



**Swansea University
Prifysgol Abertawe**

**FACULTY OF SCIENCE AND
ENGINEERING**

**UNDERGRADUATE STUDENT
HANDBOOK**

YEAR 3 (FHEQ LEVEL 6)

**BSC ENVIRONMENTAL GEOSCIENCE
UNDERGRADUATE PROGRAMMES**

**SUBJECT SPECIFIC
PART TWO OF TWO
MODULE AND COURSE STRUCTURE
2022-23**

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 22-23 academic year begins on 19 September 2022

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

DATES OF 22-23 TERMS

19 September 2022 – 16 December 2022

9 January 2023 – 31 March 2023

24 April 2023 – 09 June 2023

SEMESTER 1

19 September 2022 – 27 January 2023

SEMESTER 2

30 January 2023 – 09 June 2023

SUMMER

12 June 2023 – 22 September 2023

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. You should also refer to the Faculty of Science and Engineering proof-reading policy and this can be found on the Community HUB on Canvas, under Course Documents.

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.

This has been a challenging period for everyone. The COVID-19 pandemic has prompted a huge change in society as well as how we deliver our programmes at Swansea University and the way in which you study, research, learn and collaborate. We have been working hard to make sure you will have or continue to having an excellent experience with us.

We have further developed some exciting new approaches that I know you will enjoy, both on campus and online, and we cannot wait to share these with you.

At Swansea University and in the Faculty of Science & 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 staff, administrators, and your fellow students - I'm sure you will find many friendly helping hands ready to assist you.

We all know this period of change will continue and we will need to adapt and innovate to continue to be supportive and successful. At Swansea we are committed to making sure our students are fully involved in and informed about our response to challenges.

In the meantime, learn, create, collaborate, and most of all – enjoy yourself!

Professor Johann (Hans) Sienz
Interim Pro-Vice Chancellor/Interim Executive Dean
Faculty of Science and Engineering



Faculty of Science and Engineering	
Interim Pro-Vice Chancellor/Interim Executive Dean	Professor Johann Sienz
Head of Operations	Mrs Ruth Bunting
Associate Dean – Student Learning and Experience (SLE)	Professor Paul Holland
School of Biosciences, Geography and Physics	
Head of School: Siwan Davies	
School Education Lead	Laura Roberts
Head of Geography	Kevin Rees
Geography Programme Director	Joanne Maddern
Year Coordinators	Year 0 – Dr Kath Ficken Year 1 – Dr Kath Ficken Year 2 – Dr Nick Felstead Year 3 – Professor Neil Loader

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 9am-5pm.

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 and 01792 6062522 (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/coe-student-info/>

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 22-23 handbooks to ensure that you have access to the most up-to-date versions. Access to print material in the library may be limited due to CV-19; your reading lists will link to on-line material whenever possible. 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 3 (FHEQ Level 6) 2022/23
Environmental Geoscience
 BSc Environmental Geoscience[FF86]
 BSc Environmental Geoscience with a Year in Industry[F769]

Total 120 Credits

Optional Modules

Choose exactly 30 credits

GEC331	Traethawd Estynedig Daearyddiaeth	Prof NJ Loader/Dr OH Elias/Dr RH Meara/..	TB1+2	30
GEG331	Dissertation Report: Geography	Prof NJ Loader/Dr OH Elias/Dr NJ Felstead/..	TB1+2	30

And

Choose exactly 10 credits

GEC332	Cefnogaeth Traethawd Hir	Prof NJ Loader/Dr RH Meara	TB1+2	10
GEG332	Dissertation Support: Geography	Prof NJ Loader/Prof DB Clarke/Dr A Closs Stephens/..	TB1+2	10

And

Choose exactly 40 credits

GEG337	Wildfires	Prof SH Doerr	TB1	20
GEG344	The Cryosphere in a Changing Climate	Prof T Murray/Dr SL Cornford/Dr J Hiemstra/..	TB1	20
GEG358	Measuring Climate Change	Dr I Robertson/Prof MH Gagen/Prof NJ Loader/..	TB2	20
GEG363	Volcanology	Dr KJ Preece/Dr PG Albert/Prof SM Davies/..	TB2	20

And

Choose a maximum of 40 credits

GEC333 is the welsh equivalent of GEG333

GEB300	Gwaith Maes Gwlad yr Ia	Dr RH Meara/Dr OH Elias/Dr GR Thomas/..	TB2	20
GEC333	Ffiniau Ymchwil Daearyddol	Prof SM Davies/Dr OH Elias	TB1	20
GEG333	Geographical Research Frontiers	Prof SM Davies/Dr OH Elias	TB1	20
MN-3575	Enterprise and Creativity: Entrepreneurship in Practice	Dr LA Huxtable-Thomas/Mr DR Bolton/Prof PD Hannon/..	TB2	20
MN-3576	Menter a Chreadigrwydd: Mentergarwch mewn Ymarfer (Enterprise and Creativity: Entrepreneurship in Practice)	Dr R Bowen	TB2	20

GEB300 Gwaith Maes Gwlad yr Ia

Credits: 20 Session: 2022/23 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr RH Meara, Dr OH Elias, Dr GR Thomas

Format: 56 hours contact in the field, 8 hours of lectures and group meetings

Delivery Method: The field course will involve preparatory lectures and group meetings, lectures in the field/in-country and fieldwork in interdisciplinary groups under the supervision of academic staff from various disciplines.

