Structure and Regeneration	1	5
	GGU33939 Exploring the Sustainable City	1	5
Year 4 (SS)	BOU44111 Restoration Ecology and Rewilding	1	5
	GGU44930 Geography Dissertation	1&2	20
	GGU44927 Environmental Governance 2	2	5
	GGU44933 Geographical Information Systems (GIS): Data & Tools	1	5
	GGU44936 Globalisation & African Development	2	5
	GGU44968 Historical Geography	2	10
	GGU44969 Urban Geography: Cities, space and culture	1	10
	GGU44974 Glaciers and Glaciation (with Tutorials)	1	10
	GGU44975 Coastal Wetlands	2	10
GGU44976 Glaciers and Glaciation	2	5	

NB: This programme may be subject to change.

S1 and S2 indicates the Semester a module is provisionally timetabled for.

JUNIOR FRESHMAN

JH Students must take all three introductory modules in Geography:

Semester 1	Semester 2
CORE MODULES (30 Credits; 15 per semester)	
GSU11004: Spaceship Earth: Introduction to Earth System Science (10 Credits)	GSU11003: The Anthropocene: Constructing the Human Planet (10 Credits)
GGU11926: Human Geography: Society and Space (10 Credits)	

GSU11004 Spaceship Earth: An Introduction to Earth System Science	10 ECTS
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Module Co-Ordinator: Dr Robin Edwards (robin.edwards@tcd.ie)

Outline: More than 7 billion people now inhabit the Earth and no corner of the planet is unaffected by human activity. The rise of our species has been fuelled by our ability to access planetary storehouses of energy and employ this to manipulate the environments around us. The global-scale of human impacts has led some to suggest we are entering a new era of Earth history - the Anthropocene. Dealing with the effects of environmental and climate change is one of the most significant challenge that our species faces in the 21st century.

This module provides a foundation for understanding global environmental issues by considering the Earth as an interconnected system in which matter and energy are exchanged between the Geosphere, Biosphere, Atmosphere, Hydrosphere and the Anthroposphere. It considers the life-support systems of 'spaceship Earth' and aims to provide a theoretical basis for evaluating the role of humans as agents of climate and environmental change.

Learning Outcomes: On successful completion of this module students will be able to:

- Outline the fundamental concepts of Earth Systems Science with reference to its major subsystems: Geosphere, Biosphere, Atmosphere, Hydrosphere and Anthroposphere
- Illustrate how material and energy are cycled through the Earth system
- Describe the links between biotic and abiotic systems and their role in maintaining a habitable planet
- Apply an Earth Systems approach to describe the phenomena of environmental and climate change
- Discriminate between 'weather' and 'climate' and situate concerns about current climate change in a longer-term (geological) context
- Identify how human activities modify Earth System function
- Make links between Earth Systems Science and topics covered in their chosen field of study

Assessment: 100% continuous assessment via in-course tests and assignments.

GSU11003 The Anthropocene**10 ECTS****Module Co-ordinator:** Dr Rory Rowan (rowanro@tcd.ie)

Outline: The “Anthropocene” is a term that has become widely used since Nobel Prize Laureate Paul Crutzen and Eugene Stoermer began popularising it in 2000. They argued that humans had so dramatically transformed the planet that it was time to pronounce a new geological epoch: the Anthropocene—or, “the human age.”

Whether the Anthropocene is officially accepted as the designation of a new geological epoch or not, the term has sparked debates and discussions across the natural sciences, social sciences, arts and humanities. The multi-disciplinary interest in the Anthropocene demonstrates that the term is more than simply a geological or physical phenomenon; it has complex social, cultural, political, and economic dimensions.

From plastic-filled oceans to species extinction, there is little doubt that human activities are making their mark on the planet. The challenge is to develop more critical, trans-disciplinary understandings of how this situation has arisen and how we might learn to live better on a damaged planet. This module sets out to meet this challenge by engaging ideas and perspectives from the natural sciences, social sciences, arts and humanities, students will learn to describe and understand environmental change from multiple perspectives.

Learning Outcomes: At the end of this module students are expected to be able to:

- Understand and explain the scientific and cultural significance of the Anthropocene;
- Critically engage with key debates over the Anthropocene that span the natural sciences, social sciences, arts and humanities;
- Identify the major ethical and political questions facing humanity in a time of ecological uncertainty and environmental degradation;
- Connect the Anthropocene with current events and everyday life, particularly as relates to urban sustainability.

In terms of transferable skills, students will be expected to have:

- Developed their reading skills and capacity to synthesise and build arguments through involvement in small-class seminars;
- Developed their writing skills through formal and creative writing assignments.

Assessment: This module will be assessed through 100% coursework assessment. Participation and attendance in all lectures and seminars is required.

Module Breakdown: Contact Hours (Lectures = 20 hours; Seminars = 16 hours); Additional Input (Lecture/Seminar Preparation = 80hrs; Coursework preparation = 85hrs) TOTAL = 201hrs.

Key texts:

- Ellis, E. (2018) *The Anthropocene: A Very Short Introduction*. Oxford: Oxford University Press.
- Lewis, S., & Maslin, M. (2018) *The Human Planet: How We Created the Anthropocene*. London: Penguin Books.

Module Breakdown: Contact hours (22 hours).

GGU11926 Human Geography: Society & Space**10 ECTS****Module Co-ordinator: Dr Cian O'Callaghan (ocallac8@tcd.ie)**

Outline: This module aims to provide you with an insight into what it means to “think geographically”. Through contemporary and historical examples, it will provide you with an understanding of the development of the discipline of Geography, its philosophical bases and methodological practices. It will introduce you to a number of the key elements of human geography with which you will deal in greater depth in later years.

The module spans both Semester 1 (Michaelmas) and Semester 2 (Hilary). It is divided into four sections. The first half of the module will cover sections 1 and 2, while the second half of the module will cover sections 3 and 4.

The overarching aim of sections 1 and 2 is to understand a geographical view of the world and to critically consider the relationships between the historic evolution of the discipline of Geography and the multiplicity of modern approaches. While the overarching aim of sections 3 and 4 is to introduce urbanisation and globalisation as key components of human geography which connects together many different global concerns.

Section 1: The geographical tradition

The first section of the module will introduce you to the discipline of Geography. It will do so in two ways:

- I. Through the critical exploration of the evolution of the discipline of geography within the development of rational scientific modes of enquiry and beyond.
- II. Through introducing and examining a series of core concepts in Geography.

Section 2: An introduction to “thinking geographically”

The second section of the module takes this further by examining the approach of “thinking geographically. In particular, the section uses a reflection and analysis of the geographical dimensions of three contemporary events currently shaping the world: Brexit, (anti)globalisation, and the migrant crisis. Through the module we will be asking: how are these events geographical and how can geographical methods be used to understand them?

Section 3: Global urbanisation and its problems

The section of the module will explore global urbanism and its problems and use cities and urbanisation as a lens to further explore what it means to “think geographically”. It will again do so in two ways:

- I. Through the analysis of the evolution towards an urban condition, we will explore how urbanisation occurs, why urbanisation is a global phenomenon and recognise the forces underlying the growth of urban settlements.
- II. Through a reflection and analysis of a series of thematic urban problems or challenges, we will seek to address how the spatial form of the urban influences and organises human life in profound ways.

Section 4: A critical exploration of the issues of governance, economy and space in the context of globalisation

This is to equip you with theoretical insights that help you to understand the underlying reasons for spatial inequalities resulting from economic globalisation. This is supplemented with a range of case studies that illustrate the impact of global forces on local areas.

There are three core aims of this section:

- III. Understanding of the relationship between consumption and production – spatially, including the inter-relationship between politics, space and the production process
- IV. To examine the forms of socio-spatial relations that are produced through the contemporary global economy, with a particular focus on inequality
- V. To examine the relationship between culture, economy and images within the contemporary economy

The central aim of this part of the course is to introduce students to the intertwined nature of the contemporary economy at different scales.



Learning Outcomes: On successful completion of this module students will be able to:

- Describe the evolution of the discipline with respect to the philosophical bases which have contributed to its development, the range and changing character of methodological approaches and the foci of geographical enquiry;
- Demonstrate a knowledge of contemporary approaches to the study of human geography;
- Display an ability to use an approach to “thinking geographically” to analyse current events;
- To develop an ability to identify and engage critically with relevant debates within human geography through an in-depth analysis of relevant literature.

- Identify how urbanisation occurs, why urbanisation is a global phenomenon and recognise the forces underlying the growth of urban settlements;
- Describe the impact of urbanisation on different parts of the world;
- Apply approaches in urban geography to analyse key urban problems and challenges.

Assessment: Continuous assessment (100%).

Module Breakdown: The 10-credit module comprises 250 hours of student workload, of which only a minority comprises direct contact with staff (lectures and tutorials).

Lectures 40 hours; tutorials 4 hours; tutorial preparation 40 hours; essays and projects 86 hours; other reading 80 hours.

Key texts: In addition to material presented during lectures or in tutorials, the following texts are considered to be key reading:

Section 1 & 2

- **Boyle, M.** (2015) *Human Geography: A concise Introduction* (Wiley-Blackwell, Chichester).
- **Dicken, P.** (2003) *Global Shift*. London: Sage.
- **Gilmartin, M., Wood, P.B, O'Callaghan, C.** (2018) *Borders, Mobility and Belonging in the Era of Brexit and Trump*. (Policy Press, Bristol)
- **Johnson, R., & Sideway, J.D.** (2015) *Geography and Geographers: Anglo American Geography since 1945 (seventh edition)* (Routledge, London, 2015)
- **Jones, M., Jones, R., Woods, M., Whitehead, M., Dixon, D., & Hannah, M.** (2014). *An introduction to political geography: space, place and politics*. (Routledge: London)
- **Mitchell, D.** (2000) *Cultural geography: A critical introduction* (Blackwell: London).
- **Sparke, M.** (2012) *Introducing globalization: Ties, tensions, and uneven integration*. (John Wiley & Sons)

Section 3

- **Brady, J., & McManus, R.** (2018). Marino at 100: A garden suburb of lasting influence. *Irish Geography*, 51(1), 1-24.
- **Cugurullo, F.** (2016). Urban eco-modernisation and the policy context of new eco-city projects: Where Masdar City fails and why. *Urban Studies*, 53(11), 2417-2433
- **Edwards, C., & Imrie, R.** *The short guide to urban policy*. (Policy Press, Bristol, 2015).
- **Gandy, M. (2003).** *Concrete and clay: reworking nature in New York City*. MIT Press.
- **Hall, P. (1988).** *Cities of tomorrow: An intellectual history of urban planning and design since 1880*. John Wiley & Sons.
- **Jonas, A. E., McCann, E., & Thomas, M.** *Urban geography: a critical introduction*. John Wiley & Sons, Chichester, 2015).
- **Kitchin, R., Coletta, C., & Heaphy, L.** (2018). Actually existing smart Dublin: Exploring smart city development in history and context. In *Inside smart cities* (pp. 83-101). Routledge.
- **Madden, D., & Marcuse, P. (2016).** In defense of housing. *The politics of crisis*. London. Verso.

Section 4

- **Cohendet, P., Grandadam, D. and Simon, L.,** 2010. The anatomy of the creative city. *Industry and innovation*, 17(1), pp.91-111.
- **Coy, P.,** 2000. The creative economy. *Business Week*, (3696), pp.76-76.
- **Florida, R.,** 2003. Cities and the creative class. *City & community*, 2(1), pp.3-19.
- **Howkins, J.,** 2002. *The creative economy: How people make money from ideas*. Penguin UK
- **Landry, C** 2000, *The Creative City*

- **Markusen, A., Wassall, G.H., DeNatale, D. and Cohen, R.,** 2008. Defining the creative economy: Industry and occupational approaches. *Economic development quarterly*, 22(1), pp.24-45.
- **Pratt, A.C.,** 2011. The cultural contradictions of the creative city. *City, culture and society*, 2(3), pp.123-130.
- **Sokol, M.** (2011) *Economic Geographies of Globalisation: A short Introduction*. Cheltenham: Edward Elgar.

SENIOR FRESHMAN	
Semester 1	Semester 2
CORE MODULES (20 credits, 10 per semester)	
GGU22925: Human Geography Changing Worlds (10 Credits)	GGU22006: Physical Geography: Dynamic Earth (10 Credits)
GEOGRAPHY MAJOR CORE MODULES (20 credits, 10 per semester)	
GGU22008: History and Philosophy of Geography (5 Credits)	GGU22009: Introduction to Geospatial data and GIS (5 Credits)
GGU22923: Geography Student Seminars (10 Credits)	
OPTIONAL MODULES	
GGU22008: History and Philosophy of Geography (5 Credits)	GGU22009: Introduction to Geospatial data and GIS (5 Credits)

GGU22925 Human Geography: Changing Worlds	10 ECTS
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Module Co-ordinator: Dr Mark Hennessy (MHNNESSY@tcd.ie)

Outline: This module introduces students to a number of key issues within contemporary human geography and exposes them to a range of methodological approaches and research techniques.

The overarching theme of the module is the way in which historical, cultural, environmental, political and economic geographies are changing under the force of globalisation.

