



Swansea University
Prifysgol Abertawe

**FACULTY OF SCIENCE AND
ENGINEERING**

**UNDERGRADUATE STUDENT
HANDBOOK**

YEAR 2 (FHEQ LEVEL 5)

**BSC ENVIRONMENTAL GEOSCIENCE
UNDERGRADUATE PROGRAMMES**

**SUBJECT SPECIFIC
PART TWO OF TWO
MODULE AND COURSE STRUCTURE
2023-24**

DISCLAIMER

The Faculty of Science and Engineering has made all reasonable efforts to ensure that the information contained within this publication is accurate and up-to-date when published but can accept no responsibility for any errors or omissions.

The Faculty of Science and Engineering reserves the right to revise, alter or discontinue degree programmes or modules and to amend regulations and procedures at any time, but every effort will be made to notify interested parties.

It should be noted that not every module listed in this handbook may be available every year, and changes may be made to the details of the modules. You are advised to contact the Faculty of Science and Engineering directly if you require further information.

The 23-24 academic year begins on 25 September 2023

Full term dates can be found [here](#)

DATES OF 23-24 TERMS

25 September 2023 – 15 December 2023

8 January 2024 – 22 March 2024

15 April 2024 – 07 June 2024

SEMESTER 1

25 September 2023 – 29 January 2024

SEMESTER 2

29 January 2024 – 07 June 2024

SUMMER

10 June 2024 – 20 September 2024

IMPORTANT

Swansea University and the Faculty of Science of Engineering takes any form of **academic misconduct** very seriously. In order to maintain academic integrity and ensure that the quality of an Award from Swansea University is not diminished, it is important to ensure that all students are judged on their ability. No student should have an unfair advantage over another as a result of academic misconduct - whether this is in the form of **Plagiarism, Collusion** or **Commissioning**.

It is important that you are aware of the **guidelines** governing Academic Misconduct within the University/Faculty of Science and Engineering and the possible implications. The Faculty of Science and Engineering will not take intent into consideration and in relation to an allegation of academic misconduct - there can be no defence that the offence was committed unintentionally or accidentally.

Please ensure that you read the University webpages covering the topic – procedural guidance [here](#) and further information [here](#). You should also read the Faculty Part One handbook fully, in particular the pages that concern Academic Misconduct/Academic Integrity.

Welcome to the Faculty of Science and Engineering!

Whether you are a new or a returning student, we could not be happier to be on this journey with you.

At Swansea University and in the Faculty of Science and Engineering, we believe in working in partnership with students. We work hard to break down barriers and value the contribution of everyone.

Our goal is an inclusive community where everyone is respected, and everyone's contributions are valued. Always feel free to talk to academic, technical and administrative staff, administrators - I'm sure you will find many friendly helping hands ready to assist you. And make the most of living and working alongside your fellow students.

During your time with us, please learn, create, collaborate, and most of all – enjoy yourself!

Professor David Smith
Pro-Vice-Chancellor and Executive Dean
Faculty of Science and Engineering



Faculty of Science and Engineering	
Pro-Vice-Chancellor and Executive Dean	Professor David Smith
Head of Operations	Mrs Ruth Bunting
Associate Dean – Student Learning and Experience (SLE)	Dr Laura Roberts
School of Biosciences, Geography and Physics	
Head of School	TBC
School Education Lead	Dr Wendy Harris and Dr Sarah Roberts
Head of Geography	Dr Kevin Rees
Geography Programme Director	Dr Joanne Maddern
Year Coordinators	Year 0 – Dr Kath Ficken Year 1 – Dr Kath Ficken Year 2 – Dr Nick Felstead Year 3 – Dr Keith Halfacree PGT – Dr Iain Robertson

STUDENT SUPPORT

The Faculty of Science and Engineering has two **Reception** areas - Engineering Central (Bay Campus) and Wallace 223c (Singleton Park Campus).

Standard Reception opening hours are Monday-Friday 8.30am-4pm.

The **Student Support Team** provides dedicated and professional support to all students in the Faculty of Science and Engineering. Should you require assistance, have any questions, be unsure what to do or are experiencing difficulties with your studies or in your personal life, our team can offer direct help and advice, plus signpost you to further sources of support within the University. There are lots of ways to get information and contact the team:

Email: studentsupport-scienceengineering@swansea.ac.uk (Monday–Friday, 9am–5pm)

Call: +44 (0) 1792 295514 (Monday-Friday, 10am–12pm, 2–4pm).

Zoom: By appointment. Students can email, and if appropriate we will share a link to our Zoom calendar for students to select a date/time to meet.

The current student **webpages** also contain useful information and links to other resources:

<https://myuni.swansea.ac.uk/fse/>

READING LISTS

Reading lists for each module are available on the course Canvas page and are also accessible via <http://ifindreading.swan.ac.uk/>. We've removed reading lists from the 23-24 handbooks to ensure that you have access to the most up-to-date versions.

We do not expect you to purchase textbooks, unless it is a specified key text for the course.

THE DIFFERENCE BETWEEN COMPULSORY AND CORE MODULES

Compulsory modules must be **pursued** by a student.

Core modules must not only be **pursued**, but also **passed** before a student can proceed to the next level of study or qualify for an award. Failures in core modules must be redeemed.

Further information can be found under “Modular Terminology” on the following link -

<https://myuni.swansea.ac.uk/academic-life/academic-regulations/taught-guidance/essential->

[info-taught-students/your-programme-explained/](#)

Year 2 (FHEQ Level 5) 2023/24
Environmental Geoscience
 BSc Environmental Geoscience[FF86]
 BSc Environmental Geoscience with a Year Abroad[F768]

Compulsory Modules

Semester 1 Modules	Semester 2 Modules
GEL203 Earth history 10 Credits Dr NJ Felstead	GEL204 Geological Record of Past Environments 10 Credits Dr KJ Preece/Dr KJ Ficken
Total 120 Credits	

Optional Modules

Choose exactly 20 credits

Cannot select GEC276 with GEG276, GEC277 with GEG277 and GEC278 with GEG278 as they are the Welsh and English equivalent of the same module.

GEC276	Systemau Gwybodaeth Ddaearyddol	Dr RH Meara	TB1	20
GEG276	Introduction to Geographic Information Systems	Prof AJ Luckman	TB1	20

And

Choose exactly 20 credits

GEC277	Dulliau ac Ymagweddau Daearyddol	Dr RH Meara/Dr A Closs Stephens	TB1	20
GEG277	Geographical Methods and Approaches	Dr KJ Ficken/Prof SH Doerr/Dr KH Halfacree/..	TB1	20

And

Choose exactly 20 credits

GEC278	Sgiliau Dadansoddi Data a Pharatoi Traethawd Hir	Dr A Closs Stephens/Dr RH Meara	TB2	20
GEG278	Data Analysis and Dissertation Preparation Skills	Dr NJ Felstead/Dr A Closs Stephens/Dr KJ Ficken/..	TB2	20

And

Choose exactly 20 credits

This module has been pre-allocated to your module selections after our application process in April. Therefore any selection made here will be overwritten by the Geography Department

GEG252	Geographical Fieldwork skills	Dr NJ Felstead	TB1+2	20
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And

Choose exactly 20 credits

GE-200	Professional Development and Career Planning	Miss VV Wislocka/Miss VV Wislocka	TB1	0
GEG211	Glacial Environments	Dr J Hiemstra	TB1	10
GEG236	Earth from Space: Monitoring Global Environmental Change	Prof PRJ North	TB2	10
GEG273	Geographies of Climate Action and Activism	Dr AL Pigott	TB1	10
GEG283	Sustainable Land Management	Dr E Urbanek/Prof SH Doerr	TB1	10

Year 2 (FHEQ Level 5) 2023/24
Environmental Geoscience
 BSc Environmental Geoscience with a Year in Industry[F769]

Compulsory Modules

Semester 1 Modules	Semester 2 Modules
GE-200 Professional Development and Career Planning 0 Credits Miss VV Wislocka/Miss VV Wislocka	GEL204 Geological Record of Past Environments 10 Credits Dr KJ Preece/Dr KJ Ficken
GEL203 Earth history 10 Credits Dr NJ Felstead	
Total 120 Credits	

Optional Modules

Choose exactly 20 credits

Cannot select GEC276 with GEG276, GEC277 with GEG277 and GEC278 with GEG278 as they are the Welsh and English equivalent of the same module.

GEC276	Systemau Gwybodaeth Ddaearyddol	Dr RH Meara	TB1	20
GEG276	Introduction to Geographic Information Systems	Prof AJ Luckman	TB1	20

And

Choose exactly 20 credits

GEC277	Dulliau ac Ymagweddau Ddaearyddol	Dr RH Meara/Dr A Closs Stephens	TB1	20
GEG277	Geographical Methods and Approaches	Dr KJ Ficken/Prof SH Doerr/Dr KH Halfacree/..	TB1	20

And

Choose exactly 20 credits

GEC278	Sgiliau Dadansoddi Data a Pharatoi Traethawd Hir	Dr A Closs Stephens/Dr RH Meara	TB2	20
GEG278	Data Analysis and Dissertation Preparation Skills	Dr NJ Felstead/Dr A Closs Stephens/Dr KJ Ficken/..	TB2	20

And

Choose exactly 20 credits

This module has been pre-allocated to your module selections after our application process in April. Therefore any selection made here will be overwritten by the Geography Department

GEG252	Geographical Fieldwork skills	Dr NJ Felstead	TB1+2	20
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And

Choose exactly 20 credits

GEC269 is taught through the medium of Welsh

GEG211	Glacial Environments	Dr J Hiemstra	TB1	10
GEG236	Earth from Space: Monitoring Global Environmental Change	Prof PRJ North	TB2	10
GEG273	Geographies of Climate Action and Activism	Dr AL Pigott	TB1	10
GEG283	Sustainable Land Management	Dr E Urbanek/Prof SH Doerr	TB1	10

GE-200 Professional Development and Career Planning	
Credits: 0 Session: 2023/24 September-January	
Pre-requisite Modules:	
Co-requisite Modules:	
Lecturer(s): Miss VV Wislocka, Miss VV Wislocka	
Format:	6 hours consisting of a mix of podcasts, recorded lectures and Zoom sessions and optional 1-2-1 meetings and weekly drop-in sessions. Prior to the change it was 6 hours of face to face delivery via PC labs, and a 1-2-1 meeting where applicable / requested.
Delivery Method:	These modules are delivered through online resources, scheduled Zoom sessions and 1-2-1 meetings. There is self-directed learning required using online resources provided.
Module Aims:	This module is a mandatory module for all students who have enrolled (or transferred) onto the Science Industrial Placement Year but is also available to all other Geography students. The module focuses on the underpinning and fundamental requisites required to gain, enter and progress through a successful career. Learners will be introduced to (a) sourcing placements, CV writing, and application techniques; (b) Interview techniques, how to pitch yourself and be successful; (c) workplace fundamentals and IP awareness, behaviors and expectations; and, (d) Key employability skills; getting the most from your job or placement.
Module Content:	The module will focus on the key requirements to gain and be successful whilst on a placement. Directed and self-directed activity will address the following topics: <ul style="list-style-type: none"> 1) Science Industrial Placements - What they are, how to search and how to apply. 2) CV writing, cover letters and application processes. 3) Assessment centres, interview techniques and a mock interview. 4) Recognizing and developing employability skills. 5) reflecting and maximising your placement experience. 6) one to one meeting with careers and employability officers.
Intended Learning Outcomes:	By the end of this module, students will be able to: <ul style="list-style-type: none"> 1) Be aware of and possess the essential skills needed to secure placement opportunities; alongside having the skills to apply for relevant jobs and placements. 2) Have a general understanding of an interview process and what tools and attributes make a good interview. 3) Discuss and share what is expected within the workplace including behavioral and professional conduct. 4) Identify personal employability skills and how these will be used in a workplace setting. 5) Understand the need to reflect and maximise the placement experience in future career decisions.
Assessment:	Assignment 1 (100%)
Assessment Description:	Students are required to attend all taught sessions and the one to one meeting (if required). This module has no credit attached. However to ensure engagement with the content a compulsory quiz will be added in session 5. Students who do not attend and have no valid reason will not be permitted to continue on a Science Industrial Placement Year programme of study.
Moderation approach to main assessment:	Not applicable
Assessment Feedback:	N/A
However feedback on progress and the progression through the module will be provided in the one to one mandatory meeting and MCQ quiz.	