Module Aims: This residential field course module explores the relationship between environment and society in Iceland. The course is interdisciplinary in approach and is orientated to policy and practical considerations deriving from academic research. Students will work with members of staff in mixed groups of students from biosciences and geography. Through intensive inter-disciplinary group working, students utilise (and pass on) their specialist skills in the group and individual exercises and projects that are undertaken. The topics covered will reflect the interdisciplinary nature of the fieldcourse, with an emphasis on various elements being considered by multiple disciplines to develop a holistic understanding (e.g. puffins will be a topic of study in terms of bird migration, climate change, identity, tourism, citizen science, fishing industry).

Module Content: Teaching and learning will be centred on the week long field-course to the Westmann Islands (Iceland), and supplemented by lectures and further study in Swansea before and after the field-course. Much of the learning will be undertaken in groups but, apart from where stated, the assessment will be your individual work. Assessment is via presentations in the field and a portfolio of coursework. There is no examination for this module.

Syllabus / Itinerary (Dependent on staffing availability and weather restrictions).

- Day 1: travel from Swansea to London then flight to Reykjavik. Travel on from Reykjavik towards the Westman Islands and stay over night on the route to the ferry port.
 - Day 2: Early ferry to Heimaey and arrive at the hostel. Introductory lecture detailing the aims and objectives of the trip, explanations of coursework etc.
Tour of Heimaey Island with Eyja tours to provide geographical, biological and cultural context for the field trip (AM)
Group Walk around the Eldfell volcano and 1973 lava flow. Discussions of volcanic eruptions and physical processes, societal impacts of the eruption and introduction to pioneer vegetation reclamation of the land (PM).
 - Day 3: Tour of the fishing industry and harbor (AM). Aiming to understand more about local fish and wildlife populations, societal elements including rural v mainland communities, transient trade, ethnographic observations etc. Introduction to bird surveys and lab work conducted with the Puffin Sanctuary (PM).
 - Day 4: Independent research day. Students can revisit locations or investigate new sites. Possible themes include tourism, symbology, literature, community traditions, music festivals, economic geographies, physical volcanic investigations, vegetation, bird surveys etc.
 - Day 5: Ferry back to the mainland (AM) and visiting several locations back towards Reykjavik including Solheimarjokull to discuss glacier retreat, Reynisfjara to discuss hazard communication.
 - Day 6-7: Independent work in and around Reykjavik to develop individual projects.
 - Day 8: Fly back to London and bus to Swansea.
- additional lectures, seminars and workshops will be included into the timetable for semester 1.

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

- Explain anthropogenic effects on the environment, the complex interplay of physical factors (e.g. hazards, coasts, plate tectonics), social factors (e.g. politics and identity, migration, rurality, economic development and regeneration) and biological factors (e.g. agriculture, plant/animal interactions, fishing and bird migration) in many of the issues applicable to the region and be capable of looking at complex issues in diverse ways
- Evaluate, where appropriate, the relevance of environmental concepts and theories to local case studies
- Identify the key issues facing Iceland and coastal island communities, assess the effectiveness of policy responses, and be able engage with political and policy debates about the future of the region (and other regions experiencing similar environmental, physical, social and economic challenges) particularly in relation to natural hazards and geotourism
- Use varied field techniques for studying the designated field area and the relationship between the environment and society in the Westmann Islands (Iceland)
- Apply an inter-disciplinarity to the study of the complex relationships between human/social, physical and biological features of any given location.

Assessment: Coursework 1 (50%)
Group Work - Presentation (30%)
Journal 1 (20%)

Assessment Description: 1. Individual project report 3,000 words
2. Group Presentation and poster
3. Fieldwork notebook

Notebooks: each student will be expected to keep a notebook during the trip where they record their observations, take notes, develop their ideas. This will be worth 10% of the final mark.

Group presentation: students will be required to develop and present a half an hour group presentation which will be delivered back in Swansea following the field trip. The presentation will focus onto one or more elements of the trip (e.g. hazards – eruption history and styles, tourism – geotourism, hazard perception, wildlife – puffins, bird surveys, vegetation). The presentations will reflect on information gained during the trip while incorporating addition personal and group reading and research. Each group will also develop an academic poster to present their findings.