Specific areas covered include an examination of globalisation from a historical perspective; approaches, methods and sources in historical geography; emergence of global environmentalism in a changing world; the creation of 'third world' and the impact of globalisation on the developing world; and political and economic aspects of globalisation.

The module will cover:

Section 1 - Approaches and methods in historical geography: This section of the module introduces the diversity of approaches and methods employed in historical geography. Historical geography has traditionally been concerned with the evolution of landscapes and patterns of areal differentiation over time. Historical geography is concerned with how regions and places have come to acquire identity and character over time. It is therefore central to the wider study of geography. Since the

1980s historical geography has been open to theoretical and methodological innovation. This section of the module will give an introduction to the more traditional and modern approaches to the use of historical methods in geographical studies.

Section 2 - Emerging Environmental Movements: Interactions between humans and the environment are of central concern for geographers. These interactions may create positive or negative outcomes (or in some cases both) across time and space and are often geopolitically motivated. This section of the Changing Worlds module will address how human geography approaches the uneven and contested relationships that exist between humans and their environments in an increasingly globalised world. Attention will focus on the way environmental problems (climate change, overfishing, and pollution) are experienced and understood by different actors.

Section 3 - Geographies of development: Most of humanity lives in the so-called “developing world”. This section of the module explores how the Third World was created historically and the mechanism through which it is reproduced. Attention will also be paid to the impact of “free” market policies in the developing world.

Section 4 - Economic geographies of globalisation: This section of the module will cover issues related to contemporary economic globalisation; governance of globalisation; multi-national corporations; global finance; global financial and economic crisis; geographies of transition economies; and policy challenges in the age of globalisation.

Section 5 - Collection & analysis of geographical data: Building on the above sections, this part of the module will specifically focus on methods in geographical research and a range of techniques used in acquisition and analysis of geographical data. In doing so, it will enable students to select appropriate methods to study diverse geographical issues and to develop students’ geographical skills of numeracy, data management, manipulation, analysis, display, interpretation and explanation.

Learning Outcomes: On successful completion of this module students will be able to:

- Identify important topics and themes in contemporary human geography;
- Appraise some of the major current debates in human geography;
- Outline and contrast a range of research methods in human geography.

Assessment: Examination (60%); course work (40%)

Module Breakdown: Contact hours (Lectures and seminars = 33 hrs); Additional Input (Lecture-related reading and individual study = 130hrs; Course work preparation = 47hrs; Revision/Examination = 40 hrs). TOTAL = 250hrs.

Key texts:

Section 1

- Baker, A.R.H. (2003) *Geography and History: Bridging the Divide*. Cambridge: Cambridge University Press.
- Graham, B. J., & Nash, C. (2000) *Modern Historical Geographies*. Harlow: Prentice Hall.

Section 2

- Doyle, T & McEachern, D. (200*) *Environment and Politics*. London: Routledge.
- Dryzek, J. & Schlosberg, D. (2005) *Debating the Earth: the environmental politics reader*. Oxford: Oxford University Press.

Section 3

- Willis, K. (2012) *Theories and Practices of Development* (2nd edition). London: Routledge

Section 4

- Sokol, M.(2011) *Economic Geographies of Globalisation: A Short Introduction*. Cheltenham: Edward Elgar.

Section 5

- Clifford, N., French, S. & Valentine, G. (2010) *Key Methods in Geography* (2nd edition). London: Sage.
- Montello, D.R. & Sutton, P.C. (2013) *An Introduction to Scientific Research Methods in Geography & Environmental Studies* (2nd edition). London: Sage.
- Rogerson, P. A. (2015) *Statistical Methods for Geography: A Student's Guide* (4th edition). London: Sage.

**GGU22006 Physical Geography: Dynamic Earth****10 ECTS****Module Co-ordinator: Dr Mary Bourke (bourkem4@tcd.ie)**

Outline: Physical geography is an exciting scientific discipline that examines the Earth and how it functions. Geographers have already contributed substantially to scientific efforts to understand the emergence of truly globally significant human– environmental linkages. Physical Geography has thus been fundamental to investigating and modelling long-term changes to Earth surface process and dynamics. This type of knowledge is critical in allowing humans to live sustainably on planet Earth. In this module you study a wide variety of environmental systems, ranging from climate and weather to soils, beaches and rivers, to name just a few. The focus is to understand the location and character of landscape features such as mountain ranges and river valleys, and to explain why they came to be and how and why they vary depending on their geographic context. An underlying theme is to examine how aspects of physical geography affect human lives and, in turn, how people impact the dynamics of the physical landscape. This module will give students an understanding of key physical geography concepts. You will build on key areas of Geography from the JF Spaceship Earth and Anthropocene modules. Elements of the module are designed to prepare students for Sophister geography modules. A field session will introduce students to key field skills that will be used throughout the degree and

allow students to work in groups using our field equipment. The practical sessions will develop student's laboratory skills.

Learning Outcomes: On successful completion of this module, students should be able to:

- Critically evaluate the influence of climate, topography and humans on the variability of landforms.
- Explain the theories underlying how and why specific landforms vary over space and time.
- Draw on specific example of landforms and landscapes to demonstrate the influence of climate, topography, and humans.
- Evaluate the complex and reciprocal relationships between physical and human aspects of environments and landscapes.
- Assess the relative importance of infrequent/extreme versus frequent/moderate events in driving landform change.
- Discuss the potential application of geographical concepts, techniques and expertise as a means of addressing a range of issues facing the Earth and its people at a global and local scale.
- Explain the importance and relevance of physical systems and landforms to the future of human society.

Assessment: 100% continuous assessment

Module Breakdown: The module is taught through lectures (36 hours), reading and work on assignments (200 hours)

Key Texts:

- Holden, J. (2017) *An Introduction to Physical Geography and the Environment*, Pearson
- Goudie, A. S. (2018) *The human impact on the natural environment*. Oxford: Wiley.

GGU22008 History and Philosophy of Geography	5 ECTS
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Module Co-ordinator: Dr Mark Hennessy (mhnessy@tcd.ie)

Module Outline: This module is divided into 8 sections:

A. The classical world. 1. Hecataeus, Eratosthenes and the early Greek geographers. 2. Ptolemy, Strabo, Pliny the Elder and other geographers from the period of the Roman empire.

B. Geography in the age of Enlightenment. Focus on Alexander von Humboldt.

C. Geography in the age of Victorian exploration. The relationship between empire and geography is a key theme in this section.

D. French Geography in the late nineteenth and early twentieth century. The contrasting ideological context of the Vidalian school and the work of Élisée Reclus is considered. The influence of German geographers such as Von Humboldt, Ritter and Ratzel on this tradition is also considered.

E. The "Quantitative Revolution". Developments in geography in the late 1950s, '60s and '70s are examined and are contrasted with Hartshorne's earlier outline of the scope and methods of geography.

F. Radical and Marxist Geography. The development of critical approaches in geography is traced with a particular focus on the works of William Bunge and David Harvey.

G. Feminism and Geography. The influence of Feminist perspectives on research and writing in geography is traced and set within the wider context of the introduction of radical and anti-systemic ideologies to the practice of geography.

H. Postmodernism and Geography. This section explores how the philosophical, methodological and ideological innovations associated with Postmodernism have influenced the practice of geography.

Learning Outcomes:

On successful completion of this module you will be able to:

- Demonstrate a knowledge of how the discipline of Geography has changed from Classical times to the present
- Have a critical awareness of how intellectual and disciplinary change is related to broader patterns of historical change
- Evaluate debates regarding the scope and purpose of the discipline of Geography
- Compare different approaches to the study of the Geography

Key Texts:

- Peet, R. (1998). *Modern Geographical Thought*. Oxford: Oxford University Press.
- Stoddart, D. R. (1987) *On Geography*. Oxford: Oxford University Press.
- Dueck, D. (2012) *Geography in Classical Antiquity*. Cambridge: Cambridge University Press.

Method of assessment: 50% Exam; 50% continuous assessment

GGU22009 Introduction to Geospatial data and GIS	5 ECTS
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Module Co-ordinator: Dr. John Connolly (john.connolly@tcd.ie)

Outline: Digital environmental sensing technologies alongside ever-increasing computing power and satellite technological developments have led to what some call a ‘geospatial revolution’. While mapping and the acquisition of images and remotely acquired environmental data used to be a specialist skillset, much of these data are freely via the web-based applications. Commercial companies as well as governments are investing heavily in this type of technology and academic researchers are using the data within wide-ranging fields of research. Mapping and geospatial science, always a key component of the Geographers’ toolkit, has thus taken a monumental leap forward – but this comes with enormous challenges and responsibilities that can only be met by graduates that have the appropriate skills to evaluate and understand the basic principles of this technology and its uses. This module provides students with the basic level of understanding required for an appreciation of the *principles* that underpin mapping, GIS, and remote sensing. The module uses Google Earth to give students a practical introduction to GIS and remote Sensing. For a more in-depth introduction to and use of remote sensing, image processing and GIS, students can move onto sophister modules in Geography from here (this module is a prerequisite for GGU33933: Geographical Information Systems: Data and Tools).

Learning Outcomes: On successful completion of this module, students should be able to:

- Appreciate different ways of representing geo-spatial data and mapping information.
- Understand the meaning and importance of spatial resolution and different types of spatial data (raster/vector, digital/manual)
- Assess the appropriateness of different geospatial data representations for different purposes.
- Understand the concept of ‘remote sensing’ and the various ways in which it can be achieved in general terms.
- Explain basic principles of satellite remote sensing and have familiarity with some of the most commonly used free and commercial satellite platforms.
- Critically reflect on, and assess, the use of remote sensing and GIS applications for a variety of purposes (in the human and physical environment)

- Confidently and critically deploy a number of basic, but key, geospatial data presentation methods.

Assessment: 100% continuous assessment

Module Breakdown: The module is taught through lectures, practical classes, reading and work on assignments.

GGU22923 Geography Student Seminars

10 ECTS

Module Co-ordinator (new member of staff) TBD.

Outline: This module aims to develop skills in information gathering, critical thinking, writing and oral presentation. Students will learn how to address a research topic in a group setting, carry out research, including bibliographic searches, and make written and oral presentations regarding that topic. Students will learn how to improve their work through taking advantage of group and one-to-one feedback on work-in-progress. Seminar groups will be led by members of the academic staff, research staff and research postgraduate students.

The module is divided into four, linked components:

1. Skills preparation;
2. Presentations and discussions;
3. Essay writing;
4. Essay feedback and revision.

Learning Outcomes: On successful completion of this module students will be able to:

- Demonstrate awareness of the standards, expectations and praxis of Geography at a university level;
- Knowledgeably and critically discuss selected key concepts and ideas in Geography;
- Identify appropriate data sources and resources for Geography, including books, journals and websites, and show an appreciation of the issues involved in their use;
- Produce written work of an acceptable style and standard;
- Undertake appropriate independent preparatory work for classes, including reading and research;
- Work productively as part of a group and present their work orally to a small group of their peers.

Assessment: Course work (100%)

Module Breakdown: Contact Hours (Seminars, workshops and individual feedback = 25hrs); Additional Input (Reading, preparation and course work = 225hrs). TOTAL = 250 hrs.

Key texts:

- Montello, D. R. & Sutton, P.C. (2006) *An Introduction to Scientific Research Methods in Geography*. London: Sage.

JUNIOR SOPHISTER	
Semester 1	Semester 2
CORE MODULES (20 Credits)*	
GGU33933: Geographical Information Systems: Data and Tools (RS/GIS) (5 Credits)	*GGU33928: Advanced Research Methods in Geography (5 Credits)
GGU33001: Residential Field Course (10 credits)	
OPTIONAL MODULES	
GGU33939: Exploring the Sustainable City (5 Credits)	GGU33915: Globalisation and Geopolitics (5 Credits)
GGU33010: Living on the Edge: Estuaries and Coasts (5 Credits)	GGU33931: Environmental Governance 1 (5 Credits)
GGU33012: Natural Hazards (5 Credits)	GGU33011: Earth's Climate: Past, Present and Future (5 Credits)
GGU33937: Urban Economic Structure and Regeneration (5 credits)	GGU33014 Research Frontiers in Geography (5 Credits)
Trinity Elective (5 credits)	Trinity Elective (5 credits)

*If you wish to undertake a dissertation in Geography, and you are not on an Erasmus exchange in second semester of Junior Sophister year, you must take Advanced Research Methods 1.

*Modules are compulsory for students intending to Major in Geography in Senior Sophister

GGU33933 Geographical Information Systems: Data and Tools	5 ECTS
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Module Co-ordinator: Dr. John Connolly (john.connolly@tcd.ie)

Pre-requisites: GGU22009 Spatial Data and GIS

Note: Places on this module are limited by laboratory spaces available.

Outline: This module explores how to identify, create, manage and use Geographical Information Systems (GIS). The object is to teach students about how data is constructed or acquired used, and manipulated in geographical researcher. The module will enable students to: find and evaluate data; organise, manipulate and analyse data in GIS packages; create projects and interpret maps using GIS; identify how geographic data construction and analysis differs from typical quantitative approaches. The module will also introduce students to remote sensing and image processing. This module is a prerequisite to GGU44933.