Failure Redemption: Successful completion of this module depends upon satisfactory attendance at, and engagement with, all sessions. Therefore there will normally be no opportunity to redeem failure. However, special provision will be made for students with extenuating or special circumstances.

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

The module will focus on the key requirements to gain and be successful whilst on a placement or in work. Directed and self-directed activity will address the following topics:

- 1) Science Industrial Placements - What they are, how to search and how to apply.
- 2) CV writing, cover letters and application processes.
- 3) Assessment centres, interview techniques and a mock interview.
- 4) Recognizing and developing employability skills.
- 5) reflecting and maximising your placement experience.
- 6) one to one meeting with careers and employability officers.

GEC276 Systemau Gwybodaeth Ddaearyddol

Credits: 20 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr RH Meara

Format: 11 hours lectures
22 hours computer lab exercises

Delivery Method: Lecture and computer practical

Module Aims: A Geographic Information System (GIS) is a computer-based technology for solving problems of a geographical nature – i.e. involving spatial relationships between people, places and objects. It can be applied to a wide range of disciplines within geography and has developed to provide a means to quickly and professionally produce maps from geospatial data. This module provides a basic grounding in GIS from the nature of spatial information, through the use of GIS in social and physical geography contexts, to the application of computers to solving complex geographical problems. Most importantly, it allows hands-on experience in using Quantum GIS (QGIS), the leading open-source GIS software package, and therefore provides a valuable skill for research and the for workplace.

Module Content: 1. Module introduction
2. A digital model of the real world
3. Comparing raster and vectors data models
4. Coordinates and geographic reference systems
5. Geographic presentation and map design
6. GIS data sources and formats
7. Digital land surface topography
8. The Global Positioning System (GPS)
9. Route-finding in a network
10. The future of GIS

Intended Learning Outcomes: • A broad understanding of the purpose and scope of Geographical Information Systems

- An appreciation of the way in which geographical entities can be represented in a computer
- A critical awareness of the increasing role of GIS in government, commerce and science
- The ability to use QGIS software to explore and analyse a range of geospatial data
- The ability to present geospatial data as a well constructed and complete map
- A basic understanding of GIS-related technologies such as route-finding and GPS
- An appreciation of the future direction of GIS in geography and beyond

All marking will be carried out on-line

Assessment: Coursework 1 (20%)
Coursework 2 (30%)
Coursework 3 (20%)
Coursework 4 (30%)

Assessment Description: Coursework 1: Map figure with caption using given datasets.

Project: Series of maps and captions to present and justify the best location for a windfarm in a region of Wales.

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Students will receive feedback on each piece of coursework within 3 weeks of the submission deadline.

Each student will receive individual comments on their work.

All feedback will be provided online

Failure Redemption: Resubmit failed components

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

Nid yw ar gael i fyfyrwyr ymweld a chyfnwid.

Available to visiting and exchange students.

GEC277 Dulliau ac Ymagweddau Daearyddol

Credits: 20 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr RH Meara, Dr A Closs Stephens

Format: Lectures: 11 hours
Practical Classes: 21 hours (desk and field based)

Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, seminars, practical sessions and Academic Mentoring sessions.

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus

Cyflwynir y modiwl craidd hwn drwy gyfuniad o ddarlithoedd a sesiynau ymarferol (gan gynnwys rhywfaint o waith grp) ar Gampws Singleton ac mewn safleoedd maes lleol amrywiol. Caiff myfyrwyr ddewis o'r amrywiaeth o brosiectau sydd o ddiddordeb iddynt.

This core module will be delivered through a combination of lectures and practical sessions (including some group work) on Singleton campus and at various local field sites. Students will be able to select from the range of projects that interest them.

Module Aims:

Mae'r modiwl 20 credyd craidd hwn yn cyflwyno'r amrywiaeth o ymagweddau at Ddaearyddiaeth Ddynol a Ffisegol a geir, gan ddarparu trosolwg o'r prif ddulliau a ddefnyddir yn y ddisgyblaeth. Cyflwynir y paradeimau hyn a rhoddir cyfle i chi bwyso a mesur pa fathau o ddulliau sy'n cyd-fynd â'r ymagweddau daearyddol hyn. Mae'r modiwl yn cyflwyno dulliau data allweddol a'u gwreiddiau damcaniaethol a bydd cyfle i 'ymarfer' y dulliau allweddol hyn mewn gweithdai estynedig – yn yr ystafell ddosbarth ac yn y maes.

This core 20 credit module introduces the variety of approaches to Human and Physical Geography that exist, providing an overview of the key methods used in the discipline. These paradigms will be introduced and then you are given the opportunity to 'think through' what kinds of methods chime with these geographical approaches. The module introduces key data methods and their theoretical roots, with an opportunity to 'practice' these key methods extended workshops - both desk based and in the field.

Module Content:

Mae'r modiwl hwn yn cyflwyno rhai o'r prif dulliau ymchwil a ddefnyddir ar hyn o bryd gan ddaearyddwyr dynol a ffisegol, ynghyd ag ystyriaethau cynllunio ymchwil, damcaniaethol a moesegol. Mae'r modiwl yn cynnwys darlithoedd a hyfforddiant ymarferol a gofynnir i'r myfyrwyr gynnal prosiect ymchwil mewn grwpiau bach ar y diwedd.

Bydd y maes llafur yn cynnwys:

Darlithoedd ar gynllun ymchwil; darlithoedd ar ddata meintiol ac ansoddol; darlithoedd ar foeseg ymchwil; sesiynau ymarferol ar holiaduron ac arolygon; data'r Cyfrifiad a ffynonellau eilaidd; y dull gwyddonol; prosiectau maes daearyddiaeth ffisegol; sgiliau adolygu llenyddiaeth.

This module introduces students to some of the main research methods in currently employed by human and

physical geographers, along with research design, philosophical and ethical considerations. The module includes

lectures and practical training, and culminates in a research project conducted in small-groups. The syllabus will

include:

Research Design lectures;

Quantitative and Qualitative data lectures;

Research Ethics lectures;

Questionnaire surveys practicals;

Census data and secondary sources;

The scientific method;

Physical Geography Field Projects;

Literature Review Skills.

Intended Learning Outcomes:

Dangos ymwybyddiaeth o ymchwil effeithiol, gan gynnwys nodi cwestiwn, nodau ac amcanion ymchwil, cynllun ymchwil a dewis dull ymchwil priodol.

Arddangos gwerthfawrogiad o'r cyd-destunau cymdeithasol amrywiol lle defnyddir dulliau ymchwil mewn Daearyddiaeth Ddynol a'r cyd-destunau amgylcheddol lle defnyddir dulliau ymchwil mewn Daearyddiaeth Ffisegol.

Dangos y gallu i werthuso priodoldeb pob dull mewn cyd-destunau ymchwil gwahanol, boed yn yr ystafell ddosbarth neu yn y maes.

Dangos y gallu i adolygu'r llenyddiaeth mewn maes penodol er mwyn lleoli dull mewn cefndir gwyddonol neu wyddor gymdeithasol benodol.

By the end of this module you should be able to:

Demonstrate an awareness of effective research, including identification of a research question, aims and objectives, a research design and selection of an appropriate research methods.

Exhibit an appreciation of the varying social contexts within which research methods are used in Human Geography

and the environmental contexts within which research methods are used in Physical Geography.

Illustrate the ability to evaluate the appropriateness of each method in different research contexts, whether desk or

field based.

Evidence the ability to review the literature in a chosen field in order to situate a method within a particular scientific

or social science background.

Assessment: Coursework 1 (50%)

Coursework 2 (50%)

Assessment Description:

50% Adolygiad llenyddiaeth ar sail maes astudio a ddewiswyd

50% Portffolio ar sail pynciau prosiect a ddewiswyd

50% Literature review

50% Portfolio based on chosen project topic

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback:

Rhoddir adborth ysgrifenedig parhaus ar asesiadau yn electronig, gan ddefnyddio templed safonol a blwch sylwadau. Darperir adborth yn y dosbarth hefyd, drwy werthuso gan gymheiriaid a'r addysgwr, ar sail cryfderau a gwendidau cyffredin.

Continual assessment feedback is given in writing electronically using a standard rubric and comments box.

Feedback also to be provided in class through peer evaluation and from the instructor on common strengths and weaknesses.

Failure Redemption: Ailsefyll arholiad neu ailgyflwyno gwaith asesiad parhaus, pŷun bynnag sy'n berthnasol.

Resit examination or resubmit continual assessment whichever is applicable

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

Nid yw ar gael i fyfyrwyr ymweld a chyfnewid.

Not available to visiting and exchange students.

GEC278 Sgiliau Dadansoddi Data a Pharatoi Traethawd Hir

Credits: 20 Session: 2023/24 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr A Closs Stephens, Dr RH Meara

Format: Darlithoedd/gweithdai: 24 hours

Gwaith maes: 8 awr

Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, seminars, practical sessions and Academic Mentoring sessions.

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus

Addysgir y modiwl hwn drwy gyfuniad o ddarlithoedd, sesiynau ymarferol a gweithdai cynllunio traethawd estynedig.

This module is to be delivered through a mixture of lectures, practical sessions and dissertation planning workshops.

Module Aims: Mae'r modiwl hwn yn adeiladu ar wybodaeth y myfyrwyr am ddulliau ymchwil gymdeithasol a dulliau amgylcheddol (a addysgir yn GEG277) i lunio cynnig am draethawd estynedig. Mae'r modiwl yn canolbwyntio ar sgiliau allweddol i gynllunio a pharatoi am draethawd estynedig a gyflwynir ar y cyd â'r Ganolfan Llwyddiant Academaidd, megis rheoli amser, meddwl yn greadigol ac yn feirniadol a datblygu ffocws, ysgrifennu cynnig etc. Mae'r modiwl yn canolbwyntio hefyd ar ddadansoddi data ansoddol a meintiol a sut i ddefnyddio data'n effeithiol wrth baratoi am brosiect traethawd estynedig yn y flwyddyn olaf.

This module builds upon student knowledge of social research methods and environmental methods (delivered in GEG277) through to the formulation of a dissertation proposal. The module focuses on key dissertation planning and preparation skills delivered in association with the Centre for Academic Success (CAS) such as time management, creative and critical thinking and developing a focus, writing a proposal etc. The module also focuses on qualitative and quantitative data analysis and how to use data effectively in preparedness for a final year dissertation project.