Independent work: Each student will complete a 3,000 word report focusing on an element of work conducted during the trip. Each student may select their own project with a leaning towards their preferred academic subject, however elements of interdisciplinary knowledge and understanding should be included to reflect the learning objectives of the trip. Individuals will be expected to collect primary data (e.g. ethnography interviews and questionnaires, photographs, developing hazard maps, bird surveys, vegetation surveys), to detail methodologies, to present and interpret the data and present the work in the format of an academic journal paper.

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Continual assessment feedback is given in writing on standard departmental feedback forms and electronically via Blackboard or email. Students will receive formative feedback on their field note books and presentations during the field course.

Feedback on the report and notebooks will be given on an individual basis, while feedback on the group poster and presentation will be provided to the group.

Failure Redemption: Resubmit elements failed.

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

Applications to this module are restricted to Welsh-medium students from the biosciences, geography, Welsh and Media departments. Priority will be given to students with Welsh-medium scholarship requirements.

This module is NOT available to visiting and exchange students.

GEC331 Traethawd Estynedig Daearyddiaeth

Credits: 30 Session: 2022/23 September-June

Pre-requisite Modules: GEC277; GEC278; GEG277; GEG278

Co-requisite Modules:

Lecturer(s): Prof NJ Loader, Dr OH Elias, Dr RH Meara

Format: Cymorth unigol gan staff gan gynnwys allbwn ar adroddiadau paratoadol. Sesiwnau cefnogi (ar lein) 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

Newid y ffordd y cyflwynir modiwlau i gyflwyno cydamserol ar-lein. Gall y dewis pwnc ar gyfer Traethawd Estynedig gael ei gyfyngu oherwydd cyfyngiadau pandemig Covid-19 (h.y. dewis cyfyngedig o ran pwnc/dull, defnyddio data eilaidd ayyb.). Cyflwynir y traethawd estynedig cyfan yn electronig

Change in delivery of module to on-line synchronous. Choice of Dissertation topic may be limited by covid-19 restrictions (i.e. restricted choice of topic/method, use of secondary data etc.). Complete dissertation to be submitted electronically.

Module Aims: Mae'r traethawd estynedig yn adroddiad 10,000 o eiriau (mwyafswm) ar brosiect ymchwil gwreiddiol, sylweddol ac annibynol ar agwedd o Ddaearyddiaeth. Mae fel arfer yn seiliedig ar o amgylch 20-25 diwrnod o waith ymchwil sylfaenol (primary research) a sawl wythnos o waith analeiddio ac ysgrifennu. Mae'r traethawd estynedig yn cynnig y cyfle i chi i ddilyn eich diddordebau personol ac i arddangos eich galluoedd fel Daearyddwr. Yn ystod hynt y traethawd estynedig fe'ch cefnogir gan grwp cefnogaeth/trafodaeth sy'n cael ei arwain gan fyfyrwyr, a byd ganddoch hefyd aelod o staff fel arolygydd. Byddwch yn cynnig beirniadaeth adeiladol i gyd-fyfyrwyr sy'n ymgymryd a phrosiectau ymchwil cysylltiedig, gan ddysgu o'u profiadau, problemau a'u datrysiadau hwy. Mae'r gefnogaeth ac arolygaeth yma yn cael ei ddarparu drwy fodiwl "Dissertation Support" (GEG332) sydd yn fodiwl cyd-ofynedig.

Module Content: Mae'r traethawd estynedig yn adroddiad 10,000 o eiriau (mwyafswm) ar brosiect ymchwil gwreiddiol, sylweddol ac annibynol ar agwedd o Ddaearyddiaeth. Mae fel arfer yn seiliedig ar o amgylch 20-25 diwrnod o waith ymchwil sylfaenol (primary research) a sawl wythnos o waith analeiddio ac ysgrifennu. Mae'r traethawd estynedig yn cynnig y cyfle i chi i ddilyn eich diddordebau personol ac i arddangos eich galluoedd fel Daearyddwr. Yn ystod hynt y traethawd estynedig fe'ch cefnogir gan grwp cefnogaeth/trafodaeth sy'n cael ei arwain gan fyfyrwyr, a byd ganddoch hefyd aelod o staff fel arolygydd. Byddwch yn cynnig beirniadaeth adeiladol i gyd-fyfyrwyr sy'n ymgymryd a phrosiectau ymchwil cysylltiedig, gan ddysgu o'u profiadau, problemau a'u datrysiadau hwy. Mae'r gefnogaeth ac arolygaeth yma yn cael ei ddarparu drwy fodiwl "Dissertation Support" (GEG332) sydd yn fodiwl cyd-ofynedig.