Learning Outcomes: On successful completion of this module students will be able to:

- Explain the concepts and theories that underpin GIS and outline their application to the real world;
- Demonstrate technical proficiency in the use of an industry standard GIS software package;
- Apply GIS technologies in problem-solving;
- Design, implement and present the results from a project that makes use of GIS technologies.
- Explain the concepts of how remote sensing works

Assessment: Course work (100%)

Module Breakdown: Contact Hours (Lectures & Practical's = 22hrs); Additional Input (Reading and course assignments = 103hrs). TOTAL = 125hrs.

Key Texts:

- Longley et al.: *Geographic Information Systems & Science* (Wiley, NJ, third edition, 2011)
- Heywood et al.: *An Introduction to Geographical Information Systems* (Prentice Hall, NJ, fourth edition, 2011).

GGU33928 Advanced Research Methods in Geography	5 ECTS
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Module Co-ordinator: Professor Pádraig Carmody (carmodyp@tcd.ie)

Pre-requisites: None

Outline: The objective of this module is to develop further the research skills of students, in order that they will be well-equipped to plan and carry out their dissertation investigation, which will start towards the end of the JS year. The module focuses on approaches to solving geographic problems, although topics such as ethics, integrity, professionalism, philosophy, research project design, and presentation skills are also covered. In addition to classes, students on this module are also expected to attend research seminars in the School, and more broadly in College, in particular (although not exclusively) those of relevance to Geography.

The assessment for this module comprises several components, including student presentations in class, short critical reviews of key research articles relating to Geography, and dissertation proposal. For dissertation preparation regulations specific to Erasmus students, see page 5.

Learning Outcomes: On successful completion of this module students will be able to:

- Develop a research plan for a Geography dissertation;
- Communicate geographic ideas and results effectively in written and oral form;
- Evaluate the strengths and weaknesses of complementary and competing methodological approaches and research techniques commonly used by geographers;
- Develop a basis for informed opinions about the important intellectual and methodological debates in Geography.

Assessment: Course work (100%)

Module Breakdown: Contact Hours (Lectures = 12hrs); Additional Input (Reading, including weekly assignments = 62hrs; Proposal Reading and Writing = 48 hrs; Presentations = 3 hrs). TOTAL = 125 hrs

Key Texts:

- Clifford, N. & Valentine, G.: *Key methods in geography* (London: Sage, 2003)
- Cloke, P., Crang, P. & Goodwin, M.: *Practising Human Geography* Arnold (London, 2004)
- Knight, P.G. & Parsons, A.J.: *How to do your Dissertation in Geography and Related Disciplines* (2013)

- Montello, D. R. & Sutton, P.C.: *An Introduction to Scientific Research Methods in Geography* (2006)

GGU33001 Residential Field Course**10 ECTS****Module Co-ordinator:** [Professor Anna Davies \(daviesa@tcd.ie\)](mailto:daviesa@tcd.ie)**Pre-requisites:** None

Outline: This field trip will introduce students to specific examples that illustrate the interplay between human society and the environment in a particular geographical setting. This may be a setting within Ireland or overseas (to be confirmed at the start of the academic year). During the trip, key themes will be explored on set days, with student introduced to specific geographical research skills that will allow them to gain confidence in carrying out their own independent geographical research project. These skills include a range of transferrable skills (team working, project framing, planning, execution, and data analysis) alongside specific human and physical geography data acquisition methods and techniques, such as may be required for capstone projects. Prior to departure, students will be issued with background materials to familiarise themselves with the geographical setting and its human and physical environmental past and present. Detailed information on travel and accommodation will be issued prior to the trip. Students are expected to attend briefing sessions as requested in which the general field setting and a number of themes will be introduced that will be explored in depth during the trip. These sessions will also take students through the logistics, ethical, and health and safety considerations of taking part.

Learning Outcomes: On successful completion of this module students will be able to:

- Critically and responsibly engage with a number of geographical (societal and environmental) challenges explored during the trip
- Confidently deploy a number of key human geography research methods
- Confidently deploy a number of key physical geography research methods
- Draw on specific examples at the field site to explore the interconnectedness between the physical and human environment
- Critically reflect on, and assess, ethical and health and safety risks involved in conducting geographical research projects
- Clearly and concisely communicate the findings of field based geographical research

Assessment: Course work: field project plan and write up (100%)

Module Breakdown: Contact Hours: 5 days in the field and lab, 2 x travel days;

for residential fieldtrips (40+ hours); Independent Study (preparation for course and review of materials): 12 hours (2 briefing sessions of 1 hour each; 10 hours independent research and reading); Independent Study (preparation for assessment, incl. completion of assessment): 73 hours (TOTAL = 125)

GGU33010 Living on the Edge: Estuaries and Coasts**5 ECTS****Module Co-ordinator: Professor Iris Moeller** (moelleri@tcd.ie)**Pre-requisites: None**

Outline: Coastal regions are some of the most dynamic on Earth, not least because human and natural processes act in tight connection to each other. This dynamism poses one of the great societal challenges of the 21st Century: as coastal populations are increasing at three times the global rate, they are also experiencing an increasing threat of coastal flooding and erosion under climatic extremes (e.g. tropical and extratropical storm surges), and are 'locked into' accelerated sea level rise for centuries to come.



Building upon a basic, foundational knowledge of ocean and coastal processes covered in relevant modules within the first and second year ('Spaceship Earth' and 'Sedimentary Processes and Environments'), students will gain wide ranging theoretical and practical skills required to address those challenges. The lectures and seminars take students on a journey that highlights how the natural processes operating within estuaries and on coasts are a function of external factors (past and present climate, geology, human influences) and feedbacks in which the landforms themselves affect the operation of processes that shape the landforms. Equipped with this knowledge, and several examples from around the world, students will put their knowledge into practice. A day-field trip and practical exercise will challenge students to apply what they have learnt to real-world coastal management problems. Working in groups, they will form 'coastal management consortia' that will navigate their way through the stages of problem definition to data acquisition and development of appropriate coastal management solutions. The assessed practical exercise will develop and enhance team-working, independent research, critical thinking, scientific and applied writing, and presentation skills.

Learning Outcomes: On successful completion of this module students will be able to:

- Explain the theory behind estuarine and coastal morphodynamics.
- Draw on specific examples to illustrate the societal importance of coastal morphodynamics in the context of human use of the coast.
- Critically reflect on the importance of considering different temporal and spatial scales for an understanding of coastal change.
- Discuss the key impacts of climate change on coastal landforms and ecosystems.
- Carry out basic (bio)geomorphological field surveys to gain a better understanding of estuarine and coastal landforms and associated ecosystems.
- Assist the development of coastal management approaches that consider societal and biophysical aspects of how coasts and estuaries function and deliver ecosystem services.
- Clearly and concisely present the results of their work in written and oral (presentation) form.

Assessment: 100% Continuous assessment (lecture content, course and tutorial reading = 20%, field excursions and case study materials = 80%)

Module Breakdown: Contact Hours = 34 hours (Lectures = 16 hours, 2 x tutorials, field excursion, lab practical's and student workshops/presentations); Additional Input (Lecture Preparation = 60hrs; Coursework preparation = 85hrs; examination preparation = 85 hours) TOTAL = 250hrs.

Key Texts:

- Woodroffe, C.D. (2002) *Coasts: Form, process and evolution*. Cambridge: Cambridge University Press.
- Masselink, G, Hughes, M., & Knight, J. (2011) *Introduction to Coastal Processes and Geomorphology*. London: Routledge.

GGU33011 Earth's Climate: Past, Present, and Future	5 ECTS
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Module Co-ordinator: Dr Margaret Jackson (margaret.jackson@tcd.ie)

Prerequisites: None

Outline:

Climate change is one of the most important challenges we face. The effects of climate change vary over time and space, and are rooted in the operation and sensitivity of the climate system itself. This module is designed to give you a fundamental understanding of Earth's climate system, starting with its operation today. With this understanding in hand, we will go on to investigate the history of climate on Earth and how (and why) climate changes over time. We will then explore historical records of climate before turning our focus to future climate projections, including how models 'predict' future climate scenarios. We'll also evaluate what implications future climate projections may have for communities both locally and globally. This module will use readings, activities, and discussion to explore the mechanisms that influence climate over time, and how climate affects society.

Learning outcomes: On successful completion of this module students will:

- Describe what is meant by the term 'greenhouse effect'.
- Understand how Earth's climate system operates today.
- Discuss natural climate variability and the potential mechanisms that impact this variability through time.
- Understand how Earth's climate has changed through time, and the evidence used to reconstruct past change.
- Discuss the primary drivers and mechanisms of climate change over different timescales.
- Evaluate the evidence for 'anthropogenic' climate change.
- Understand future climate projections, such as those written by the IPCC, and how they are produced.
- Evaluate how quantitative climate science relates to and impacts societal response.

Graduate Attributes: levels of attainment

- To act responsibly - Introduced
- To think independently - Enhanced
- To develop continuously - Introduced
- To communicate effectively - Enhanced

In this module we will investigate Earth's climate system, how it operates, and how it changes over time (and why). In doing so we will explore not only the climate we observe today, but also how climate has changed in the past. With this understanding in hand, we will go on to examine projections for future climate change and what impact these potential changes may have on our lives and communities. This module will use readings, activities, and discussion to explore the mechanisms that influence climate over time, in the past, present, and future.

Assessment: Continuous Assessment (100%).

Module Breakdown :

Contact hours: 33 hours of lecture and discussion (3 hours each week).

Independent Study (preparation for course and review of materials):

46 hours.

Independent Study (preparation for assessment, incl. completion of assessment):

46 hours.

Key Texts: Primary reference text: Earth's Climate - Past and Future, W. Ruddiman, 3rd Ed. Additional topical material (shorter items, news articles, research journal articles) will be made available to students on Blackboard.

GGU33012: Natural Hazards

5 ECTS

Module Co-ordinator: Dr Mary Bourke (bourkem4@tcd.ie)

Pre-requisites: 'Spaceship Earth' (JF) and 'Physical Geography: Dynamic Earth' (SF)

Outline: Short-lived, high magnitude extreme events, from meteorite impacts, to volcanic eruptions, fire, and storms, have shaped the surface of the earth throughout its geological history. Increasing population densities in critical locations on our planet (e.g. cities at the foot of volcanoes, on tectonic fault lines, and at the coast) and human impacts on the environment at the local, regional and global scale, however, have altered the likelihood and magnitude of certain types of natural hazards. This has brought the vulnerability of societies to natural hazards into sharp focus over recent decades. In October 2020, the UN Office on Disaster Risk Reduction (UNDRR) reported that, over the past two decades, 1.23 million people had lost their lives in a total of 7,348 'disaster events' that had been recorded globally (with floods (40% of occurrences), storms (28%), earthquakes (8%), and extreme temperatures (6%) as the four most impactful types of hazard).



Damage from Hurricane Katrina to New Orleans - taken seven months after the hurricane (image by: Gregory Varnum) (Licence: <https://creativecommons.org/licenses/by-sa/3.0/deed.en>)

In our efforts to reduce the human and economic impact of such events, an understanding of the reasons for their occurrence, their spatial and temporal variability, the degree to which they are 'natural' as opposed to 'anthropogenic' as well as past and potential future societal responses to such events is critical.

This module will address all of the above elements beginning with an introduction to 'natural' hazards and general concepts of risk and vulnerability. The introductory lectures are then followed by lectures and targeted reading and supporting discussion groups.

Finally, we will explore case studies highlighting past, present, and potential future societal solutions for the mitigation of the impact of natural hazards with guest speakers bringing to this module an applied natural hazard and risk management perspective.

Learning outcomes: On successful completion of this module students will:

- Have a basic understanding of the physical processes involved in a number of different natural hazards.
- Understand the role of natural hazards in the wider context of landform and ecosystem dynamics.

- Appreciate and critically evaluate the role of humans in how we understand, describe, and assess natural hazards.
- Understand the potential links between a number of natural hazards and climate change.
- Understand and assess the difference between hazard, risk, and vulnerability.
- Apply the source-pathway-receptor model to the study of natural hazards in particular settings/contexts.
- Critically evaluate different strategies for the management of natural hazards.

Assessment: Continuous Assessment: (100%).

Module Breakdown: The module is taught primarily through weekly presentations and seminars

Key Texts:

Keller, E. A. and D. E. DeVecchio (2019). *Natural Hazards: Earth's processes as Hazards, disasters and catastrophe*, Routledge.

Kelman, I. (2020). *Disaster by Choice: How our actions turn natural hazards into catastrophes*. Oxford, Oxford University Press.

GGU33014 Research Frontiers in Geography

5 ECTS

Module Co-ordinator: Prof. Anna Davies (daviesa@tcd.ie) Dr. Margaret Jackson (Margaret.jackson@tcd.ie)

Pre-requisites: none

Outline: The aim of this module is to help students refine their ability to understand and interpret research from across geography. It is also designed to assist students in developing evidence-based opinions about this



research and finally, to assist them in identifying how they can help to push research frontiers through their own research. Following introductory lectures on the research process, including publication and presentation, the module will comprise a series of invited talks with speakers presenting a recently published paper/chapter/report and then take questions from the class with respect to the research process and findings. Students will critically analyse each presentation with respect to the core elements of the research process: problem identification, existing state of knowledge, methodology, results, and

conclusions to form Part I of their Research Frontiers workbook. They will be required to read the published paper and provide a synopsis of the differences between the oral presentation and written publication. Part II provides space for students to reflect on the different styles of presentation they have encountered and identify successful communication strategies.