Module Content: Darlith cyflwyno/paratoi: y pwnc ymchwil, y broses a disgwyliadau

Llunio cwestiwn ymchwil, nodau, amcanion a chynllun ymchwil

Dewis a datblygu eich dulliau casglu data / arolwg / rhannu tasgau mewn grp

Casglu data sylfaenol (gwaith maes mewn grp / sesiwn cymorth a chyngor

Codeiddio a rhannu data sylfaenol /sesiwn cymorth a chyngor

Dadansoddi data meintiol

Dadansoddi data ansoddol

Sesiwn cymorth a chyngor

Llunio a chyflwyno adroddiad ymchwil

Introductory / preparatory lecture: the research topic, process and expectations

Formulation of research question, aims, objectives and research design

Selecting and developing your data collection methods / survey / group division of labour

Primary data collection (group fieldwork) / help and advice session

Codifying and sharing of primary data / help and advice session

Quantitative data analysis

Qualitative data analysis

Help and advice session

Production and submission of research report

Intended Learning Outcomes: Erbyn diwedd y modiwl hwn, dylech allu:

- Dangos ymwybyddiaeth o natur fwriadus a strwythuredig ymchwil effeithiol, gan gynnwys nodi cwestiwn, nodau ac amcanion ymchwil, cynllun ymchwil a dewis dull ymchwil priodol;
- Datblygu cynnig ar gyfer darn o ymchwil ddaearyddol sy'n seiliedig ar gysyniad ar ffurf cynnig traethawd ymchwil;
- Dangos meistrolaeth o amrywiaeth o dechnegau addas ar gyfer dadansoddi data meintiwl ac ansoddol;

By the end of this module you should be able to:

- Demonstrate an awareness of the considered and structure nature of effective research, including identification of a research question, aims and objectives, a research design and selection of an appropriate research method;
- Develop a proposal for a conceptually grounded piece of geographical research in the form of a dissertation proposal;
- Show mastery of a range of suitable techniques for the analysis of quantitative and qualitative data;

Assessment:	Coursework 1 (40%) Coursework 2 (40%) Coursework 3 (20%)
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Assessment Description: Gwaith cwrs 1: Prosiect a phoster (ffocws dadansoddi data). 1,500 o eiriau a phoster.

Gwaith cwrs 2: Cynnig am draethawd estynedig (gyda'r opsiwn i gael adborth ffurfiannol ar y drafft cyntaf). 1,500 o eiriau.

Gwaith Cwrs (Dadansoddi data) – 20%

Coursework 1: 1 project+1 poster (data analysis focus). 1,500 words plus poster.

Coursework 2: dissertation proposal (with option of formative feedback on first draft). 1,500 words.

Coursework 3 (Data Analysis)

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Adborth unigol a ddarperir yn electronig, o natur ffurfiannol a chrynodol

Individual typed electronic feedback which is formative and summative.

Failure Redemption: Ailgyflwyno cydrannau yn ôl yr angen.

Resubmit components as required.

Reading List: A. J. Parsons author., Peter Knight 1961- author., How to do your dissertation in geography and related disciplines / Tony Parsons and Peter G. Knight., Milton Park, Abingdon, Oxon ; New York, NY : Routledge, 2015.ISBN: 9781317909200

Kimberley A. Peters, Your human geography dissertation : designing, doing, delivering / Kimberley A. Peters., Thousand Oaks, CA : SAGE, 2017.ISBN: 9781446295205

Linneman, Thomas John, author., Social statistics : managing data, conducting analyses, presenting results, Routledge is an imprint of the Taylor & Francis Group, an informa business, 2022.ISBN: 9781032116235

Danny McCarroll author., Simple statistical tests for geography / Danny McCarroll., Boca Raton, FL : CRC Press is an imprint of the Taylor & Francis Group, an Informa business, 2017.ISBN: 9781498758819

Nicholas Clifford; Meghan Cope; Thomas Gillespie; Shaun French, Key methods in geography / edited by Nicolas Clifford, Meghan Cope, Thomas Gillespie & Shaun French, Sage Publications, 2016.ISBN: 9781446298602

Lury, Celia, editor.; Fensham, Rachel, editor.; Heller-Nicholas, Alexandra, editor.; Lammes, Sybille, editor.; Last, Anglea, editor.; Michael, Mike, editor.; Uprichard, Emma, editor., Routledge handbook of interdisciplinary research methods, Routledge is an imprint of the Taylor & Francis Group, an informa business, 2018 - 2018.ISBN: 9781315714523

Stuart Hall 1932-2014.; Open University., Representation : cultural representations and signifying practices / edited by Stuart Hall., Sage in association with the Open University, 1997.ISBN: 9780761954323

Robin Flowerdew; David Martin 1965 July 18-, Methods in human geography : a guide for students doing a research project / edited by Robin Flowerdew and David Martin., Prentice Hall, 2005.ISBN: 9780582473218

Stephen J. Gale, Peter G Hoare, Quaternary sediments : petrographic methods for the study of unlithified rocks / S. J. Gale and P. G. Hoare., Blackburn Press, 2011.ISBN: 9781932846256

Joseph Holden Prof, author., An introduction to physical geography and the environment / Joseph Holden., Harlow : Pearson Education Limited, 2017.ISBN: 9781292083612

Andrew McGregor, Negotiating Nature: Exploring Discourse through Small Group Research, Blackwell Publishing Ltd, 2005-12-01.ISBN: 00040894

Tim Edensor 1957- editor.; Ares Kalandides editor.; Uma Kothari editor., The Routledge handbook of place / edited by Tim Edensor, Ares Kalandides and Uma Kothari., Abingdon, Oxon : Routledge is an imprint of the Taylor & Francis Group, an informa business, 2020.ISBN: 9780429453267

Kaya Barry editor.; Maria Borovnik editor.; Tim Edensor 1957- editor., Weather : spaces, mobilities and affects / edited by Kaya Barry, Maria Borovnik and Tim Edensor., London ; New York, New York : Routledge, 2021.ISBN: 0367808196

Tim Edensor 1957-, Industrial ruins : spaces, aesthetics, and materiality / Tim Edensor., Berg, 2005.ISBN: 9781845200770

Tim Cresswell author., Place : an introduction / Tim Cresswell., Chichester, West Sussex ; Malden, MA : Wiley Blackwell, 2015.ISBN: 9780470655627

Walter Benjamin 1892-1940., One-way street and other writings / Walter Benjamin ; translators, Edmund Jephcott, Kingsley Shorter., Verso, 1985.ISBN: 086091836X

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

Nid yw'r modiwl yma ar gael i fyfyrwyr cyfnewid na'r rheini sy'n ymweld dros dro.

GEG211 Glacial Environments	
Credits: 10 Session: 2023/24 September-January	
Pre-requisite Modules:	
Co-requisite Modules:	
Lecturer(s): Dr J Hiemstra	
Format:	15 hours lectures and 6 hours of seminars Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, seminars, practical sessions and Academic Mentoring sessions.
Delivery Method: This module will employ a blended approach to delivery using the Canvas Digital Learning Platform for live/in-person and self-directed activities, with sessions each week.	
Module Aims: This module provides a comprehensive examination of processes, sediments and landforms associated with glacial activity. It considers aspects of both past (Quaternary) and present-day glacial environments. The module also introduces basic glaciological concepts such as glacier mass balance, transformation of snow to ice, glacier hydrology and glacier thermal regime, and thus provides a foundation for Level 3 module GEG344. The basic glaciological concepts are used to illustrate their implications for ice movement, glacial erosion and glacial deposition, and hence, their role in creating 'glacial' landscapes. Teaching and Learning will be conducted via a combination of lectures and student-led seminars. The module is assessed through a 1-hour examination (1 from 3 essay questions, 50%), a poster (40%) and an individual oral 3-minute poster pitch/presentation (10%).	
Module Content: Growth, development and behaviour of glacier ice and the importance in a global context are introduced (2 hours). Key components of water storage in glacial systems are described followed by an introduction to glacial hydrology and consideration of glacier mass balance and glacier dynamics (5 hours). Adoption of the landsystem-approach for studying ice-marginal and subglacial environments, together with the most important processes, landforms and sediments are considered (3 hours). Processes of glacial erosion are described followed by the resulting landforms, which are considered with respect to scale (2 hours). Glacial depositional landforms are considered according to their orientation with respect to ice flow movement (3 hours). Two 3-hour sessions of student-led presentations.	
Intended Learning Outcomes: At the end of this module the student should be able to:	
<ol style="list-style-type: none"> 1 Identify differences between temperate and cold ice masses in terms of movement characteristics. 2 Identify the different mechanisms of glacial erosion and present a reasoned account as regards their operation. 3 Discuss the form and typical dimensions of features and landforms formed by glacial erosion. 4 Evaluate critically different published views concerning the origins of various glacial erosional forms. 5 Discuss the typical locations, forms and dimensions of glacial depositional landforms. 6 Evaluate critically different published views concerning the origins of various glacial depositional features. 7 Describe the processes involved in the transformation from snow to glacier ice. 8 Identify and discuss the physical processes and factors that control glacier mass balance. 9 Describe in detail the basic principles of glacial hydrology. 10 Identify the role of water in the dynamics of glacier systems. 	
Assessment:	Examination 1 (50%) Coursework 1 (40%) Oral Examination (10%)
Resit Assessment:	Examination (Resit instrument) (100%)

Assessment Description: One-hour, end-of-term examination. One from three essay-type answers. Weighting 50%

Coursework 1: poster. Weighting 40%.

Coursework 2: conference-style pitch (3-minute), Weighting 10%

Re-sit examination: two-hour exam, two essay-type answers from six. Weighting 100%.

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Students will receive examination feedback after exams (tutorial session).

Continual assessment feedback is given in writing on standard departmental feedback forms. Additional oral feedback available on request.

Failure Redemption: Re-sit examination (2 hours instead of 1).

Reading List: Benn, Douglas I., Evans, David J. A., *Glaciers & glaciation* / Douglas I. Benn and David J. A. Evans., Hodder Arnold,, 2010.ISBN: 9780340905791

David J. A. Evans editor.; Douglas I. Benn editor., *A practical guide to the study of glacial sediments* / edited by David J.A. Evans and Douglas I. Benn., London : Hodder Education, an Hachette UK Company, 2004.ISBN: 0340759593

Bennett, Matthew, Glasser, Neil F., *Glacial geology : ice sheets and landforms* / Matthew R. Bennett and Neil F. Glasser., Wiley-Blackwell,, 2009.ISBN: 9780470516911

Hubbard, Bryn., Glasser, Neil F., *Field techniques in glaciology and glacial geomorphology* / Bryn Hubbard, Neil Glasser., John Wiley & Sons,, c2005..ISBN: 0470844272

Additional Notes: Delivery of both teaching and assessment will include live and self-directed activities on-campus.

Available to visiting and exchange students, who are expected to be in Swansea for the exam.

GEG236 Earth from Space: Monitoring Global Environmental Change

Credits: 10 Session: 2023/24 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof PRJ North

Format: 20 (10 lecture + 10 small-group computer project) Contact Hours will be delivered on-campus.

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus

Half lecture based and half computer based classes. On campus.

Module Aims: This module introduces the growing role of Earth Observation in Geography, in the context of monitoring global environmental change. Emphasis will be given to practical use of airborne and satellite imagery in a range of geographical applications. In addition to a grounding in the principles of remote sensing, the course will offer in-depth understanding of the use of satellite observations in the study of global change in particular of deforestation and desertification. Practical exercises will teach image processing skills and familiarity with the range of information sources available for remotely sensed imagery.