Learning outcomes: On successful completion of this module students will:

- Comprehend and report on research presented both orally and in primary literature.
- Identify the aims and/or hypotheses in research studies and identify the research methods employed to address them.
- Interpret results of research in the context of the wider subject area.

- Interpret representations of data and results in the context of the research presented.
- Assess and evaluate the conclusions of the research presented.
- Summarise scientific studies in language and style suitable for consumption by a wide audience
- Critically reflect on the benefits and limitations of research communication approaches

Graduate Attributes: levels of attainment

- To act responsibly - Enhanced
- To think independently - Enhanced
- To develop continuously - Enhanced
- To communicate effectively - Enhanced

Module Breakdown: The module is taught primarily through weekly presentations and seminars with independent learning and assessment preparation

- 4 Introductory lectures (weeks 1-2) = 4 hours
- 12 presentations and seminars (weeks 3-9) = 12 hours
- Research Frontiers workbook Part I (formative assessment) (weeks 4-10) = 48 hours
- Research Frontiers workbook Part II (summative assessment) (weeks 10-11) = 61 hours

Key Texts: Gomez, B. and Jones, J.P. (2010) *Research methods in Geography: A critical introduction*, Wiley, London

Hoggart, K., Lees, L. and Davies, A.R. (2014) *Researching Human Geography*,

Montello, D. and Sutton, P. (2013) *An introduction to scientific research methods in geography & environmental studies*, Sage, London

Strunk, W. and White, E.B. (2000) *The Elements of Style*, Pearson.

GGU33915 Globalisation and Geopolitics**5 ECTS****Module Co-ordinator: Professor Pádraig Carmody** (carmodyp@tcd.ie)**Type: Optional (JH)****Pre-requisites: None**

Outline: This module examines the impacts of globalisation in both the developed and developing world and its relation to geopolitics. Particular emphasis is placed on the theories of geopolitics and globalisation and topics covered include the implications of the rise of China and its international relations in the developing world, “shadow globalisation” – human, arms and drug trafficking and resistance to these processes through social movements, amongst others.

The module will be taught through a combination of lectures, and tutorial discussions. Attendance at the tutorials is an integral part of the module. Rather than being a revision exercise, the aim of the tutorials is to elicit a broader understanding of the issues involved by drawing out the social and policy implications of the content of the lectures.

Students taking this module will be expected to have undertaken reading in depth prior to each tutorial.



Learning Outcomes: On successful completion of this module students will be able to:

- Analyse the relationships between economic forces, spatial development, geopolitics and the role of the state at different scales of analysis in the developed and developing worlds;
- Judge and critique different perspectives on the nature of the globalisation;
- Comprehend and critique the influence of organisations such as the International Monetary Fund, World Bank and International Non-Governmental Organisations;
- Apprehend the construction and interaction between ethnicity, conflict and terrorism; regionalisation and globalisation;
- Discuss critically the relationship between different types of globalisation “from above” and “below”;
- Critically evaluate alternatives to globalisation.
- Critically evaluate alternatives to globalisation.

Assessment: 72-hour take home examination (50%) Answer 2Q/6. Essay (50%).

Module Breakdown: Contact Hours (Lectures = 18 hrs; Tutorials = 3hrs); Additional Input (Tutorial preparation = 15hrs; Essay = 32hrs; Other reading = 24 hrs; Revision and Examination = 33hrs). TOTAL = 125hrs.

Key Texts:

- Harvey, D. (2011) *The Enigma of Capital*. London: Profile Books.
- Parr, A. (2014) *The Wrath of Capital: Neoliberalism and Climate Change Politics*. New York, NY: Columbia University Press.
- Urry, J. (2014) *Offshoring*. Cambridge: Polity Press.
- Nordstrom, C. (2007) *Global Outlaws: Crime, Money, and Power in the Contemporary World*. Berkley, CA: University of California Press.
- Stunkel, O. (2016) *Post-Western World*. Cambridge: Polity.
- Agnew, J. (2018) *Globalisation and Sovereignty: Beyond the Territorial Trap* (2nd edition). London: Rowman and Littlefield.

GGU33931 Environmental Governance 1**5 ECTS****Module Co-ordinator:** Dr Rory Rowan (rowanro@tcd.ie)**Pre-requisites:** None

Outline: The “environment” emerged as a new object of concern in the 1960s. Since then, and largely through the work of citizens, scientists, environmental justice movements, and NGOs, many different environmental problems have been raised - from chemical contamination to climate change, from oil spills to plastic-filled oceans. Despite growing awareness of these many forms of environmental degradation, the political and societal response has been far from adequate. How can we explain this? One starting point is to interrogate the contested history and development of environmental politics since the 1960s. What we learn from such an approach is that there have been radically different ways of framing environmental problems, giving rise to radically different

proposals on how to deal with these problems. This historically informed understanding thus invites us to consider how re-framing current environmental problems may help us to orientate society towards a more just and sustainable future.

This module will introduce students to the emergence of environmental politics as a unique field of policy-making, scientific production, and conflict since the 1960s. It will discuss key texts, writers and thinkers, whose work has been instrumental in shaping how we think about the environment, as well as how private, public and civil society actors have responded to environmental problems in recent times.

Learning Outcomes: On successful completion of this module students will be able to:

- Understand the key developments and debates within modern environmentalism over the past fifty years;
- Identify and discuss the key thinkers and texts that have shaped modern environmental thinking;
- Debate the nature and impact of different environmental policies and initiatives at local, national and global scales;
- Use the critical analytic skills developed through the module to better examine a range of sources including documentary films, government reports, academic papers, and more.

Assessment: 100% Continuous assessment.

Module Breakdown: Contact Hours (Lectures = 20 hours); Additional Input (Lecture Preparation = 60hrs; Coursework preparation = 85hrs; examination preparation = 85 hours) TOTAL = 250hrs.

Key Texts:

- Cronon, W. (ed.) (1996) *Uncommon Ground: Toward Reinventing Nature*. New York: Norton.
- Dryzek, J. S. (2013) *The Politics of the Earth: Environmental Discourses*. Oxford: Oxford University Press.
- Heise, U.K. (2008) *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*. Oxford: Oxford University Press.
- Merchant, C. (1990) *The Death of Nature: Women, Ecology, and the Scientific Revolution*. HarperCollins.

- Smith, N. (2010) *Uneven Development: Nature, Capital and Production of Space*. University of Georgia Press.
- Warde, P., Robin, L. & Sorlin, S. (2018) *The Environment. A History of the Idea*. John Hopkins University Press.

GGU33937 Urban Economic Structure & Regeneration

5 ECTS

Module Co-ordinator: Dr Cian O'Callaghan (ocallac8@tcd.ie)

Type: Optional (NS, JH)

Pre-requisites: None

Outline: This module introduces you to some key themes, concepts, and debates in urban geography. In particular it will focus on the concept of urban regeneration. The module first considers the historic development of urbanisation, the transition to urban-based economies, and the development of urban studies. It then focusses specifically on the urban impacts of globalisation, in particular how cities in the developed world have managed the shift from industrialism to post-industrialism. Finally, the module examines regeneration from a number of perspectives. Particular attention will be given to the circular nature of processes of urban growth and decline and how regeneration efforts include and exclude particular social groups and identities.

Learning Outcomes: On successful completion of this module students will be able to:

- Demonstrate a thorough understanding of the processes underlying changing urban economic form and the concurrent shift in the cultural life of cities
- Have a detailed knowledge of the varied character of urban regeneration policies, their function and effectiveness.
- Demonstrate a knowledge of key concepts in urban geography and be able to apply them to real world situations



Assessment: Blog post + additional component (50%) & 2-hour examination (50%) answering 2 questions from 4.

Module Breakdown: Lectures (20 hrs), Fieldtrip (2 hrs), Additional inputs (Reading, exam revision, blog post preparation – 103hrs). Total 125 hrs.

Key Texts:

- Jonas, A. E., McCann, E., & Thomas, M. (2015) *Urban geography: a critical introduction*. Oxford: John Wiley & Sons.
- MacLaran, A. & Kelly, S. (Eds.) (2014) *Neoliberal Urban Policy and the Transformation of the City: Reshaping Dublin*. London: Palgrave Macmillan.

GGU33939 Exploring the Sustainable City**5 ECTS****Module Co-ordinator:** Dr Federico Cugurullo (cugurulf@tcd.ie)**Pre-requisites:** None

Outline: What will the city of the future look like? To what extent are our models of city-making sustainable? Is the road that we are taking leading us towards an environmental utopia in which societies will grow in balance with nature, or are we paving the way for the collapse of our civilization? These are the key questions that will drive our exploration of the different ways through which, today, sustainable urban development is understood and practiced across the world.

In this highly interdisciplinary module, we are going to use the tools of geography to examine the most critical socio-environmental issues faced by cities (climate change, consumption, happiness, environmental degradation, etc.), and discuss both the theory and practice of urban sustainability.

Using case studies from different continents, we will explore projects for eco-cities and smart cities, and evaluate their sustainability performance. We will also draw upon urban history and political philosophy to learn how the ideal city was imagined in past, and use this knowledge to foresee what urban futures alleged smart-eco cities are shaping.

Each session will be designed to stimulate interaction and will require curiosity and imagination. This module is more than a review of how urban sustainability is understood and practiced, and you will be asked to design, present and discuss practical plans of action to sustain urban living in the 21st century and beyond.



Learning Outcomes: By the end of the course the student will be able to:

- Demonstrate knowledge of key debates relating to theories and practices of sustainable urban development
- Show understanding of the different meanings of urban sustainability across geographical spaces
- Undertake analysis of complex, incomplete or contradictory areas of knowledge in relation to contemporary urban challenges
- Critically evaluate urban agendas from a sustainability perspective
- Design and evaluate strategies for sustainable urban development.

Assessment: 100% Assessment

Module Breakdown: Contact hours (Lectures + seminars 22 hours); Additional inputs (Lectures + seminars preparation, coursework, revision and examination). TOTAL: 125 hours.

Key Texts:

- Evans et al. (2016) *The Experimental City*. London: Routledge.
- James P. (2015) *Urban Sustainability in Theory and Practice*. London: Routledge.
- Whitehead, M. (2007) *Spaces of sustainability: geographical perspectives on the sustainable society*. London: Routledge.

SENIOR SOPHISTER	
Semester 1	Semester 2
CORE MODULES *	
* GGU44930 : Dissertation (20 credits)	
OPTIONAL MODULES	
GGU44933 GIS and Remote Sensing Applications in Geography (5 credits)	GGU44936 Globalisation and African Development (5 credits)
GGU44969 Urban Geography: Cities, Space and Culture (10 credits)	GGU44927 Environmental Governance 2 ES (5 credits)
GGU44974 Glaciers and Glaciation (with Tutorials) (10 Credits)	GGU44968 Historical Geography (10 credits)
GGU44976 Glaciers and Glaciation (5 Credits)	GGU44975 Coastal Wetlands (10 Credits)
BOU44111 : Restoration Ecology and Re-wilding (5 credits)	

*If you wish to undertake a dissertation in Geography, and you are not on an Erasmus exchange in second semester of Junior Sophister year, you must take Advanced Research Methods 1.

* Depending on Pathway students take compulsory 20 credit dissertation module

JH students need to carefully check their pathway here, bearing in mind that in Geography a Capstone Project is the dissertation:

https://www.tcd.ie/t4media/tcd/content-assets/pdf/Explore-your-pathways-JH_new.pdf

GGU44930 Geography Dissertation**20 ECTS****Module Co-ordinator: Professor Padraig Carmody** (carmodyp@tcd.ie)

Outline: The dissertation is an independent study in which field work or the study of original source material is expected to play an important role.

Data can be collected in a variety of ways - such as through field sampling or survey, laboratory analysis, questionnaire surveys, interviews, content analysis, census material or archival work or some combination of these - depending on the topic chosen. The research topic is developed as part of *GGU33928 Advanced Research Methods in Geography 1*. A more complete description of the dissertation, together with recommendations regarding supervisor meetings, health and safety regarding field and laboratory work etc and regulations relating to late submission etc, can be found on the Geography website – see Courses, Current Students.

For dissertation preparation regulations specific to Erasmus students, see page 5.

Learning Outcomes: On successful completion of this module students will be able to:

- Complete a sustained piece of individual, academic research on a chosen topic within the field of Geography, under the guidance of a member of staff;
- Explain the methodological basis employed in their research;
- Critically evaluate existing research and its implications for the topic of study;
- Demonstrate technical proficiency in the application of the selected methods and techniques of data acquisition and analysis;
- Synthesise and discuss the results with reference to relevant academic literature;
- Present a succinct and precise written report of the research that is well presented, logically structured and accurately referenced.