Module Content: Outline of lecture topics:

Overview and history of Earth Observation in geography.
Principles of airborne remote sensing, focusing on optical imagery and lidar.
Satellite remote sensing, focussing on Landsat imagery.
Methods for interpreting imagery and production of classified maps.
Study of deforestation using remote sensing.
Application to management and monitoring desertification.
Applications to climate change science and environmental modelling.

Example practical sessions:

Analysis of airborne and lidar aircraft imagery.
Familiarisation with different sources of satellite and aircraft imagery.
Image processing using Landsat imagery.
Interpretation and classification of imagery.
Monitoring global vegetation change.

Intended Learning Outcomes: By the end of this module students should be capable of demonstrating:

A broad understanding of the purpose and scope of Earth Observation in Geography.

A critical awareness of the range of modern geographical applications to which remote sensing contributes.

An ability to analyse remotely sensed data using image processing software.

An understanding of the technology behind satellite and aircraft imagery.

Assessment: Coursework 1 (50%)
Coursework 2 (50%)

Assessment Description:

Two items of coursework:
(i) Classification of imagery for land cover mapping
(ii) Global time series analysis

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Coursework assessment feedback is given in writing via Canvas.

Failure Redemption: Resit examination or resubmit continual assessment whichever if applicable.

Reading List: Canada Centre for Remote Sensing, CCRS Remote Sensing Tutorial, Canada Centre for Mapping and Earth Observation, 06/08/2019.

USGS, USGS Earth Explorer.

Greg Asner, EO and Ecology.

UK Land Cover map, CEH.

ENVI User Guide, L3 Harris Geospatial.

Planet - high resolution satellite archive.

Review of satellite data sources.

Lillesand, Thomas M., author., Kiefer, Ralph W., author.; Chipman, Jonathan W., author., Remote sensing and image interpretation, Wiley, 2015.ISBN: 111834328X

Mather, Paul M., Koch, Magaly., Computer processing of remotely-sensed images : an introduction, Wiley-Blackwell, 2011.ISBN: 9780470742389

Campbell, James B., Wynne, Randolph H., Introduction to remote sensing / James B. Campbell and Randolph H. Wynne., Guilford Press,, c2011..ISBN: 9781609181765

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

There are no pre- or co-requisites for this module. Available to visiting or exchange students

Module code reserved by I.hackling on 28/05/2013 11:33:09

GEG252 Geographical Fieldwork skills

Credits: 20 Session: 2023/24 September-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr NJ Felstead

Format: 50

Delivery Method: The module is taught at four locations - Austria (GEG252A), Mallorca (GEG252M), New York City (GEG252N) and Vancouver (GEG252V).

Each trip consists of preparatory lectures, seminars and small-group sessions before departure. The main method of delivery is study in the field.

Module Aims: The module is concerned with identifying and defining geographical questions within a specific field location and applying the relevant geographical skills, knowledge and techniques to these questions. The general aims are to observe, analyse and achieve an understanding of the varied geographical landscapes and inherent features of a designated fieldweek location. The module comprises a week's fieldwork at a designated, normally foreign, location and preparatory and post-fieldweek lectures and other classes.

Module Content: There is a separate syllabus for each individual trip - Austria (GEG252A), Mallorca (GEG252M), New York City (GEG252N) and Vancouver (GEG252V).

Intended Learning Outcomes: On completion of the module, students should be able to do most of the following:

- Explain physical landscapes in terms of natural environmental factors and processes, environmental change and their human impacts (physical geographers)
- Identify and evaluate the nature and impacts of socio-economic forces in the urban landscape (human geographers)
- Evaluate, where appropriate, the relevance of established models and theories (including those of other modules in Geography) to local case studies
- Identify key issues facing the relevant field location and assess the effectiveness of policy responses
- Use varied geographical methods for studying our designated field area and its landscape issues.

Assessment: Coursework 1 (100%)

Assessment Description: Each fieldcourse has its own range of assessment components detailed elsewhere. These are monitored for equivalence.

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Students will receive examination feedback after submission of coursework. Continual assessment feedback is given in writing on standard departmental feedback forms.

Failure Redemption: A student who attends the trip but fails to submit all assessed elements may be allowed to submit these elements during the resit period if extenuating circumstances exist.

A student who fails to attend the fieldtrip for valid personal or medical reasons will be set an alternative and equivalent task - usually involving the application of fieldwork skills - in order to achieve the credits for the module.

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

Available to visiting and exchange students on a discretionary basis.

GEG273 Geographies of Climate Action and Activism	
Credits: 10 Session: 2023/24 September-January	
Pre-requisite Modules:	
Co-requisite Modules:	
Lecturer(s): Dr AL Pigott	
Format:	Lectures 10 hrs Seminars 10 hrs
Delivery Method: Predominantly lectures (including classroom discussions and group work)	
Module Aims: This course will explore the kinds of knowledge, politics, and imaginations that underpin current responses to the climate crisis. It will engage critical and cutting-edge debates in Geography and related fields to help us grapple with the multiple ways we might understand and respond to a warming world. The module will begin by introducing climate change as a 'hyperobject' - that is, a phenomenon that is so vast in its temporality and scale that it is hard to grasp as a traditional 'object', but nonetheless requires urgent and widespread action. We will explore the particular politics and imaginaries associated with past and recent prominent climate movements (Extinction Rebellion, Greta Thunberg, and the School Strikes, for example) whilst examining the various attempts at thinking environment and politics differently that some of these movements embody. The final part of the module will engage with the concepts of ecological anxiety and ecological citizenship. This is a crucial and exciting time to be studying the emerging responses to the climate crisis, as there are so many examples from the world around us, and geographers are especially well placed to explore their tensions and possibilities. This course will help students to develop their 'climate change literacy' and to learn how to navigate and contribute to the complex political worlds of climate science, activism, and agency.	
Module Content: 1. Introduction to the climate crisis 2. Geographies of climate action: Key approaches 3. Geographies of climate action: Emergency politics 4. Geographies of climate action: Anthropocene imaginaries 5. Activism and agency: Climate Justice and Governance 6. Activism and agency: The New Climate Movements 7. Activism and agency: Activism and Agency 8. Ecological distress 9. Ecological citizenship 10. Citizens' assembly	
Intended Learning Outcomes: <ul style="list-style-type: none"> · Explain key conceptual and theoretical debates in contemporary academic environmental politics and be able to apply those to the world around us; · Critically evaluate key concepts including climate change, nature, activism, imaginaries, narrative, identity, agency, Anthropocene, as well as the relationship between them; · Demonstrate a good awareness of cutting edge debates in the academic fields of cultural and critical geography as well as related debates in fields such as political ecology. · Be able to critically reflect on our own positions in relation to political issues and environmental crises taking place in the world; · Explain how approaches to environmental politics enable and disable different political possibilities in terms of policy and practice. 	
Assessment:	Coursework 2 (40%) Coursework 1 (60%)
Assessment Description: Coursework 1 60%: Option 1 - this will require students to undertake a climate action of their choice and to write a reflective report. Option 2 - to imagine a carbon-free 2040 (1500 words) on it.	
Online multiple choice questions: 40%.	
Moderation approach to main assessment: Moderation by sampling of the cohort	
Assessment Feedback: Feedback on the Online MCQ will be provided via a recorded video published on Canvas	
Failure Redemption: Projects continual assessments to be redeemed on an essay based on the topic covered by the project.	

Reading List: Leichenko, Robin M. author., O'Brien, Karen L., author., Climate and society : transforming the future, Polity Press, 2019 - 2019.ISBN: 9780745684383

Elizabeth Boulton *, Climate change as a 'hyperobject': a critical review of Timothy Morton's reframing narrative, 2016.

Yusoff, Kathryn ; Gabrys, Jennifer, Climate change and the imagination, John Wiley & Sons, Inc, 2011-07.ISBN: 17577780

CASTREE, NOEL, Geographers and the Discourse of an Earth Transformed: Influencing the Intellectual Weather or Changing the Intellectual Climate?, 2015-08.ISBN: 17455863

Wildcat, Daniel R., author., Red alert! : saving the planet with indigenous knowledge, Fulcrum Publishing, 2009 - 2009.ISBN: 9781555917999

Harris, Dylan M, Telling the story of climate change: Geologic imagination, praxis, and policy, Elsevier Ltd, 2017-09.ISBN: 22146296

Moore, Michele-Lee ; Milkoreit, Manjana, Imagination and transformations to sustainable and just futures, 2020.ISBN: 23251026

Morton, Timothy, 1968-, Hyperobjects : philosophy and ecology after the end of the world, University of Minnesota Press, 2013 - 2013.ISBN: 1452940541

Robin Leichenko and Karen O'Brien, Climate and society. Transforming the future.ISBN: 9780745684390

Leyroy Little Bear, Reclaiming indigenous voice and vision.

Ripple, William ; Wolf, Christopher ; Newsome, Thomas ; Galetti, Mauro ; Alamgir, Mohammed ; Crist, Eileen ; Mahmoud, Mahmoud ; Laurance, William, World Scientists' Warning to Humanity: A Second Notice, Oxford University Press (OUP), 2017-12-01.ISBN: 00063568

De Rosa, S. and J. Bluwstein,, Why "Warning to Humanity" gets the socio- ecological crisis (and its solutions) wrong, 2017.

Leichenko, Robin M. author., O'Brien, Karen L., author., Climate and society : transforming the future, Polity Press, 2019 - 2019.ISBN: 9780745684383

Lamb, WF ; Mattioli, G ; Levi, S ; Roberts, JT ; Capstick, S ; Creutzig, F ; Minx, JC ; Müller-Hansen, F ; Culhane, T ; Steinberger, JK, Discourses of climate delay, Cambridge University Press (CUP), 2020-07-01.

Death, Carl., Critical environmental politics, Routledge, Taylor & Francis Group, 2014.ISBN: 9780415631037

Mike Hulme, The IPCC's Mistaken "Science-First" Approach to Climate Change, 2021.

Herman, R D. K, Traditional knowledge in a time of crisis: climate change, culture and communication, Springer Japan, 2016-01.ISBN: 18624065

Sullivan, Sian, 'ECOSYSTEM SERVICE COMMODITIES' - A NEW IMPERIAL ECOLOGY? IMPLICATIONS FOR ANIMIST IMMANENT ECOLOGIES, WITH DELEUZE AND GUATTARI, Lawrence & Wishart Ltd, 2010.ISBN: 09502378

Hulme, Mike., CLIMATE CHANGE, ROUTLEDGE, 2021.ISBN: 9780367822675

Patterson, J., Wyborn, C., Westman, L. et al., The political effects of emergency frames in sustainability, 2021.

Anderson, Ben, Emergency futures: Exception, urgency, interval, hope, SAGE Publications, 2017-09.ISBN: 00380261

Mike Hulme, Climate Emergency Politics Is Dangerous., 2019.

Swyngedouw, Erik, Apocalypse forever?: Post-political populism and the spectre of climate change, SAGE PUBLICATIONS LTD, 2010.ISBN: 02632764

April Anson, "Master Metaphor": Environmental Apocalypse and the Settler States of Emergency, 2020.

Anderson, Ben ; Grove, Kevin ; Rickards, Lauren ; Kearnes, Matthew, Slow emergencies: Temporality and the racialized biopolitics of emergency governance, SAGE Publications, 2020-08.ISBN: 03091325

O'Neill, Kirstie ; Sinden, Charlotte, Universities, sustainability, and neoliberalism: Contradictions of the climate emergency declarations, Cogitatio Press, 2021.

Wilkinson, Carrie ; Clement, Susannah, Geographers declare (a climate emergency)?, Routledge, 2021-01-02.ISBN: 00049182

Honig, Bonnie., Emergency politics : paradox, law, democracy, Princeton University Press, 2009.ISBN: 9780691142982

Hulme, Mike, Is it too late (to stop dangerous climate change)? An editorial, John Wiley & Sons, Inc, 2020-01.ISBN: 17577780

The Democratic Paradox., Verso Books, 2009.ISBN: 9781844673551

Anja Kanngieser and Angela Last, Five Propositions | Critiques for the Anthropocene, 2016.

HEAD, LESLEY, The Anthropoceneans, Blackwell Publishing Ltd, 2015-08.ISBN: 17455863

Buck, Holly Jean, On the Possibilities of a Charming Anthropocene, Routledge, 2015-03-04.ISBN: 00045608

Malm, Andreas ; Hornborg, Alf, *The geology of mankind? A critique of the Anthropocene narrative*, SAGE Publications, 2014-04.ISBN: 20530196

Leichenko, Robin M. author., O'Brien, Karen L., author., *Climate and society : transforming the future*, Polity Press, 2019 - 2019.ISBN: 9780745684383

Dalby, Simon, *Framing the Anthropocene: The good, the bad and the ugly*, SAGE Publications, 2016-04.ISBN: 20530196

Chakrabarty, Dipesh, *The Climate of History: Four Theses*, The University of Chicago Press, 2009-01.ISBN: 00931896

Graham, J. K. Gibson ; Roelvink, Gerda, *An Economic Ethics for the Anthropocene*, Blackwell Publishing, 2010-01.ISBN: 00664812

RICKARDS, LAUREN A, *Metaphor and the Anthropocene: Presenting Humans as a Geological Force*, Blackwell Publishing Ltd, 2015-08.ISBN: 17455863

Castree, Noel, *Changing the Anthro(s)cene: Geographers, global environmental change and the politics of knowledge*, SAGE Publications, 2015-11.ISBN: 20438206

Collard, Rosemary-Claire ; Dempsey, Jessica ; Sundberg, Juanita, *A Manifesto for Abundant Futures*, Routledge, 2015-03-04.ISBN: 00045608

Yusoff, Kathryn, author., *A billion black Anthropocenes or none*, University of Minnesota Press, 2018 - 2018.ISBN: 9781452961057

COOK, BRIAN R ; RICKARDS, LAUREN A ; RUTHERFURD, IAN, *Geographies of the Anthropocene*, Blackwell Publishing Ltd, 2015-08.ISBN: 17455863

Thornton, Thomas F ; Malhi, Yadvinder, *The Trickster in the Anthropocene*, SAGE Publications, 2016-12.ISBN: 20530196

Davis, H., & Todd, Z, *On the Importance of a Date, or, Decolonizing the Anthropocene*, 2017.

Yusoff, Kathryn, *Geologic Life: Prehistory, Climate, Futures in the Anthropocene*, SAGE Publications, 2013-10.ISBN: 02637758

Clark, Nigel ; Gunaratnam, Yasmin, Delanty, Gerard, *Earthing the Anthropos? From 'socializing the Anthropocene' to geologizing the social*, SAGE Publications, 2017-02.ISBN: 13684310

Moore, Jason W., *The Capitalocene, Part I: on the nature and origins of our ecological crisis*, Routledge, 2017-05-04.ISBN: 03066150

Sultana, Farhana, *The unbearable heaviness of climate coloniality*, 2022-03.ISBN: 09626298

Stoddard, Isak ; Anderson, Kevin ; Capstick, Stuart ; Carton, Wim ; Depledge, Joanna ; Facer, Keri ; Gough, Clair ; Hache, Frederic ; Hoolohan, Claire ; Hultman, Martin ; Hällström, Niclas ; Kartha, Sivan ; Klinsky, Sonja ; Kuchler, Magdalena ; Lövbrand, Eva ; Nasiritousi, Naghmeh ; Newell, Peter ; Peters, Glen P ; Sokona, Youba ; Stirling, Andy ; Stilwell, Matthew ; Spash, Clive L ; Williams, Mariama, *Three Decades of Climate Mitigation: Why Haven't We Bent the Global Emissions Curve?*, 2021-10-17.ISBN: 15435938

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. Kum-Kum Bhavnani, John Foran, Priya A. Kurian., *Climate Futures: Re-imagining Global Climate Justice*. EDITED BY STEFFEN BÖHM AND SIAN SULLIVAN, *Negotiating Climate Change in Crisis*.

Hulme, Mike., *CLIMATE CHANGE*, ROUTLEDGE, 2021.ISBN: 9780367822675

Biermann, Frank, *The future of 'environmental' policy in the Anthropocene: time for a paradigm shift*, Routledge, 2021-02-23.ISBN: 09644016

Rawson, Ariel ; Mansfield, Becky, *Producing juridical knowledge: "Rights of Nature" or the naturalization of rights?*, SAGE Publications, 2018-03.ISBN: 25148486

Schlosberg, David, *Theorising environmental justice: the expanding sphere of a discourse*, Taylor & Francis, 2013-02-01.ISBN: 09644016

Chancel, Lucas, *Global carbon inequality over 1990–2019.*, 2022.ISBN: <https://doi.org/10.1038/s41893-022-00955-z>

Dalby, Simon, *Environmental Geopolitics in the Twenty-first Century*, SAGE Publications, 2014-02-01.ISBN: 03043754

Conca, Ken, editor.; Dabelko, Geoffrey D., editor., *Green planet blues : critical perspectives on global environmental politics*, Routledge, 2020 - 2019.ISBN: 9780429322204

Death, Carl., *Critical environmental politics*, Routledge, Taylor & Francis Group, 2014.ISBN: 9780415631037

Rogers, Nicole, editor.; Maloney, Michelle M., editor., *Law as if Earth really mattered : the Wild Law Judgment Project*, Routledge, 2017.ISBN: 9781138669086

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Willis, Rebecca, author., Too hot to handle? : the democratic challenge of climate change, Bristol University Press, 2020.ISBN: 1529206030
Williams, Joe ; Love, Whitney, Low-Carbon Research and Teaching in Geography: Pathways and Perspectives, 2021-10-27.ISBN: 00330124
Graham Smith, Citizens' assemblies: how to bring the wisdom of the public to bear on the climate emergency, 2019.
Rebecca Willis, To tackle the climate crisis we need more democracy, not less, 2019.
O'Brien, Karen ; Selboe, Elin ; Hayward, Bronwyn M, Exploring youth activism on climate change: Dutiful, disruptive, and dangerous dissent, Resilience Alliance, 2018-10-01.ISBN: 17083087
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Extinction Rebellion (Organisation) author., Farrell, Clare, editor; Green, Alison, editor; Knights, Sam, editor; Skeaping, William, editor, This is not a drill : an Extinction Rebellion handbook, Penguin Books, 2019 - 2019.ISBN: 9780141991443
Herbert, Joe, The socioecological imagination: Young environmental activists constructing transformation in an era of crisis, Wiley Subscription Services, Inc, 2021-06.ISBN: 00040894
Thiri, May Aye ; Villamayor-Tomás, Sergio ; Scheidel, Arnim ; Demaria, Federico, How social movements contribute to staying within the global carbon budget: Evidence from a qualitative meta-analysis of case studies, Elsevier B.V, 2022-05.ISBN: 09218009
Anna Pigott, Extinction Rebellion's "regenerative culture" could be just as revolutionary as its demands, Open Democracy UK, May 2019.
Davies, Anna R ; Broto, Vanesa Castán ; Hügel, Stephan, Editorial: Is there a new climate politics?, Cogitatio Press, 2021.
de Moor, Joost ; De Vydt, Michiel ; Uba, Katrin ; Wahlstrom, Mattias, New kids on the block: taking stock of the recent cycle of climate activism, 2021.ISBN: 14742829
Kenis, Anneleen, Clashing tactics, clashing generations: The politics of the school strikes for climate in Belgium, Cogitatio Press, 2021.
Kirk, Jaqueline ; Nyberg, Daniel ; Wright, Christopher, Divided yet united: Balancing convergence and divergence in environmental movement mobilization, 2021.ISBN: 09644016
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Wiedmann, Thomas ; Lenzen, Manfred ; Keyßer, Lorenz T ; Steinberger, Julia K, Scientists' warning on affluence, Nature Publishing Group, 2020-12-01.ISBN: 20411723

Stoddard, Isak ; Anderson, Kevin ; Capstick, Stuart ; Carton, Wim ; Depledge, Joanna ; Facer, Keri ; Gough, Clair ; Hache, Frederic ; Hoolohan, Claire ; Hultman, Martin ; Hällström, Niclas ; Kartha, Sivan ; Klinsky, Sonja ; Kuchler, Magdalena ; Lövbrand, Eva ; Nasiritousi, Naghmeh ; Newell, Peter ; Peters, Glen P ; Sokona, Youba ; Stirling, Andy ; Stilwell, Matthew ; Spash, Clive L ; Williams, Mariama, Three Decades of Climate Mitigation: Why Haven't We Bent the Global Emissions Curve?, 2021-10-17.ISBN: 15435938

Pedwell, Carolyn, author., Revolutionary routines : the habits of social transformation, McGill-Queen's University Press, 2021.ISBN: 9780228006213

Oxfam Meia Briefing, EXTREME CARBON INEQUALITY, 2015.

United Nations Environment Programme, Emissions Gap Report 2020.

Simandan, Dragos, Being surprised and surprising ourselves: A geography of personal and social change, SAGE Publications, 2020-02.ISBN: 03091325

Shove, Elizabeth, Beyond the ABC: Climate Change Policy and Theories of Social Change, SAGE Publications, 2010-06.ISBN: 0308518X

Maniates, Michael F, Individualization: Plant a Tree, Buy a Bike, Save the World?, MIT Press, 2001-08-01.ISBN: 15263800

Akenji, Lewis, Consumer scapegoatism and limits to green consumerism, Elsevier Ltd, 2014-01-15.ISBN: 09596526

Carl Death, Death, Carl., Critical environmental politics, Routledge, Taylor & Francis Group, 2014.ISBN: 9780415631037

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Karen O'Brien, Political agency: The key to tackling climate change, American Association for the Advancement of Science, 2015-12-04.ISBN: 00368075

O'Brien, Karen, Is the 1.5°C target possible? Exploring the three spheres of transformation, Elsevier B.V, 2018-04.ISBN: 18773435

Shove, Elizabeth, Beyond the ABC: Climate Change Policy and Theories of Social Change, SAGE Publications, 2010-06.ISBN: 0308518X

Nielsen, Kristian S. ; Nicholas, Kimberly A. ; Creutzig, Felix ; Dietz, Thomas ; Stern, Paul C., The role of high-socioeconomic-status people in locking in or rapidly reducing energy-driven greenhouse gas emissions, Nature Publishing Group, 2021-11-01.ISBN: 20587546

Moore, Frances C. ; Lacasse, Katherine ; Mach, Katharine J. ; Shin, Yoon Ah ; Gross, Louis J. ; Beckage, Brian, Determinants of emissions pathways in the coupled climate–social system, Nature Publishing Group, 2022-03-03.ISBN: 00280836

Maria Ojala, Ashlee Cunsolo, Charles A. Ogunbode, and Jacqueline Middleton, Anxiety, Worry, and Grief in a Time of Environmental and Climate Crisis: A Narrative Review, 2021.