Assessment: Independent research project dissertation (100%). All students must also give a short progress report presentation to the Department in Semester 1 in order to progress to submission in Semester 2.

Module Breakdown: Contact Hours (Supervision = 10hrs); Additional Input (Individual research and dissertation writing = 490hrs). TOTAL = 500hrs.

GGU44927 Environmental Governance 2 ES**5 ECTS****Module Co-ordinator: Dr Rory Rowan** (rowanro@tcd.ie)

Outline: There is little disagreement that far-reaching societal, technological, political, and economic transformations are required if we are to avoid the worst effects of global, anthropogenic environmental change. What form these transformations should take and who should take responsibility for them are, however, far from settled.

This module considers some of the key conceptual debates and environmental conflicts arising in this context. Examination of these debates and conflicts will demonstrate the contested and uneven nature of environmental change and the measures sought to address these changes. The overall aim of the module is to help students develop a more nuanced,



critical and multi-disciplinary understanding of environmental change and the different, often contested, ways of responding to such changes.

The module will consist of weekly interactive lectures/seminars, guest lectures, and set readings. Lectures will introduce students to key concepts and perspectives drawn from the broad field of political ecology. Each week part of the class will be set aside for students to develop their research projects. These projects will focus on a key area of environmental contestation in Ireland through a political ecology lens. The projects will involve group work and individual work, written assignments, oral presentations, and primary research. Class attendance is essential.

Learning Outcomes: On successful completion of this module students will be able to:

- Understand and apply key theoretical concepts from the field of political ecology to contemporary environmental debates and issues;
- Identify and critically discuss key sites of environmental contestation in Ireland today;
- Explain why an in-depth understanding of environmental problems today requires an understanding of the political, economic and social contexts out of which they emerge and within which they are managed

Assessment: 100% Continuous assessment.

Module Breakdown: Contact Hours (Lectures = 10hrs; Seminars = 10hrs); Additional Input (Lecture & Seminar Preparation = 60hrs; Reading = 60hrs; Assessment Preparation = 110 hrs). TOTAL = 250 hrs.

Key texts:

- Castree, N. & Braun, B. (2001) *Social nature theory, practice, and politics*. London: John Wiley & Sons.
- Forsyth, T. (2003) *Critical political ecology: the politics of environmental science*. London: Routledge.
- Peet, D., Robbins, P. & Watts, M. (2011) *Global political ecology*. London: Routledge.
- Robbins, P. (2012) *Political ecology: a critical introduction* (2nd edition). London: Wiley.

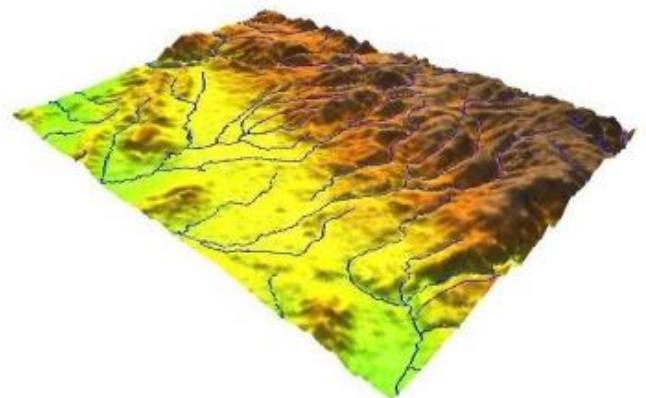
GGU44933 GIS and Remote Sensing Applications in Geography

5 ECTS

Module Co-ordinator: Dr. John Connolly (john.connolly@tcd.ie)

Prerequisite: GGU33933

Outline: Remote Sensing and Geographical Information Systems (GIS) allow a wide range of environmental and human phenomena to be explored across space and time. The ability to detect and map change within the human and physical/environmental sub-systems at a range of scales has the power to inform science, policy, and planning and often becomes essential when scaling up observations / theories derived within a particular place or at a particular time. In this module, students will learn both the theory behind



GIS and Remote Sensing techniques, exploring a range of web-based and stand-alone methods for interrogating geo-spatial data. They will be encouraged to do so critically and will gain an understanding of uncertainties and the relative merits of different sources of geospatial information, with particular emphasis placed on resolution and accuracy, both spatially, temporally, and in the

spectral domain. The module contains an appropriate amount of hands-on learning, both within the classroom and in students' own time via accessible web-based platforms/software.

Learning Outcomes: On successful completion of this module students will be able to:

- Explain the importance and relevance of geo-spatial information to a range of Geographical problems
- Critically evaluate the difference between and importance of resolution, scale, and accuracy within geospatial types of data
- Critically evaluate the appropriateness of different remote sensing platforms for a range of research questions
- Use GIS software to analyse geospatial data and explore the relationships between multiple geo-spatial datasets
- Select data of appropriate resolution, scale and accuracy for specific research questions
- Communicate the outputs of GIS/Remote Sensing projects succinctly and effectively and by using correct technical and scientific terminology

Assessment: Course work (100%) MCQ and assessed final project

Module Breakdown: Contact Hours - Lectures & Practical classes = 22 hrs; Additional Inputs - Reading and work on project = 103 hrs. TOTAL = 125hrs.

Key Texts:

- Heywood, I., Cornelius, S. & Carver, S. (2011) *An Introduction to Geographical Information Systems* (4th edition). Upper Saddle River, NJ: Prentice Hall.
- Emery, W. & Camps, A. (2017) *Introduction to Satellite Remote Sensing. Atmosphere, Ocean, Land and Cryosphere Applications*. London: Elsevier.
- Campbell, J. B. & Wynne, R. H. (2011). *Introduction to Remote Sensing*. Guildford Press.

A list of recommended reading materials, standards, manuals, best practice documents is provided in throughout the module.

GGU44936 Globalisation & African Development

5 ECTS

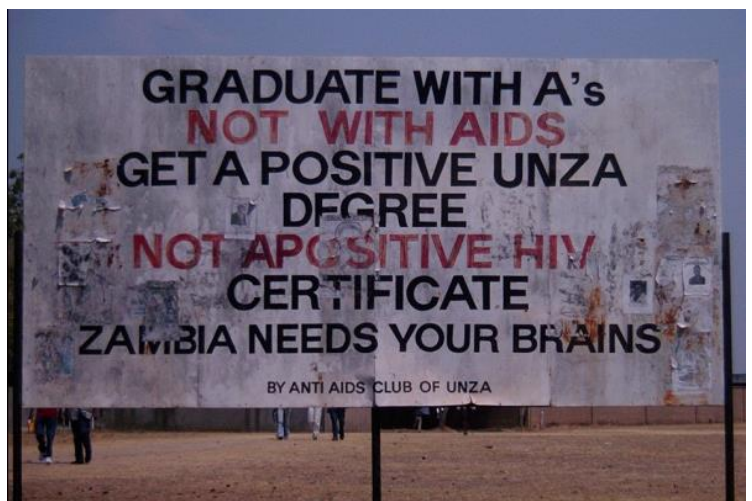
Module Co-ordinator: Professor Pádraig Carmody (carmodyp@tcd.ie)

Pre-requisites: None

Outline: This module explores the nature and impacts of globalisation in Africa. Particular attention is paid to the geography of HIV/AIDS, gender and development, China's rising role in the continent, oil politics and the so called "resource curse" or paradox of plenty that Africa is the most resource rich continent in the world but also the poorest. Other topics covered included gender and the mobile phone revolution.

Learning Outcomes: On successful completion of this module students will be able to:

- Discuss critically the historical evolution of Africa's incorporation into the global political economy;
- Judge and critique different perspectives on the nature of the globalization in Africa;



- Critically evaluate the influence of organizations such as the International Monetary Fund, World Bank and International Non-Governmental Organisations in Africa;
- Apprehend the construction and interaction between issues such ethnicity, conflict and terrorism; regionalisation and globalization and gender and development;
- Interrogate the geography and evolution of HIV/AIDS in Africa and its causal factors;
- Independently evaluate broader literatures on development in Africa.

Assessment: 72-hour take home examination (50%) Answer 2Q/6; Essay (50%)

Module Breakdown: Contact Hours (Lectures = 18hrs; Tutorials = 4 hours; Additional Input (Essay = 52 hrs; Other reading = 85hrs; Revision and examination = 66hrs). TOTAL = 250hrs.

Key Texts:

- Maathai, W. (2010) *The Challenge for Africa*. London: Arrow books.
- Rotberg, R. (2013) *Africa Emerges*. Cambridge: Polity.
- Cotula, L. (2013) *The Great African Land Grab*. New York, NY: Zed.
- Burgis, T. (2015) *The Looting Machine: Warlords, Tycoons and the Systematic Theft of Africa's Wealth*. London: Harper Collins.

GGU44968 Historical Geography

10 ECTS

Module Co-ordinator: Dr Mark Hennessy (mhnessy@tcd.ie)

Pre-requisites: None



Outline: This module presents an overview of the historical geography of Ireland from the earliest evidence of human settlement in the Mesolithic through to c.1840 A.D. Throughout the module developments in Ireland are set within appropriate comparative and theoretical contexts. The principal topics explored are settlement, land use and agriculture, the changing environment (including human impacts), patterns of cultural variation and interaction and how

these have come together to forge changing landscapes and regions.

Learning Outcomes: On successful completion of this module students will be able to:

- Understand the development of landscapes and regional patterns in Ireland from prehistory to the modern period;
- Place developments in Ireland in appropriate comparative contexts;
- Critically evaluate alternative explanations/interpretations of the pattern of landscape and regional change in Ireland;
- Critically evaluate archaeological, field and documentary evidence relating to this topic.

Assessment: 3 hour examination (50%); coursework (50%)

Module Breakdown: Contact Hours (Lectures = 50 hrs); Additional Inputs (Reading and preparation for class discussions = 100 hrs; preparation and completion of assessment= 100 hrs)

Key Texts:

- Clarke, H.B., Hennessy, M. & Prunty, J. (Eds.) (2004) *Surveying Ireland's Past*. Dublin: Geography Publications.
- Aalen, F. H. A., Whelan, K. & Stout, M. (Eds.) (2011) *Atlas of the Irish Rural Landscape*, Cork: Cork University Press.

GGU44969 Urban Geography: Cities, Space and Culture**10 ECTS****Module Co-ordinator:** Dr Cian O'Callaghan (ocallac8@tcd.ie)**Pre-requisites:** None

Outline: It is now claimed that we have entered an 'urban age'. The bulk of the world's population now live in 'urban' areas, while the future fate of humanity (either utopian or dystopian) is increasingly being tied to the fate of cities. This module will introduce students to key debates and concepts in urban geography that shed light on what it means to live in an 'urban society'.

The first part of the module will outline how political economic processes, including the relationship between the supply of credit and the role of the property development sector and the role of entrepreneurial urbanism, produce urban space in highly uneven ways. The second part of the module will examine social and cultural geographies of cities, focusing on the role of identity and difference in shaping urban space and everyday life. The module will also use Dublin as a key case study and research laboratory to explore how these processes are shaping that city. Focussing on contemporary events, it will bring together rich and varied scholarship from leading researchers in Dublin and the experiential analysis of policy makers, community activists, and a range of other urban actors.

Students will be expected to attend lectures and read widely in preparation, engage in group activities and discussions. The course comprises lectures, seminar-based classes, one-day fieldtrip, and group-based activities.

Learning Outcomes: On successful completion of this module students will be able to:

- Demonstrate a knowledge of key theoretical debates in urban geography and be able to apply key concepts to real world situations
- Have a detailed knowledge of the factors underlying patterns and approaches to urban economic development.
- Recognise the impacts of urban regeneration and culture-led approaches to urban planning and development.
- Demonstrate knowledge of how identity and difference shapes urban space and everyday life.
- Demonstrate a critical awareness of current socio-spatial issues and challenges relating to Dublin

Assessment: Continuous Assessment (100%).

- CW1 Concept essay: The concept essay asks you to pick a concept we covered in class and write a concept essay (literature review) of how it has been used in relevant urban geography studies.
- CW2 Project: The research project asks you to pick one topic we have covered in class, and research how it can be applied to study recent trends or issues in Dublin. You should identify a particular policy, initiative, or case study area that relates to your chosen topic and conduct independent research on this. The independent research you conduct can include interviews, ethnography, surveys and/or documentary analysis. You should then write a report (3,000 words) documenting your research and applying the conceptual literature to analyse your case study.

- CW3 Comparative Essay: Write an essay comparing and contrasting at least two concepts, approaches or subjects from both section 2 and 3 of the module. In your answer you should reflect on the critical work that these concepts do to identify and explain different forms of urban inequality.
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Module Breakdown: Contact Hours (Lectures = 30 hrs; Seminars = 12 hrs; Fieldtrip = 2 hrs); Additional Inputs (Reading and preparation for class discussions; Essay; Project. examination = 206 hrs). TOTAL = 250 hrs.

Key Texts:

- Edwards, C., & Imrie, R. (2015) *The short guide to urban policy*. Cambridge: Policy Press.
- Jonas, A. E., McCann, E., & Thomas, M. (2015) *Urban geography: a critical introduction*. Oxford: John Wiley & Sons.
- MacLaran, A. & Kelly, S. (eds.) (2014) *Neoliberal Urban Policy and the Transformation of the City: Reshaping Dublin*. London: Palgrave Macmillan.

GGU44974 Glaciers and Glaciation (with Tutorials)	10 ECTS
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Module Co-ordinator: Dr Margaret Jackson (margaret.jackson@tcd.ie)

Pre-requisites: None.

Outline: Glaciers mould landscapes and mountain ranges. An essential component of arctic and alpine ecosystems, glaciers provide water resources for billions of people in sub-tropical regions and are a backbone of many tourist economies. Glaciers are also sensitive indicators of climate, serving both as proxies and archives of past conditions while impacting directly the level and rate of change of global sea level. Understanding glaciers, how they behave and the impacts they have on landscapes, is therefore crucial for understanding the history of our planet and for projecting future change. Through hands on activities, lectures, and discussion, this module explores how glaciers operate, their effects on landscapes over time, and the influence of glaciers in communities today. We will also investigate how glaciers can serve as indicators of past – and present – climate change.

Learning Outcomes: On successful completion of this module students will be able to:

- Understand and explain the primary controls on glacial mass balance.
- Describe the elements required for glaciation, and where glaciers are found today.
- Evaluate different types of glaciers, how they behave, and how this relates to landscape.
- Describe the ways glaciers modify landscapes, and the evidence of this modification.
- Evaluate how glaciers and glacial landforms can be used to reconstruct past climate conditions.
- Describe how and why glaciers influence changes in sea level.
- Understand potential hazards associated with glaciers and glaciation.
- Discuss the impacts of glaciers on communities and cultures.

Assessment: Continuous Assessment (100%)

Module Breakdown: Contact hours: Contact hours:

33 total hours comprised of 1x 2 hr lecture and 1 x 1 hr meeting per week. The shorter lecture periods will be primarily used for activity and discussion.

Independent Study (preparation for course and review of materials): 90 hrs

Independent Study (preparation for assessment, incl. completion of assessment): 127 hrs

Key Texts: Primary reference text: *Glaciers & Glaciation*, D. Benn and D. Evans, 2nd Ed. Additional topical material (shorter items, news articles, research journal articles, book chapters) will be made available to students on Blackboard.

GGU44975 Coastal Wetlands	10 ECTS
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Module Co-ordinator: Prof. Iris Moeller (moelleri@tcd.ie)

Pre-requisites: 'Spaceship Earth' (JF) and 'Living on the Edge: Estuaries and Coasts' (JS) are helpful but not necessary

Outline: Coastal wetlands are unique showcases for how environmental change manifests itself in intrinsically dynamic landscapes. Historically seen as 'wasteland', these muddy and inaccessible places are now recognised for providing a plethora of ecosystem services to coastal communities. From sequestering carbon at rates in excess to those of tropical rainforests, to their role as coastal buffers against the impact of sea level rise, coastal, flooding and erosion, and their importance as valuable blue-green spaces for mental and physical recreation, coastal wetland environments serve both global, regional, and local sustainable development goals. At the same time, erosion and loss of coastal wetlands is reported from across the globe. Retaining existing and restoring lost wetlands is becoming a key challenge that must be addressed to meet ambitious climate and biodiversity targets. But how do we achieve that?



Drawing on the latest science, this module will provide students with a deeply rooted scientific understanding of how two key coastal wetlands types, saltmarsh and mangrove systems, are shaped by tides, waves, sediment supply, climate, and human land use. We will go on to explore precisely how they provide ecosystem services and why they are experiencing degradation throughout the world. Towards the end of the module, we will focus in depth on attempts at the large (e.g. Mississippi Delta) and small (e.g. managed realignment projects in NW Europe) scale have succeeded (or not) in addressing the restoration challenge.

Student will engage in practical fieldwork to map, measure, and describe saltmarsh geomorphology, ecology, and the action of biophysical processes that shape coastal wetlands through a mini-project carried out on the wetlands in Dublin Bay. In this endeavour, we will place particular emphasis on the socio-economic and political dimension of saltmarsh restoration in an urban context.

Learning Outcomes: On successful completion of this module students will be able to:

- Explain how and under what conditions coastal wetland formation is initiated.
- Appreciate the global distribution and spatial variability of coastal wetland types.
- Understand and reflect on the societal importance and ecosystem services provided by coastal wetlands.

- Appreciate and be able to explain the way in which tides and waves interact with the physical structure of coastal wetlands.
- Discuss the key impacts of climate change on coastal wetland systems.
- Appreciate the connectivity between physical and biological processes within wetlands systems as well as between coastal wetlands and their adjacent areas.
- Conduct (bio) geomorphological field surveys to capture key characteristics of the vegetation cover, sediment, and hydrodynamics of wetland systems.
- Describe examples of wetland restoration projects and their key characteristics.
- Appreciate the key challenges around the restoration of coastal wetlands and how those might be overcome.
- Research and prepare a written scientific report on a specific coastal wetland related research question.
- Clearly and concisely articulate the findings of a scientific study in the form of an oral presentation.

Assessment: Continuous Assessment (100%)

Module Breakdown:

Contact hours: 42 consisting of: 16 lectures, 4 tutorials, 2 one-day field excursions (2 x 6 hours), 8 hours laboratory practicals, 2 hours workshop/student presentations.

Independent Study (preparation for course and review of materials): 83 consisting of: 48 hours lecture reading, 20 hours tutorial reading, 15 hours field excursion preparation/follow-up

Independent Study (preparation for assessment, incl. completion of assessment): 104 consisting of: 8 hours tutorial material preparation, 16 hours oral presentation slide preparation, 80 hours written report preparation

Key Texts:

- Perillo, G.M.E., Wolanski, E., Cahoon, D.R., and Hopkinson, C.S. 2019.
- Coastal Wetland. An integrated ecosystem approach. 2nd Edition. Elsevier, Amsterdam. ISBN: 978-0-444-63893-9
- FitzGerald, D., and Hughes, Z. (eds.). 2021. Salt Marshes: Function, Dynamics, and Stresses. Cambridge: Cambridge University Press. ISBN: 978-1-316-88893-3.

GGU44976 Glaciers and Glaciation	5 ECTS
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Module Co-ordinator: Dr Margaret Jackson (margaret.jackson@tcd.ie)

Pre-requisites: None.

Outline: Glaciers mould landscapes and mountain ranges, leaving indelible impressions long after they disappear. Glaciers also provide vital information regarding past climate, serving both as proxies and archives of past conditions. At the same time, the sensitivity of glaciers to changing climate conditions has direct implications for global sea level. Glaciers also provide water resources for billions of people in sub-tropical regions, and are a backbone of many tourist economies. Understanding glaciers, how they behave and the impacts they have on landscapes, is therefore crucial for understanding the history of our planet and for projecting future change. Through hands on activities, lectures, and discussion, this module explores how glaciers operate, their effects on landscapes over time, and the influence of glaciers in communities today. We will also investigate how glaciers can serve as indicators of past – and present – climate change.

Learning Outcomes: On successful completion of this module students will be able to:

- Understand and explain the primary controls on glacial mass balance.
- Describe the elements required for glaciation, and where glaciers are found today.
- Evaluate different types of glaciers, how they behave, and how this relates to landscape.
- Describe the ways glaciers modify landscapes, and the evidence of this modification.
- Evaluate how glaciers and glacial landforms can be used to reconstruct past climate conditions.
- Describe how and why glaciers influence changes in sea level.
- Understand potential hazards associated with glaciers and glaciation.
- Discuss the impacts of glaciers on communities and cultures.

Assessment: Continuous Assessment (100%)

Module Breakdown: Contact hours: 33 hours lecture and discussion. Independent Study (preparation for course and review of materials): 46 hours.

Key Texts: Add core text(s) Primary reference text: *Glaciers & Glaciation*, D. Benn and D. Evans, 2nd Ed. Additional topical material (shorter items, news articles, research journal articles, book chapters) will be made available to students on Blackboard.

BOU44111 Restoration Ecology and Re-Wilding	5 ECTS
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Module Co-ordinator: Dr Marcus Collier (Marcus.collier@tcd.ie)

Preference given to Geography majors and Single Honours

Pre-requisites: None

Outline: Restoration ecology, like conservation biology, is a 'crisis' discipline, having emerged as a science/practice response to the social and ecological impacts directly and indirectly driven by human activities. Restoration ecology has proven to be highly effective in some cases but has also given rise to some controversy as well as policy difficulties. Rewilding and novel ecosystems are new and controversial areas within restoration ecology making it difficult to know how and when to intervene. This module will introduce you to the challenges and opportunities, failings and fallacies of the complex world of restoration ecology, rewilding, and the work of restoration ecologists. It will look at how rewilding could be the most efficient of nature-based solutions and asks if this is feasible in the modern world. As the discipline struggles to navigate global climate issues, integrate with the social sciences, incorporate politics and economics, and derive policy actions, this module will draw on case studies of restoration globally to will challenge students to rethink ecology and ecosystems in the Anthropocene.

Learning Outcomes: On successful completion of this module students should be able to:

- Understand the principals of restoration ecology and rewilding as they apply in a modern context
- Comprehend the nuanced nature of restoring ecosystems and habitats as well as re-introducing species in practice
- Carry out restoration case study analysis for their assignments
- Understand the complex relationship between ecology, social values and policies
- Evaluate the success of restored ecosystems and species

Module Breakdown: Lectures (24 hrs); Reading (100 hours); Total = 124 hrs.

Key texts:

- Aronson, J, Milton, S.J., & Blignaut, J. Eds. (2007) *Restoring Natural Capital*. Washington DC: Island Press
- Hobbs, R. J., Higgs, E. S. & Hall, C. M. Eds. (2013) *Novel Ecosystems*. Oxford: Wiley
- Marris, E. (2011) *Rambunctious Garden*. London: Bloomsbury
- Monbiot, G. (2015) *Feral*. London: Penguin

4. Examinations and Assessment

Throughout your degree, your progress will be evaluated by examination and course work. Details concerning examination procedures are documented in the College Calendar and you are advised to familiarise yourselves with these at the earliest opportunity. Modules are assessed in the semester in which they are taught.

In all cases, the end-of-year Geography mark is calculated according to the relative ECTS weightings of the modules taken.

Please refer to documentation on relevant pathway webpages, be it NS, TSM or PSG when considering contributions of minor or major moderatorships, TSM or percentage contribution of JS years.

The Haughton Prize is awarded annually to the student who achieves the highest overall Geography mark in the Junior Sophister year.

Examinations

The regulations governing examinations are set out in the College Calendar.

Examination timetables are published in advance of the dates of examinations. See the examinations office website for more details (<http://www.tcd.ie/Examinations/Timetables/>). You must ensure that you are available for the duration of the examinations period as presented in the College Calendar (<http://www.tcd.ie/calendar/>).

It is the student's responsibility to establish the dates, times and venues of examinations. No reminders will be sent to you

The College employs anonymous marking where practically possible. Results will be published by student number. The marking criteria used when marking Geography examination scripts are presented in the relevant section below.

Course work

The form of course work will vary between modules. Details concerning the assessment requirements, value, marking criteria, and deadline/process for submission will be circulated by the module coordinator or lecturer when the assessment task is set.

Under normal circumstances, course work will be submitted on a Monday and marked within 20 working days of submission (this does not apply to the Dissertation). The results will be notified to students by the module coordinator or lecturer.

All submitted course work must have a completed Assignment Submission Form attached. These are available from the Geography website – see Courses, Current Students – or from the Geography Desk.

Marks are returned in the form of indicative grades as presented in the table below. These grades are provisional, being subject to moderation at the Examiners' Meeting.

Mark Range	Indicative Grade
90-100	A++
80-89	A+
70-79	A
65-69	B+
60-64	B
55-59	C+
50-54	C
45-49	D+
40-44	D
<40	F

Submission of assessed course work in the Sophister Years

It is the student's responsibility to ensure that you accurately note the deadline and procedure for submission of assessed work.

When work is handed in a register of its receipt is kept. The register includes the date of submission and the student's signature.

For work that is submitted electronically, the student must obtain acknowledgement from the member of the academic staff responsible that the submission has been received. Unless otherwise stipulated, all written work must be word-processed.

The student must keep a paper and electronic copy of all work submitted for assessment

Policy regarding absence from in-class assessments

Please note that attendance at all undergraduate classes (lectures, laboratory classes etc.) in the fresh years is mandatory. Unsatisfactory attendance can result in you not being permitted to rise with the year. Please see the college calendar for the regulations regarding attendance (general regulations ii, 17 – 23).

In Sophister years, the importance of attendance increases as both years generally contribute directly to your final degree mark.

Attendance at assessments is compulsory in all years. Students must be available during term and certainly during the teaching term. However, in exceptional circumstances and if a reasonable case is made, staff can make special arrangements for students regarding assessments. Each case will be considered on its merits.

Paid employment, family holidays, weddings, birthdays etc. do not constitute grounds for making special assessment arrangements.

The Undergraduate Studies website contains further information concerning the academic regulations governing study at Trinity College.