Cunsolo, Ashlee ; Ellis, Neville R, Ecological grief as a mental health response to climate change-related loss, Nature Publishing Group, 2018-04-01.ISBN: 1758678X

Brown, Gavin ; Pickerill, Jenny, Editorial: Activism and emotional sustainability, Elsevier Ltd, 2009.ISBN: 17554586

Brown, Gavin ; Pickerill, Jenny, Space for emotion in the spaces of activism, Elsevier Ltd, 2009.ISBN: 17554586

David W Kidner, Depression and the natural world: towards a critical ecology of psychological distress, Palgrave Macmillan, 2007-04-01.ISBN: 14714167

Natalie Osborne, For still possible cities: a politics of failure for the politically depressed, 2019.

Van Dooren, Thom, 1980- author., Kryduba, Wayne, photographer.; Smith, Mary Ann, cover designer., Flight ways : life and loss at the edge of extinction, Columbia University Press, 2014 - 2014.ISBN: 0231537441

Leichenko, Robin M. author., O'Brien, Karen L., author., Climate and society : transforming the future, Polity Press, 2019 - 2019.ISBN: 9780745684383

Albrecht, Glenn, Solastalgia, Alternatives Inc, 2006-01-01.ISBN: 12057398

Haraway, Donna Jeanne, author., Staying with the trouble : making kin in the Chthulucene, Duke University Press, 2016.ISBN: 9780822362142

Despret, Vinciane ; Meuret, michel, Cosmoecological Sheep and the Arts of Living on a Damaged Planet,

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HEAD, LESLEY, *The Anthropoceneans*, Blackwell Publishing Ltd, 2015-08. ISBN: 17455863

Diego Arguedas Ortiz, *Is it wrong to be hopeful about climate change?*, BBC Future, 2020.

Solnit, Rebecca, author., *Hope in the dark : untold histories, wild possibilities*, Haymarket Books, 2016 - 2016. ISBN: 9781608465798

Rebecca Solnit, *Ten ways to confront the climate crisis without losing hope*, 2021.

Cunsolo, Ashlee ; Harper, Sherilee L ; Minor, Kelton ; Hayes, Katie ; Williams, Kimberly G ; Howard, Courtney, *Ecological grief and anxiety: the start of a healthy response to climate change?*, Elsevier Ltd, 2020-07. ISBN: 25425196

Britt Wray, *Why activism isn't *really* the cure for eco-anxiety and eco-grief*.

Willis, Rebecca, author., *Too hot to handle? : the democratic challenge of climate change*, Bristol University Press, 2020. ISBN: 1529206030

Leichenko, Robin M., O'Brien, Karen L., author., *Climate and society : transforming the future*, Polity Press, 2019 - 2019. ISBN: 9780745684383

Death, Carl., *Critical environmental politics*, Routledge, Taylor & Francis Group, 2014. ISBN: 9780415631037

Julia Steinberger, *An Audacious Toolkit: Actions Against Climate Breakdown*, 2018.

Elif Shafak, *How stories bring us together*, 2020.

Solnit, Rebecca, author., *Hope in the dark : untold histories, wild possibilities*, Haymarket Books, 2016 - 2016. ISBN: 9781608465798

Fisher, Mark., *Capitalist realism : is there no alternative?*, O Books, 2009. ISBN: 9781846943171

Anna Pigott, *Young climate activists have far more power than they realise*, 2021.

Millward-Hopkins, Joel ; Steinberger, Julia K ; Rao, Narasimha D ; Oswald, Yannick, *Providing decent living with minimum energy: A global scenario*, Elsevier Ltd, 2020-11. ISBN: 09593780

Vogel, Jefim ; Steinberger, Julia K ; O'Neill, Daniel W ; Lamb, William F ; Krishnakumar, Jaya, *Socio-economic conditions for satisfying human needs at low energy use: An international analysis of social provisioning*, Elsevier Ltd, 2021-07. ISBN: 09593780

Steinberger, Julia K ; Roberts, J. Timmons, *From constraint to sufficiency: The decoupling of energy and carbon from human needs, 1975–2005*, Elsevier B.V, 2010. ISBN: 09218009

Arif Jamal, *A message to environmentalists: don't ignore our deep ancestry as Earth's caretakers*, 2021.

Samuel Miller-McDonald, *What Must We Do to Live?*, 2018.

D. Durand-Delacre, G. Bettini, S. L. Nash, H. Sterly, G. Gioli, E. Hut, I. Boas, C. Farbotko, P. Sakdapolrak, M. de Bruijn, B. Tripathy Furlong, K. van der Geest, S. Lietaer and M. Hulme, *Climate Migration Is about People, Not Numbers*.

Peter North, *What Is to Be Done to Save the Planet?*.

EDITED BY STEFFEN BÖHM AND SIAN SULLIVAN, *Negotiating Climate Change in Crisis*.

Gibson, Katherine; Rose, Deborah Bird; Fincher, Ruth, *Manifesto for Living in the Anthropocene*, 2015.

Barker, Adam J ; Pickerill, Jenny, *Doings with the land and sea: Decolonising geographies, Indigeneity, and enacting place-agency*, SAGE Publications, 2020-08. ISBN: 03091325

Therhault, Noah ; Leduc, Timothy ; Mitchell, Audra ; Rubis, June Mary ; Jacobs Gaehowako, Norma, *Living protocols: remaking worlds in the face of extinction*, Routledge, 2020-09-01. ISBN: 14649365

Larsen, Soren C ; Johnson, Jay T, *The Agency of Place: Toward a More-Than-Human Geographical Self*, Routledge, 2016-01-02. ISBN: 2373566X

Paul A Ilen, Laura Blake, Peter Harper, A lice Hooker-Stroud, Philip James, Tobi Kellner, *Zero Carbon Britain: Rising to the Climate Emergency*, 2019.

Fletcher, Stephen ; Potts, Jonathan, *Ocean Citizenship: An Emergent Geographical Concept*, Taylor & Francis Group, 2007-09-04. ISBN: 08920753

Lewis Akenji, Magnus Bengtsson, Viivi Toivio, Michael Lettenmeier, Tina Fawcett, Yael Parag, Yamina Saheb, Anna Coote, Joachim H. Spangenberg, Stuart Capstick, Tim Gore, Luca Coscieme, Mathis Wackernagel, Dario Kenner, *1.5–Degree Lifestyles: Towards A Fair Consumption Space for All*, Hot or Cool Institute, Berlin, 2021.

Kallis, Giorgos ; March, Hug, *Imaginaries of Hope: The Utopianism of Degrowth*, Routledge, 2015-03-04. ISBN: 00045608

Country, Bawaka ; Wright, Sarah ; Suchet-Pearson, Sandie ; Lloyd, Kate ; Burarrwanga, Laklak ; Ganambarr, Ritjilili ; Ganambarr-Stubbs, Merrkiyawuy ; Ganambarr, Banbapuy ; Maymuru, Djawundil ; Sweeney, Jill, *Co-becoming Bawaka: Towards a relational understanding of place/space*, SAGE Publications, 2016-08. ISBN: 03091325

Capstick, Stuart, *Happiness that doesn't cost the Earth*, British Medical Journal Publishing Group, 2022-10-12.

Hickel, Jason ; Brockway, Paul ; Kallis, Giorgos ; Keyßer, Lorenz ; Lenzen, Manfred ; Slameršak, Aljoša ; Steinberger, Julia ; Ürge-Vorsatz, Diana, Urgent need for post-growth climate mitigation scenarios, Nature Publishing Group, 2021.ISBN: 20587546

Rose, Deborah Bird, Slowly ~ writing into the Anthropocene, 2013-10-31.ISBN: 13279556

Sparkman, Gregg ; Geiger, Nathan ; Weber, Elke U, Americans experience a false social reality by underestimating popular climate policy support by nearly half, Nature Publishing Group, 2022-01-01.

Kimberly Nicholas, Feelings: Tough love from a climate scientist.

Latour, Bruno author., Porter, Catherine, 1941- translator., Down to earth : politics in the new climatic regime, Polity Press, 2018.ISBN: 9781509530564

Additional Notes: Open to visiting and exchange students.

GEG276 Introduction to Geographic Information Systems

Credits: 20 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof AJ Luckman

Format: 11 hours lectures
22 hours computer lab practicals
Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, seminars, practical sessions and Academic Mentoring sessions.

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus

Lecture and computer practical

Module Aims: A Geographic Information System (GIS) is a computer-based technology for solving problems of a geographical nature – i.e. involving spatial relationships between people, places and objects. It can be applied to a wide range of disciplines within geography and has developed to provide a means to quickly and professionally produce maps from geospatial data. This module provides a basic grounding in GIS from the nature of spatial information, through the use of GIS in social and physical geography contexts, to the application of computers to solving complex geographical problems. Most importantly, it allows hands-on experience in using Quantum GIS (QGIS), the leading open-source GIS software package, and therefore provides a valuable skill for research and the for workplace.

Module Content: 1. Module introduction
2. A digital model of the real world
3. Comparing raster and vectors data models
4. Coordinates and geographic reference systems
5. Geographic presentation and map design
6. GIS data sources and formats
7. Digital land surface topography
8. The Global Positioning System (GPS)
9. Route-finding in a network
10. The future of GIS

Intended Learning Outcomes: • A broad understanding of the purpose and scope of Geographical Information Systems
• An appreciation of the way in which geographical entities can be represented in a computer
• A critical awareness of the increasing role of GIS in government, commerce and science
• The ability to use QGIS software to explore and analyse a range of geospatial data
• The ability to present geospatial data as a well constructed and functionally complete map
• A basic understanding of GIS-related technologies such as route-finding and GPS
• An appreciation of the future direction of GIS in geography and beyond

Assessment: Coursework 1 (20%)
Coursework 2 (30%)
Coursework 3 (20%)
Coursework 4 (30%)

Assessment Description: Coursework 1 - Project Figure 1
Coursework 2 - Project Figure 2
Coursework 3 - Multiple choice questions
Coursework 4 - Project Figure 3

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Students will receive feedback on each piece of coursework within 3 weeks of the submission deadline.
Each student will receive individual comments on their work.
The cohort will also receive general feedback in lectures, including an ideal example.
All feedback will be provided online.

Failure Redemption: Resubmit failed components.

Reading List: QGIS, QGIS Tutorial.

D. Ian Heywood author., Sarah Cornelius author.; Steve Carver author., An introduction to geographical information systems / Ian Heywood, Sarah Cornelius, Steve Carver., Harlow : Pearson Education Limited, 2011.ISBN: 9780273722595

Paul. Longley, Geographic information science & systems / Paul A. Longley, University College London, UK, Michael F. Goodchild, University Of California, Santa Barbara, USA, David J. Maguire, Birmingham City University, UK, and David W. Rhind, City University, London, UK., Hoboken, NJ : Wiley, 2015.ISBN: 9781118676950

Burrough, P. A., author., McDonnell, Rachael, author.; Lloyd, Christopher D., author., Principles of geographical information systems, Oxford University Press, 2015.ISBN: 9780198742845

Christopher B. Jones, Geographical information systems and computer cartography / by Christopher B. Jones., Longman, 1997.ISBN: 9780582044395

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

Available to visiting and exchange students.

GEG277 Geographical Methods and Approaches

Credits: 20 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr KJ Ficken, Prof SH Doerr, Dr KH Halfacree, Dr JR Jordan, Dr JF Maddern, Dr KG Rees, Dr I Robertson, Dr E Urbanek

Format: 11 hours of lectures
21 hours of workshops (desk based and field based).

Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, seminars, practical sessions and Academic Mentoring sessions.

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus. This core module will be delivered through a combination of lectures and practical sessions (including some group work) on Singleton campus and at various local field sites. Students will be able to select from the range of projects that interest them.

Module Aims:

This core 20 credit module introduces the variety of approaches to Human and Physical Geography that exist, providing an overview of the key methods used in the discipline. These paradigms will be introduced and then you are given the opportunity to 'think through' what kinds of methods chime with these geographical approaches. The module introduces key data methods and their theoretical roots, with an opportunity to 'practice' these key methods extended workshops - both desk based and in the field.

Module Content:

This module introduces students to some of the main research methods in currently employed by human and physical geographers, along with research design, philosophical and ethical considerations. The module includes lectures and practical training, and culminates in a research project conducted in small-groups. The syllabus will include:

Research Design lectures;
Quantitative and Qualitative data lectures;
Research Ethics lectures;
Questionnaire surveys practicals;
Census data and secondary sources;
The scientific method;
Physical Geography Field Projects;
Literature Review Skills.

Intended Learning Outcomes:

By the end of this module you should be able to:

Demonstrate an awareness of effective research, including identification of a research question, aims and objectives, a research design and selection of an appropriate research methods.

Exhibit an appreciation of the varying social contexts within which research methods are used in Human Geography and the environmental contexts within which research methods are used in Physical Geography.

Illustrate the ability to evaluate the appropriateness of each method in different research contexts, whether desk or field based.

Evidence the ability to review the literature in a chosen field in order to situate a method within a particular scientific or social science background.

Assessment: Coursework 1 (50%)
Coursework 2 (50%)

Assessment Description:

Coursework 1 Literature review based on a chosen field of study.

Coursework 2 Either Human Geography or Physical Geography projects

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Continual assessment feedback is given in writing electronically using a standard rubric and comments box.

Feedback also to be provided in class through peer evaluation and from the instructor on common strengths and weaknesses.

Failure Redemption: Resit examination or resubmit continual assessment whichever is applicable

Reading List: Editors: Gregory, D., Johnston, R., Pratt, G., Watts, M. & Whatmore, S., *The Dictionary of Human Geography*, Blackwell, 2009. ISBN: 9781405132886

Aitken, Stuart C., editor.; Valentine, Gill, 1965- editor., *Approaches to human geography : philosophies, theories, people and practices*, SAGE Publications Ltd, 2015 - 2015. ISBN: 1446276015

Richard. Peet, *Modern geographical thought / Richard Peet.*, Blackwell, 1998. ISBN: 1557863784

Rob. Kitchin, Nicholas J Tate, *Conducting research in human geography : theory, methodology and practice / Rob Kitchin and Nicholas J. Tate.*, London : Routledge, 2000. ISBN: 1138836737

Tim. Cresswell, *Geographic thought : a critical introduction / Tim Cresswell.*, Chichester, West Sussex, UK : Wiley-Blackwell, 2013. ISBN: 9781405169394

Robin Flowerdew; David Martin 1965 July 18-, *Methods in human geography : a guide for students doing a research project / edited by Robin Flowerdew and David Martin.*, Prentice Hall, 2005. ISBN: 9780582473218

Nicholas Clifford; Meghan Cope; Thomas Gillespie; Shaun French, *Key methods in geography / edited by Nicolas Clifford, Meghan Cope, Thomas Gillespie & Shaun French*, Sage Publications, 2016. ISBN: 9781446298602

Von Benzon, Nadia, editor.; Holton, Mark (Lecturer in human geography) editor.; Wilkinson-Zerner, Catherine, editor.; Wilkinson, Samantha, editor., *Creative methods for human geographers*, SAGE Publications Ltd, 2021 - 2021. ISBN: 1526496984

Angela L Coe, *Geological field techniques / edited by Angela L. Coe ; authors, Angela L. Coe ... [et al.]*., Wiley-Blackwell ; The Open University, 2010. ISBN: 9781444330625

Nicholas Clifford; Meghan Cope; Thomas Gillespie; Shaun French, *Key methods in geography / edited by Nicolas Clifford, Meghan Cope, Thomas Gillespie & Shaun French*, Sage Publications, 2016. ISBN: 9781446298602

Danny McCarroll author., *Simple statistical tests for geography / Danny McCarroll.*, Boca Raton, FL : CRC Press is an imprint of the Taylor & Francis Group, an Informa business, 2017. ISBN: 9781498758819

Joseph Holden Prof, author., *An introduction to physical geography and the environment / Joseph Holden.*, Harlow : Pearson Education Limited, 2017. ISBN: 9781292083612

George Mills. Bennison, Paul A Olver; K. A Moseley (Keith Anthony), 1956-, *An introduction to geological structures and maps / George M. Bennison, Paul A. Olver, Keith A. Moseley.*, Hodder Education, 2011. ISBN: 9781444112122

Douglas I. Benn, David J. A Evans, *Glaciers & glaciation / Douglas I. Benn and David J. A. Evans.*, Hodder Arnold, 2010. ISBN: 9780340905791

Stephen J. Gale, Peter G Hoare, *Quaternary sediments : petrographic methods for the study of unlithified rocks / S. J. Gale and P. G. Hoare.*, Blackburn Press, 2011. ISBN: 9781932846256

James H. Speer author, *Fundamentals of tree-ring research / James H. Speer.*, Tucson : University of Arizona Press, 2011. ISBN: 9780816526840

Scott, Andrew C., Bowman, D. M. J. S.; Bond, William J., 1948-; Pyne, Stephen J., 1949-; Alexander, Martin E., *Fire on earth : an introduction*, Wiley Blackwell, 2014. ISBN: 9781119953562

Blunt, A. & Wills, J., *Dissident Geographies: an Introduction to Radical Ideas and Practice*, Longman, 2000. ISBN: 9780582294899

Cresswell, T., *Geographic Thought: a Critical Introduction*, Wiley-Blackwell, 2013. ISBN: 9781405169394

Nayak, A. & Jeffrey, A., *Geographical Thought: an Introduction to Ideas in Human Geography*, Prentice Hall, 2011. ISBN: 9780132228244

Cochrane, K., *The fourth wave of feminism: meet the rebel women*, Guardian 10th December, 2013.

Johnson, L., *Feminist Geography 30 years on - they came, they saw, but did they conquer?*, Blackwell Publishing Ltd, 2012. ISBN: 17455863

Johnston, R. & Sidaway, J., *Geography and Geographers: Anglo-American Human Geography since 1945*, Arnold, 2004. ISBN: 9780340808603

Peet, R., *Modern Geographical Thought*, Blackwell, 1998. ISBN: 9781557863782

Vickery, A., *Mary Wollstonecraft: 'Britain's first feminist'*, BBC, n.d..

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

Not available to visiting and exchange students.

GEG278 Data Analysis and Dissertation Preparation Skills

Credits: 20 Session: 2023/24 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr NJ Felstead, Dr A Closs Stephens, Dr KJ Ficken, Dr J Hiemstra

Format: Lectures/practicals: 17 hours
Dissertation preparation lectures and workshops: 15
Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, seminars, practical sessions and Academic Mentoring sessions.

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus

This module is to be delivered through a mixture of lectures, practical sessions and dissertation planning workshops.

Module Aims: This module builds upon student knowledge of social research methods and environmental methods (delivered in GEG277) through to the formulation of a dissertation proposal. The module focuses on key dissertation planning and preparation skills delivered in association with the Centre for Academic Success (CAS) such as time management, creative and critical thinking and developing a focus, writing a proposal etc. The module also focuses on qualitative and quantitative data analysis and how to use data effectively in preparedness for a final year dissertation project.

Module Content: Introductory / preparatory lecture: the research topic, process and expectations

Formulation of research question, aims, objectives and research design

Selecting and developing your data collection methods / survey / group division of labour

Primary data collection (group fieldwork) / help and advice session

Codifying and sharing of primary data / help and advice session

Quantitative data analysis

Qualitative data analysis

Help and advice session

Production and submission of research report

Intended Learning Outcomes: By the end of this module you should be able to:

- Demonstrate an awareness of the considered and structure nature of effective research, including identification of a research question, aims and objectives, a research design and selection of an appropriate research method;
- develop a proposal for a conceptually grounded piece of geographical research in the form of a dissertation proposal;
- Show mastery of a range of suitable techniques for the analysis of quantitative and qualitative data;

Assessment: Coursework 1 (40%)
Coursework 2 (40%)
Coursework 3 (20%)

Assessment Description: Coursework 1: 1 project+1 poster (data analysis focus). 1,500 words plus poster.

Coursework 2: dissertation proposal (with option of formative feedback on first draft). 1,500 words.

Coursework 3 (Data Analysis)

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Individual typed electronic feedback which is formative and summative.

Failure Redemption: Resubmit components as required.

Reading List: A. J. Parsons author., Peter Knight 1961- author., How to do your dissertation in geography and related disciplines / Tony Parsons and Peter G. Knight., Milton Park, Abingdon, Oxon ; New York, NY : Routledge, 2015.ISBN: 9781317909200

Kimberley A. Peters, Your human geography dissertation : designing, doing, delivering / Kimberley A. Peters., Thousand Oaks, CA : SAGE, 2017.ISBN: 9781446295205

Linneman, Thomas John, author., Social statistics : managing data, conducting analyses, presenting results, Routledge is an imprint of the Taylor & Francis Group, an informa business, 2022.ISBN: 9781032116235

Danny McCarroll author., Simple statistical tests for geography / Danny McCarroll., Boca Raton, FL : CRC Press is an imprint of the Taylor & Francis Group, an Informa business, 2017.ISBN: 9781498758819

Nicholas Clifford; Meghan Cope; Thomas Gillespie; Shaun French, Key methods in geography / edited by Nicolas Clifford, Meghan Cope, Thomas Gillespie & Shaun French, Sage Publications, 2016.ISBN: 9781446298602

Lury, Celia, editor.; Fensham, Rachel, editor.; Heller-Nicholas, Alexandra, editor.; Lammes, Sybille, editor.; Last, Anglea, editor.; Michael, Mike, editor.; Uprichard, Emma, editor., Routledge handbook of interdisciplinary research methods, Routledge is an imprint of the Taylor & Francis Group, an informa business, 2018 - 2018.ISBN: 9781315714523

Stuart Hall 1932-2014.; Open University., Representation : cultural representations and signifying practices / edited by Stuart Hall., Sage in association with the Open University, 1997.ISBN: 9780761954323

Robin Flowerdew; David Martin 1965 July 18-, Methods in human geography : a guide for students doing a research project / edited by Robin Flowerdew and David Martin., Prentice Hall, 2005.ISBN: 9780582473218

Stephen J. Gale, Peter G Hoare, Quaternary sediments : petrographic methods for the study of unlithified rocks / S. J. Gale and P. G. Hoare., Blackburn Press, 2011.ISBN: 9781932846256

Joseph Holden Prof, author., An introduction to physical geography and the environment / Joseph Holden., Harlow : Pearson Education Limited, 2017.ISBN: 9781292083612

Andrew McGregor, Negotiating Nature: Exploring Discourse through Small Group Research, Blackwell Publishing Ltd, 2005-12-01.ISBN: 00040894

Tim Edensor 1957- editor.; Ares Kalandides editor.; Uma Kothari editor., The Routledge handbook of place / edited by Tim Edensor, Ares Kalandides and Uma Kothari., Abingdon, Oxon : Routledge is an imprint of the Taylor & Francis Group, an informa business, 2020.ISBN: 9780429453267

Kaya Barry editor.; Maria Borovnik editor.; Tim Edensor 1957- editor., Weather : spaces, mobilities and affects / edited by Kaya Barry, Maria Borovnik and Tim Edensor., London ; New York, New York : Routledge, 2021.ISBN: 0367808196

Tim Edensor 1957-, Industrial ruins : spaces, aesthetics, and materiality / Tim Edensor., Berg, 2005.ISBN: 9781845200770

Tim Cresswell author., Place : an introduction / Tim Cresswell., Chichester, West Sussex ; Malden, MA : Wiley Blackwell, 2015.ISBN: 9780470655627

Walter Benjamin 1892-1940., One-way street and other writings / Walter Benjamin ; translators, Edmund Jephcott, Kingsley Shorter., Verso, 1985.ISBN: 086091836X

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

This module is not available to visiting or exchange students.