Deadlines and penalties for late submission

The time, date and mode of submission of all coursework will be communicated to you by the lecturer concerned. It is your responsibility to accurately note this information and plan your time accordingly. In the event that you are unclear about any aspect of coursework submission, you should seek clarification from the lecturer in advance of the deadline.

Failure to submit assessed work by the stipulated deadline will result in a zero mark for that component. Students failing to submit more than a third of the required coursework in any term will be reported as 'non-satisfactory' and may be required to repeat the year (general regulations ii, 25-26). Requests for extensions on medical or other grounds should be made via your tutor in advance of the deadline. Further information can be found in part II of the College Calendar (General Regulations 45).

Students registered with the Disability Office

Students registered with the **Disability Office** are advised to contact the Module Coordinator or Lecturer at the beginning of a module, to ensure their learning and assessment requirements are met and to enable any adjustments to examination conditions are implemented.

The student should bring a copy of their LENS report with them.

Important note regarding plagiarism

All students (undergraduate and postgraduate, new entrants and existing students) must ensure that they have a clear understanding of what plagiarism is, how Trinity deals with cases of plagiarism, and how to avoid it.

We ask you to take the following steps:

- Visit the online resources to inform yourself about how Trinity deals with plagiarism and how you can avoid it at <http://tcd-ie.libguides.com/plagiarism> You should also familiarise yourself with the Calendar entry on plagiarism and the sanctions which are applied.
- **Complete the 'Ready, Steady, Write' online tutorial** on plagiarism at <http://tcd-ie.libguides.com/plagiarism/ready-steady-write>. **Completing the tutorial is compulsory for all students.**
- Familiarise yourself with the declaration that you will be asked to sign when submitting course work at <http://tcd-ie.libguides.com/plagiarism/declaration> (coursework/assignment submission forms can be downloaded from Geography's Undergraduate web page - <https://www.tcd.ie/Geography/local/#assignmentsubform>)
- Contact your College Tutor, your Course Director, or your Lecturer if you are unsure about any aspect of plagiarism.

Plagiarism is interpreted by the University as the act of presenting the work of others as one's own work, without acknowledgement. Plagiarism is considered as academically fraudulent, and an offence against University discipline. The University considers plagiarism to be a major offence, and subject to the disciplinary procedures of the University.

Plagiarism can arise from deliberate actions and also through careless thinking and/or methodology. The offence lies not in the attitude or intention of the perpetrator, but in the action and in its consequences.

Plagiarism can arise from actions such as:

- a) copying another student's work;
- b) enlisting another person or persons to complete an assignment on the student's behalf;

- c) quoting directly, without acknowledgement, from books, articles or other sources, either in printed, recorded or electronic format;
- d) paraphrasing, without acknowledgement, the writings of other authors.

Examples (c) and (d) in particular can arise through careless thinking and/or methodology where students:

- fail to distinguish between their own ideas and those of others;
- fail to take proper notes during preliminary research and therefore lose track of the sources from which the notes were drawn;
- fail to distinguish between information which needs no acknowledgement because it is firmly in the public domain, and information which might be widely known, but which nevertheless requires some sort of acknowledgement;
- come across a distinctive methodology or idea and fail to record its source.

All the above serve only as examples and are not exhaustive.

Students should submit work done in co-operation with other students only when it is done with the full knowledge and permission of the lecturer concerned. Without this, work submitted which is the product of collusion with other students may be considered to be plagiarism.

It is clearly understood that all members of the academic community use and build on the work of others. It is commonly accepted also, however, that we build on the work of others in an open and explicit manner, and with due acknowledgement. Many cases of plagiarism that arise could be avoided by following some simple guidelines:

- Any material used in a piece of work, of any form, that is not the original thought of the author should be fully referenced in the work and attributed to its source. The material should either be quoted directly or paraphrased. Either way, an explicit citation of the work referred to should be provided, in the text, in a footnote, or both. Not to do so is to commit plagiarism.
- When taking notes from any source it is very important to record the precise words or ideas that are being used and their precise sources.
- While the Internet often offers a wide range of possibilities for researching particular themes, it also requires particular attention to be paid to the distinction between one's own work and the work of others. Particular care should be taken to keep track of the source of the electronic information obtained from the Internet or other electronic sources and ensure that it is explicitly and correctly acknowledged.

It is the student's responsibility to ensure you do not commit plagiarism. If in doubt, you should seek advice from a lecturer, tutor or supervisor on avoiding plagiarism. See Guidelines on Referencing below.

NB: Assignments may be checked using anti-plagiarism software

Guidelines on Referencing

Geography employs the Harvard Referencing system and students must use this method in all written work (including presentations). Please note the following points:

- You should insert a citation when referring to the work or ideas of others. This can be done when you are reviewing existing work or using the work of others to support your own arguments.
- You should cite all references within the text using the author's surname (no first names or initials) followed by the year of publication. For example, "Smith (2009) demonstrates that..." or "These results support previous work in this area (Smith, 2009)."

- If there are two authors, include both in the citation within the text. For example, “Smith & Jones (2009) demonstrate that...”. If there are three or more authors, insert “et al.” after the first author. For example, if Smith & Jones write a paper with their colleague Bloggs, this should be cited in the text as “Smith et al. (2009) demonstrate that...”.
- When citing multiple works, references must be arranged in chronological order within the text. For example, “These results support previous work in this area (Smith, 2001; Jones, 2004; Smith et al., 2009).”
- At the end of your assignment, you must compile a reference list that includes all of the material cited in your work. This differs from other forms of Bibliography that may list work that has not been cited (e.g. recommended reading).
- Your reference list must be in alphabetical order by first author’s surname, with material by individual authors ordered chronologically. For example, the papers above would be listed as:
Jones, A.B. (2004)
Smith, C.D. (2001)
Smith, C.D. (2009)
Smith, C.D., Jones, A.B. (2009)
Smith, C.D., Jones, A.B., Bloggs, E.F. (2009)
- The precise format of the references varies with publication type. Common examples are:

Academic Journal papers:

Smith, C.D. (2001) Title of the paper. *Name of the Journal* **Vol No.**, pg X-Y.

Books:

Jones, A.B. (2004) *Title of Book*. Edition. Publisher: Location, No. of pages.

Website:

Author names (Year) *Title of webpage* (online), URL, [Date Accessed]



For more information see the
Freeman Library website:

<https://www.tcd.ie/Geography/freeman-library/>

Marking Criteria

Geography uses the following guidelines on awarding grades for essays and examination answers

Class	Mark Range	Criteria
I	90-100	EXCEPTIONAL ANSWER; This answer will show original thought and a sophisticated insight into the subject, and mastery of the available information on the subject. It should make compelling arguments for any case it is putting forward and show a rounded view of all sides of the argument. In exam questions, important examples will be supported by attribution to relevant authors and, while not necessarily giving the exact date, should show an awareness of the approximate period. In essays, the referencing will be comprehensive and accurate.
	80-89	OUTSTANDING ANSWER; This answer will show frequent originality of thought and make new connections between pieces of evidence beyond those presented in lectures. There will be evidence of awareness of the background behind the subject area discussed, with evidence of deep understanding of more than one view on any debatable points. It will be written clearly in a style which is easy to follow. In exams, authors of important examples may be provided. In essays all important examples will be referenced accurately.
	70-79	INSIGHTFUL ANSWER; showing a grasp of the full relevance of all course material discussed and will include one or two examples from wider reading to extend the arguments presented. It should show some original connections of concepts. There will be only minor errors in examples given. All arguments will be entirely logical and well written. Referencing in exams will be sporadic but referencing should be present and accurate in essays.
II-1	65-69	VERY COMPREHENSIVE ANSWER; good understanding of concepts supported by broad knowledge of subject. Notable for synthesis of information rather than originality. Evidence of relevant reading outside lecture notes and coursework. Mostly accurate and logical with appropriate examples. Occasional lapse in detail.
	60-64	LESS COMPREHENSIVE ANSWER; mostly confined to good recall of coursework. Some synthesis of information or ideas. Accurate and logical within a limited scope. Some lapses in detail tolerated. Evidence of reading the assigned course literature.
II-2	55-59	SOUND BUT INCOMPLETE ANSWER; based on coursework alone but suffers from a significant omission, error or misunderstanding. Usually lacks synthesis of information or ideas. Mainly logical and accurate within its limited scope and with lapses in detail.
	50-54	INCOMPLETE ANSWER; suffers from significant omissions, errors and misunderstandings, but still with understanding of main concepts and showing sound knowledge. Several lapses in detail.
III	45-49	WEAK ANSWER; limited understanding and knowledge of subject. Serious omissions, errors and misunderstandings, so that answer is no more than adequate.
	40-44	VERY WEAK ANSWER; a poor answer, lacking substance but giving some relevant information. Information given may not be in context or well explained, but will contain passages and words, which indicate a marginally adequate understanding.
Fail	35-39	MARGINAL FAIL; inadequate answer, with no substance or understanding, but with a vague knowledge relevant to the question.
	30-34	CLEAR FAILURE; some attempt made to write something relevant to the question. Errors serious but not absurd. Could also be a sound answer to the misinterpretation of a question.
	0-29	UTTER FAILURE; with little hint of knowledge. Errors serious and absurd. Could also be a trivial response to the misinterpretation of a question.

Geography uses the following agreed guidelines on marking for project/dissertation assessment.

Class	Mark Range	Criteria
I	80-100	Exceptional project report showing broad understanding of the project area and excellent knowledge of the relevant literature. Exemplary presentation and analysis of results, logical organisation and ability to evaluate critically and discuss results coupled with insight and originality.
	70-80	A very good to excellent project report showing evidence of wide reading, with clear presentation and thorough analysis of results and an ability to evaluate critically and discuss research findings. Clear indication of some insight and originality. A very competent and well-presented report overall but with some room for improvement.
II-1	60-69	A good to very good project report which shows a reasonably good understanding of the problem and knowledge of the relevant literature. Mostly sound presentation and analysis of results but with occasional lapses. Relevant interpretation and critical evaluation of results, though somewhat limited in scope. General standard of presentation and organisation adequate to good.
II-2	50-59	A moderately good project report which shows some understanding of the problem but limited knowledge and appreciation of the relevant literature. Presentation, analysis and interpretation of the results at a basic level and showing little or no originality or critical evaluation. Insufficient attention to organisation and presentation of the report.
III	40-49	A weak project report showing only limited understanding of the problem and superficial knowledge of the relevant literature. Results presented in a confused or inappropriate manner and incomplete or erroneous analysis. Discussion and interpretation of results severely limited, including some basic misapprehensions and lacking any originality or critical evaluation. General standard of presentation poor.
Fail	20-39	An unsatisfactory project containing substantial errors and omissions. Very limited understanding or, in some cases, misunderstanding of the problem and very restricted and superficial appreciation of the relevant literature. Very poor, confused and, in some cases, incomplete presentation of the results and limited analysis of the results including some serious errors. Severely limited discussion and interpretation of the results revealing little or no ability to relate experimental results to the existing literature. Very poor overall standard of presentation.
Fail	0-19	A very poor project report containing every conceivable error and fault. Showing virtually no real understanding or appreciation of the problem and of the literature pertaining to it. Chaotic presentation of results and, in some cases, incompletely presented and virtually non-existent or inappropriate or plainly wrong analysis. Discussion and interpretation seriously confused or wholly erroneous revealing basic misapprehensions.

Prizes

JAMES KILLEN PRIZE IN POLITICAL SCIENCE AND GEOGRAPHY

The James Killen prize in Political Science and Geography was founded in 2014-15 by the Departments of Geography and Political Science. It is awarded annually, from 2014-15 to 2020-21 inclusive, on the recommendation of the two departments, to the continuing Political Science and Geography Junior Sophister student who, in the judgement of the programme's Junior Sophister court of examiners, performs at the highest level in the Junior Sophister year. Value, €100.

HAUGHTON PRIZE IN GEOGRAPHY

This prize, established in 1989 from funds subscribed to honour Joseph P. Haughton, Fellow emeritus and formerly Professor of Geography, is awarded to the best student of geography in the Junior Sophister year as nominated by the annual departmental examiners' meeting. Value, €305.

5. Geography Staff and Contact Information

The Geography Undergraduate Teaching and Learning desk is in the School of Natural Sciences Office on the ground floor of the Museum Building.

Email: geography@tcd.ie

Telephone: +353-(0)1 896 1576

Head of Geography: Prof Iris Moeller

Contact: moelleri@tcd.ie

Members of staff from across the School of Natural Sciences contribute to the teaching programmes in Geography. Specific enquiries relating to individual modules should be directed to the module coordinator or the member of teaching staff involved.

Academic Staff

[Dr Mary Bourke](#) BA, MA (UCD), Ph.D. (Australian National University) FTCD

Research Interests: Geomorphology..

Contact: bourkem4@tcd.ie

[Dr Pádraig Carmody](#) BA (Dublin), MSc (Dublin), PhD (Minnesota), FTCD, MRIA

Research Interests: Development and economic geography, political economy, globalisation, Africa.

Contact: carmodyp@tcd.ie

[Dr John Connolly](#) BA International (UCD), MSc (The University of Sheffield), PhD (UCD).