GEG283 Sustainable Land Management	
Credits: 10 Session: 2023/24 September-January	
Pre-requisite Modules:	
Co-requisite Modules:	
Lecturer(s): Dr E Urbanek, Prof SH Doerr	
Format:	lectures, workshops, field visits Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, seminars, practical sessions and Academic Mentoring sessions.
Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus	
The module will be taught, but will include some practical aspects and field visit.	
Module Aims: Sustainable Land Management course focuses on the understanding and maintaining of the environmental values of LAND and SOIL for food production, water quality, flood defence and climate regulation. To understand the Sustainable Land Management the basic understanding of SOIL properties, functions will be introduced followed by the main threads and challenges to soil health connected with climate change and incorrect land management. Case studies of Sustainable Land Management in agriculture, fire prevention and mitigation, peatland restoration and land remediation will be showcased and discussed. The module will contain a series of lectures, workshops and field visit. Students are recommended to sign up to the GEG277 Environmental Research Methods - Soil, but the knowledge from the GEG277 sessions are not essential to complete the module.	
Module Content: 1 (2hrs) Sustainable land management, soil functions 2 (2hrs) Soil components, soil formation, soil classification 3 (2hrs) Soil hydrology; 4 (2hrs) Greenhouse gas emissions from land, Carbon and Nitrogen cycle; 5 (2hrs) Climate change adaptation and mitigation 6 (2hrs) Land degradation and global challenges 7 (2+4hrs) Sustainable land management - agriculture + Field visit to sustainable farm 8 (2hrs) Fire prevention and mitigation 9 (2hrs) Land reclamation, peatland restoration	
Intended Learning Outcomes: On successfully completing this module, students will be able to: - Understand main soil properties and processes occurring in healthy and degraded soils; - Understand and describe key soil functions and ecosystem services; - Describe the main land-related challenges and suggest mitigation strategies to improve soil health and functioning of land; - Recommend sustainable solutions for prevention and mitigation of soil problems related to land mismanagement and climate change.	
Assessment:	Online Multiple Choice Questions (10%) Examination (70%) Online Multiple Choice Questions (10%) Online Multiple Choice Questions (10%)
Assessment Description: 3 x MCQ tests (10% each) following each learning block 1 x Essay exam (70%)	
Moderation approach to main assessment: Moderation by sampling of the cohort	
Assessment Feedback: Written feedback on exam.	
Failure Redemption: Exam resit	
Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.	
Available to visiting and exchange students.	

GEL203 Earth history
Credits: 10 Session: 2023/24 September-January
Pre-requisite Modules:
Co-requisite Modules:
Lecturer(s): Dr NJ Felstead
Format: 18 hours: lectures
Delivery Method: Lectures
Module Aims: This module will investigate the history of planet Earth with particular emphasis on the fossil evidence. Life appeared very early on Earth, and changes in the oceans, atmosphere and in climate are intimately linked to the evolution of life. Large changes in the fossil record represent major events in Earth's history, including the catastrophic collapse of ecosystems and major radiations of diversity. We will take a journey through the history of the planet, tracking major changes in ecosystems and focussing on the major events, as well as considering the way that the fossil evidence has been used in debates about the way that evolution works.
Module Content: The nature of the fossil record Formation of Earth and Moon and conditions on the early Earth The origin of life and implications for the chemistry of the atmosphere and oceans Proterozoic life and the Cambrian explosion of diversity Ecosystems in the Palaeozoic, Mesozoic and Cenozoic Major extinction events and the recovery of ecosystems Vertebrate evolution and the origin of humans How the fossil record has been used in debates about evolution
Intended Learning Outcomes: Overview of the major changes in environments and ecosystems that have occurred on Earth Understanding of the way that the fossil evidence can be used to interpret ancient environments and ecosystems Understanding of the contested ways that the fossil evidence has been used in debates about evolution
Assessment: Examination 1 (80%) In class test (Invigilated on campus) (20%)
Assessment Description: Weekly quiz - 20 questions each Two hour examination comprising short answers and/or multiple choice questions and an essay
Moderation approach to main assessment: Moderation by sampling of the cohort
Assessment Feedback: individual feedback through the tutorial system
Failure Redemption: Re-sit the examination

Reading List: Benton, Michael J, Cowen's history of life, Wiley, 2020.ISBN: 1119482216
D. J. Beerling author., The emerald planet : how plants changed Earth's history / David Beerling., Oxford : Oxford University Press, 2007.ISBN: 9780192806024
Gould, Stephen Jay, Time's arrow, time's cycle : myth and metaphor in the discovery of geological time / Stephen Jay Gould., Penguin, 1987.
Lovelock, James, The ages of Gaia : a biography of our living Earth / James Lovelock., Oxford University Press, 2000.ISBN: 0192862170
Nisbet, E. G, Living earth : a short history of life and its home / E.G.Nisbet., Chapman & Hall, 1991.
Dawkins, Richard, The blind watchmaker : why the evidence of evolution reveals a universe without design / Richard Dawkins ; with a new introduction., Norton, 1996.ISBN: 9780393315707
Axelrod, Robert M, The evolution of cooperation / Robert Axelrod; foreword by Richard Dawkins., Penguin, 1990.
Gould, Stephen Jay, Hen's teeth and horse's toes / Stephen Jay Gould., W.W. Norton, 1983.
Eldredge, Niles, Life pulse : episodes from the story of the fossil record / by Niles Eldredge., Penguin, 1989.
Gould, Stephen Jay, The panda's thumb : more reflections in natural history / Stephen Jay Gould., Penguin, 1986.
Eldredge, Niles; Alcosser, Murray, Fossils : the evolution and extinction of species / Niles Eldredge ; photography by Murray Alcosser ; introduction by Stephen Jay Gould., Princeton University Press, 1996.ISBN: 0691026955
Conway Morris, S. (Simon), The crucible of creation : the Burgess Shale and the rise of animals / Simon Conway Morris., Oxford University Press, 1998.ISBN: 0198502567
Gould, Stephen Jay, Wonderful life : the Burgess shale and the nature of history / Stephen Jay Gould., Penguin, 1991.ISBN: 0140133801

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

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Available to visiting and exchange students - must be available to sit examination.

GEL204 Geological Record of Past Environments

Credits: 10 Session: 2023/24 January-June

Pre-requisite Modules: GEL121

Co-requisite Modules:

Lecturer(s): Dr KJ Preece, Dr KJ Ficken

Format: 10 x 2 hour on campus sessions
20 hours enquiry-based field course
Contact Hours will be delivered through a blend of live activities online and on-campus, and may include, for example, lectures, seminars, practical sessions and Academic Mentoring sessions.

Delivery Method: All Programmes will employ a blended approach to delivery using the Canvas Digital Learning Platform for live and self-directed online activity, with live and self-directed on-campus activities each week. Students may also have the opportunity to engage with online versions of sessions delivered on-campus

Lectures: on campus.

Coursework: field course (3 days over a weekend).

Module Aims: The geological record gives a long-term perspective on environmental and climatic change, including changes that occurred over hundreds of thousands to millions of years. This record, derived from the interpretation of rocks, provides a long-term perspective on the magnitude and extent of environmental changes and their causes.

This module focuses on the reconstruction of environmental parameters from the geological record. Principles and techniques for palaeoenvironmental reconstruction are outlined, with an emphasis on facies analysis and palaeoecology. Sedimentary structures are interpreted in terms of processes of sediment transport, deposition and disturbance. The facies characteristics of major depositional systems are outlined, including deserts, rivers, deltas, the deep sea and volcanoclastic environments.

This module builds on aspects of geology introduced at Year One and provides a long-term perspective on environmental and climatic conditions that complements Earth history and physical geography modules. The module is compulsory for students taking BSc Environmental Geoscience. The module will include lectures and a weekend long field course component.

Module Content: Topics include

1. Introduction and overview of sedimentology
2. Physical processes and sedimentary structures
3. Facies analysis and characteristics of deposits from different depositional environments

Intended Learning Outcomes: By the end of this module you should be able to:

- explain the concept of sedimentary facies and how this is used to reconstruct depositional palaeoenvironments;
- interpret a range of sedimentary structures in terms of processes of sediment transport, deposition and disturbance;
- recognise the evidence for and roles of different types of events in the sedimentary record;
- describe and interpret the facies characteristics of several depositional environments, including deserts, rivers, deltas, the deep sea and volcanoclastic environments;
- relate facies changes in the rock record to environmental and climatic changes;

Assessment: Coursework 1 (50%)
Examination 1 (50%)

Assessment Description: Coursework (50%)
Examination 1 - June examination (50%)

Moderation approach to main assessment: Moderation by sampling of the cohort

Assessment Feedback: Students will receive examination feedback after exams. Coursework feedback is given in writing on standard departmental feedback forms.

Failure Redemption: Resit examination or resubmit coursework reports, whichever is applicable.

Reading List: Gary. Nichols, Sedimentology and stratigraphy / Gary Nichols., Wiley-Blackwell, 2009.ISBN: 9781405135924

Coe, Angela L, Geological field techniques / edited by Angela L. Coe ; authors, Angela L. Coe ... [et al.], Wiley-Blackwell ; The Open University, 2010.ISBN: 9781444330625

J. D. Collinson (John David), author., Nigel P. Mountney 1968- author., Sedimentary structures / John Collinson, Nigel Mountney., Edinburgh : Dunedin Academic Press, 2019.ISBN: 9781780466026

Collinson, J. D. (John David); Mountney, Nigel; Thompson, D. B. (David B.), Sedimentary structures / John Collinson, Nigel Mountney, David Thompson., Terra Pub., 2006.ISBN: 9781903544198

Tucker, Maurice E., Sedimentary rocks in the field : a practical guide / Maurice E. Tucker., Wiley-Blackwell,, 2011.ISBN: 9780470689165

Stow, Dorrik A. V., Sedimentary rocks in the field : a colour guide / Dorrik A.V. Stow., Manson,, 2005.ISBN: 9781874545699

Leeder, M. R., Sedimentology and sedimentary basins : from turbulence to tectonics / Mike Leeder., Wiley-Blackwell,, 2011.ISBN: 9781405177832

Bridge, J. S; Demicco, Robert V, Earth surface processes, landforms and sediment deposits / John Bridge and Robert Demicco., Cambridge University Press, 2008.ISBN: 9780521857802

Reading, H. G., Sedimentary environments : processes, facies, and stratigraphy / edited by H.G. Reading., Blackwell Science,, 1996.ISBN: 0632036273

Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.

This module is compulsory for students enrolled for the BSc Environmental Geoscience degree scheme. This module is not available to visiting or exchange students.