Research Interests: Applied GIS and Remote Sensing, terrestrial carbon dynamics; land use and land use change; peatlands; geomorphology; habitat mapping; geospatial analysis & renewable energy.

Research Interests: john.connolly@tcd.ie

[Dr Federico Cugurullo](#) BA, MA (Cagliari), PhD (London)

Research interests: sustainable urban development; smart cities; eco-cities; experimental urbanism; the ideal city; Southeast Asia; Middle East.

Contact: cugurulf@tcd.ie

[Professor Anna Davies](#) BA (Cantab.), MSc (Oxf Brookes), PhD (Cantab), FTCD, MRIA

Research Interests: Human geography and the environment; environmental values and valuation; environmental planning and governance; environmental conflicts and justice with a special interest in sustainability and public participation in environmental issues.

Contact: daviesa@tcd.ie

[Dr Robin Edwards](#) BSc (Southampton), PhD (Dunelm)

Research Interests: Sea level change & climate; foraminifera; quantitative palaeoenvironmental reconstruction; oceanography; coastal change; environmental archaeology.

Contact: robin.edwards@tcd.ie

[Dr Mark Hennessy](#) BA (NUI), MA (Dublin), PhD (NUI)

Research Interests: Historical geography; history and philosophy of geography; history and theory of cartography; Australasia.

Contact: mhnessy@tcd.ie

[Dr Margaret Jackson](#) BS (Dickinson), MS (Maine), PhD (Dartmouth)

Research Interests: Palaeoclimate, abrupt climate change, glacial geomorphology, geochronology, environmental reconstruction, ice-sheet sensitivity, Quaternary geomorphology and sedimentology

Contact: margaret.jackson@tcd.ie

[Dr Philip Lawton](#) BA, MA (UCD), PhD (Dublin)

Research Interests: Urban Social and Economic Change, Suburbanization and Urban Processes, Urban Public Space, Film and the City.

Contact: lawtonp@tcd.ie

[Prof Iris Moeller](#) BA (Oxon), MPhil, PhD (Cantab.)

Research Interests: Coastal geomorphology and management; sea-level rise adaptation; coastal flood risk mitigation; coastal protection provided by dynamic coastal landforms and ecosystems; climate change adaptation.

Contact: moelleri@tcd.ie

[Dr Susan P. Murphy](#) BA, MA, PhD (UCD)

Research Interests: Ethics and climate change; Human rights; Humanitarian and Development practice; Theories of justice (domestic, international, and global); Ethics of assistance; Gender and development.

Contact: susan.p.muryph@tcd.ie

[Dr Cian O'Callaghan](#) BA (Cork), PhD (Cork)

Research Interests: Urban political economy, Creativity and place, Neoliberalism, Urban vacancy and 'new ruins'.

Contact: ocallac8@tcd.ie

[Dr. Rory Rowan](#), BA, MA, PhD (Royal Holloway, University of London)

Research Interests: environmental governance, political ecology, geopolitics, the Anthropocene,

outer space, intellectual history, artistic collaboration.

Contact: rowanro@tcd.ie

Dr Martin Sokol IngArch (Bratislava), MA (Grenoble), PhD (Newcastle)

Research Interests: Economic geography; Urban and regional development; Post-socialist geographies; Geographies of finance.

Contact: sokolm@tcd.ie

Professional Staff

In addition to the academic staff list above, the Geography teaching programmes are supported by the invaluable contributions of range of further staff.

Mr Francis Hendron BSc (Dublin) MA (Dublin)

Role: Chief Technical Officer

Contact: fhendron@tcd.ie

Dr Elaine Treacy BA (Dublin), PhD (Dublin)

Role: Chief Technical Officer (Specialist)

Contact: treacyel@tcd.ie

Dr James Canavan BSc (Hons) (Glasgow), PhD (Glasgow)

Role: Senior Technical Officer

Contact: canavaj1@tcd.ie

Librarian TBC.

Role: Librarian (Freeman Library)

Contact: geography@tcd.ie

Members of staff from across the School of Natural Sciences contribute to the teaching programmes in Geography. Specific enquiries relating to individual modules should be directed to the module co-ordinator or the member of teaching staff involved.

6. Facilities, Conduct and Safety

The Discipline of Geography is one of the constituent disciplines of the School of Natural Sciences. Other disciplines within the School include the Disciplines of Botany, Environmental Science, Geology and Zoology. The Discipline of Geography is primarily housed within the Museum Building in New Square, Geography has several dedicated facilities in the Museum Building that may be used by undergraduate students. These facilities include lecture rooms, laboratories and a library.

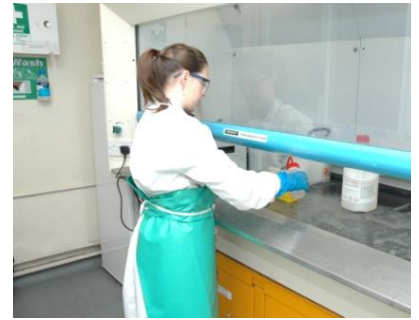
Laboratories

The laboratories within the discipline of Geography need to be booked in advance. Please contact James Canavan (canavaj1@tcd.ie) to book time in the laboratories.

The Geomorphology Laboratory is the primary teaching laboratory within the discipline. The laboratory is mainly used for soil and sediment based work as well as non-hazardous chemical work.

The Palynology Laboratory is reserved for work that requires the use of hazardous chemicals.

The Particle Size Analysis (PSA) Laboratory houses our particle size analysis (PSA) instrument; The Malvern Mastersizer 3000. Anyone required to use this instrument will be given full training in its operation in advance of work commencing.



Safety

The Discipline of Geography Safety Statement is located within Room 0.19. The document contains all relevant safety information for the discipline, including risk assessments, policies and forms.

The safety statement is also available via a dedicated MS Teams site which is shared with relevant undergraduate and postgraduate students.

Under the *Safety, Health and Welfare at Work Act (2005)*, Trinity College Dublin has a duty to provide, within reason, a safe place of work and safe working practices. As a student using facilities in the Discipline of Geography, you have responsibility for your own safety and that of your fellow students and staff. To this end, all safety protocols and instructions as laid out in the Safety Statement and any additional instructions given by the staff in charge of a class/laboratory practical/fieldtrip must be understood and adhered to.

James Canavan (canavaj1@tcd.ie) acts as Discipline Safety Officer for Geography.

Emergencies

Situations which may require emergency response include:

- Fire
- Emergency evacuation due to bomb alerts, gas leaks, chemical spills, biological or radioactive incidents
- Serious accident and injury
- Natural disaster
- Off-site incidents
- Power failure

In the event of an emergency, contact the college Emergency number Ext 1999 (from an internal line) or 01 896 1999 (from a mobile). You should give your name, location and the nature of the emergency. If necessary, you can evacuate the building by using one of the break-glass units.

Laboratory Safety

Laboratory protocols exist for each of the laboratories within the Discipline of Geography. These protocols are available via a dedicated MS Teams site which is shared with relevant undergraduate and postgraduate students. The Laboratory protocol must be signed off before using any of the laboratories. Any new experimental or project work taking place in any of the laboratories will require a Laboratory **Risk Assessment** to be completed before the work can begin.

Assessments need to be approved by your Supervisor and in some cases the Head of Discipline before the work can commence.



Fieldwork Safety

Fieldwork forms an important part of Geography research and teaching. Any staff member, postdoctoral researcher, postgraduate student or undergraduate student must read the Discipline of Geography Fieldwork Safety Manual and view the presentation, Preparing a Fieldwork Risk Assessment prior to undertaking fieldwork. Undergraduate students must initially discuss the proposed fieldwork with their academic supervisor and obtain their consent prior to undertaking any fieldwork. A **Fieldwork Risk Assessment** must be undertaken before embarking on any fieldwork. The risk assessment must be approved by your Supervisor and in some cases the Head of Discipline before the fieldwork can commence. All of the above assessment forms and manuals are available from the technical staff and via a dedicated MS Teams site which is shared with relevant undergraduate and postgraduate students.

Fire Safety

The Fire Wardens for the Discipline of Geography are Elaine Treacy (Room 0.9B) and James Canavan (Room B8A). However, individuals are responsible for checking the fire precautions in their work areas. Any defects or potential fire hazards should be reported to the Discipline Fire Wardens or to the Head of Discipline immediately.

Within your work area, note the position of the nearest fire extinguishers and note the position of the nearest fire exit. Under no circumstances should fire doors be wedged or left open. The curtailment of fire spread is dependent on fire doors being kept shut.

When the fire alarm sounds within the building, stop whatever function you are engaged in and leave it in a safe condition. Leave the building by one of the exits. Proceed to the appropriate assembly point for your area. You should ensure to lock your office/lab door behind you when you leave. **The assembly point for the museum building is Fellows Square, located outside the arts building.**

If you discover a fire, raise the alarm by using one of the break glass units, leave the building, closing or locking all doors behind you, notify the security centre by calling Ext 1999 or 01 8961999 and report to your assembly point.

First Aid

If a student is injured or falls ill during a class, laboratory practical or fieldtrip, the person in charge must be informed immediately. First Aid Kits are located in the Administration Office, Palynology Laboratory, Geomorphology Laboratory, Basement Laboratory and Freeman Library. The First Aid Kits contain a range of dressings and bandages for treatment of minor cuts and burns as well as eyewash

solution. If you use any items from the First Aid Kits, please inform a Safety or Technical Officer so the items can be replaced.

Staff trained in Occupational First Aid for the discipline;

Elaine Treacy (Room 0.9B) and James Canavan (Room B8).

All accidents must be reported to the Discipline Safety Officer and entered in the accident book which is kept in room B8A. An accident report form will be completed for each incident.

If an injury requires a doctor or nurse, the college health centre number is Ext 1556 (from an internal line) or 01 896 1556 (from a mobile). The doctor should be informed of when and where the illness took place. In emergencies where immediate attention or ambulance is required call the emergency number Ext 1999 (or 01 896 1999 from a mobile).

Security

As the museum building is open to the public, it is particularly vulnerable to intruders and potential thieves and as a result, cash, personal items and valuable equipment disappear without apparent explanation. You are advised **never** to leave a handbag, purse, wallet, camera, personal computer, etc. unattended in the laboratories or unlocked offices. Intruders often set off the fire alarm in order to gain entry to vacant offices. When evacuating the building once the fire alarm sounds, ensure that you lock doors behind you.

If you encounter an intruder or if a person seems to be acting suspiciously, inform a member of staff or phone:

Security Office, Front Gate - ext 1317/1999.

7. The Freeman Library

The Freeman Library is located off the main concourse of the Museum Building. It is supplementary to the main library system of College and to the College Map Library. It provides a wide range of materials useful for coursework and a quiet working environment. In addition to course-related texts, reference books, bibliographies, periodicals, pamphlets, maps, postgraduate theses and undergraduate dissertations

Membership of the library is open to all those reading geography. Enquiries concerning the use the Freeman Library should also be addressed to geography@tcd.ie.



Library opening hours are subject to change but generally follow the pattern of 9.00 a.m. - 5.00 p.m. on Mondays & Wednesdays, and 9.00 a.m. - 1.00 p.m. on Fridays during term time. The Library is normally closed on Tuesdays and Thursdays. However, the Library may be open for additional hours close to exams. Notices will be placed on the door to let students know any changes in the opening hours. Only geography students and staff are allowed to use the library. Books or other materials may not be borrowed. Use of the Library will be subject to COVID-19 restrictions. If students need help in finding information, locating books or using databases please do not hesitate to contact geography@tcd.ie.



8. Beyond a Geography Degree

Careers for Geography Graduates

Trinity College geography graduates are to be found in almost every branch of employment. These include teaching at all levels, research in industry, semi-state bodies and academic institutions; planning and development in the civil service, local government and overseas development agencies. Graduates of the Department are also found in industry, marketing, property management, housing management and research, banking, accountancy, advertising, journalism, publishing, librarianship, television, agriculture, soil surveying, meteorology, hydrology and tourism.

The breadth of the subject enables geographers to be more adaptable to cyclical variations in employment opportunities than the graduates of many narrower specialisms. Moreover, the integrating nature of geography has become a major asset in a world of constant change in which many employers seek adaptability and flexibility, rather than narrow technical knowledge which is soon outdated.

Research Opportunities

Geography has a thriving postgraduate community with students engaged in PhD research in both human and physical geography. Further research information will be available from the [Geography Research Directory](#).

The School of Natural Sciences also runs taught M.Sc. programmes in Environmental Science and Biodiversity & Conservation. These one-year courses comprise 60 ECTS of specialist taught modules followed by an independent research project worth 30 ECTS.

The Masters in Development Practice (MDP) is a two year interdisciplinary degree programme consisting of twenty academic modules across four intersecting disciplines—health, natural, social, and management sciences combined with cross-sectoral field training, professional work-based placements, and a research based dissertation. It blends theory and practice, science and social science to further international development solutions. It is part of a global network under the remit of the United Nations Sustainable Development Solutions Network headquartered in Columbia University in New York.

Further course details including admission requirements and applications process can be obtained from the Postgraduate Prospectus on the Graduate Studies website or via the School of Natural Sciences.