Intended Learning Outcomes: Ar ddiwedd y modiwl yma, fe ddylai'r myfyriwr allu:

- Arolygu'r lenyddiaeth wyddonol, gan wneud defnydd o gonfeydd data electroneg lle'n berthnasol;
- Ymchwilio a deall oblygiadau rheolau priodol Iechyd a Diogelwch;
- Cyflawni rhaglen ymchwil priodol yn ofalus;
- Cadw cofnodion ymchwil yn ystod gwaith maes, archifol, cyfrifiadurol, neu labordy;
- Integreiddio deunydd o'r llenyddiaeth gyda canlyniadau a'u crewyd drwy ymchwil;
- Gweithio yn annibynol i gwblhau adroddiad ymchwil sylweddol.

Assessment: Project (100%)

Assessment Description: Traethawd estynedig 10,000 o eiriau.

Moderation approach to main assessment: Universal double-blind marking

Assessment Feedback: Rhoddir adborth ar elfennau paratoadol y traethawd estynedig, gan gynnwys adroddiad interim sylweddol a'i gyflwynir ar ddechrau mis Rhagfyr.

Failure Redemption: Ail-gyflwyno traethawd estynedig - naill ai ar y testun gwreiddiol neu un newydd - yn y cyfnod ail-eistedd.

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

Ddim ar gael i fyfyrwyr cyfnewid a rhai ar ymweliad. Competence in written and spoken Welsh is essential for this module.

GEC332 Cefnogaeth Traethawd Hir

Credits: 10 Session: 2022/23 September-June

Pre-requisite Modules: GEC277; GEC278; GEG277; GEG278

Co-requisite Modules: gec331

Lecturer(s): Prof NJ Loader, Dr RH Meara

Format: Tiwtorialau grwp ac unigol

Group tutorials and one-to-one meetings. (Online delivery due to covid-19 restrictions).
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

Ar campws/ar lein

On campus/online

Module Aims: Mae'r modiwl yma yn cynnig strwythur, trwy gefnogaeth grwp-cyfoedion dan arweiniad myfyrwyr a goruchwyllo gan staff academiaidd, i fyfyrwyr sy'n dilyn y modiwl 30 credid 'Traethawd Estynedig Daearyddiaeth'. Caiff y broses cefnogaeth a goruchwyllo yma ei hasesu trwy gyflwyniad crynodeb fideo yn (CD1), a chyflwyniad Amlinelliad y Traethawd hir (Dissertation Outline) yn CD2. Trwy weithio o fewn grwp-cyfoedion dan arweiniad, cewch gyfle i gynnig beirniadaeth gefnogol i fyfyrwyr eraill sy'n ymgymryd mewn prosiectau ymchwil perthnasol, a dysgu o'u profiadau ymchwil a strategaethau datrys nhw. Mae'r modiwl yma yn cyd-fynd a'r 'Traethawd Estynedig Daearyddiaeth' a rhaid cymryd y ddau fodiwl ar y cyd.

(This module provides structured, student-led peer-group support and academic staff group supervision for students undertaking the 30-credit 'Dissertation Report: Geography' module. This support and supervision is assessed through the submission of a Video abstract in TB1 and the submission in TB2 of a Dissertation Outline. Working within a supervised Student Peer Group, you will also have the opportunity to provide constructive criticism to fellow students undertaking related research projects, learning from their research problems and subsequent solutions. This module complements the 'Dissertation Report: Geography' module, which is a co-requisite.)

Module Content: Amlinelliad awgrymiadol o strwythur y gefnogaeth:

Wythnos 1: Sesiwn cyfarwyddol a chyflwyniad i'r modiwl
Wythnos 2: Cyfarfod Grp Cyfoedion Traethawd estynedig
Wythnos 3: Cyfarfod grp gyda goruchwyliwr
Wythnos 5: Cyfarfod Grp Cyfoedion Traethawd estynedig
Wythnos 6: Cyfarfod grp gyda goruchwyliwr
Wythnos 8: Cyfarfod Grp Cyfoedion Traethawd estynedig
Wythnos 9: Cyfarfod grp gyda goruchwyliwr, a derbyn adborth ar y posteri.
Wythnos 10 - cyflwyno amlinelliad o'r traethawd estynedig
Wythnos 11: Cyfarfod unigol gyda goruchwyliwr
Wythnos 12: Cyfarfod Grp Cyfoedion Traethawd estynedig
Wythnos 13: Cyfarfod grp gyda goruchwyliwr
Wythnos 15: Cyfarfod Grp Cyfoedion Traethawd estynedig
Wythnos 16: Cyfarfod unigol gyda goruchwyliwr (trafod copi drafft o'r traethawd estynedig)
Wythnos 18: Cyflwyno munudau a nodiadau'r cyfarfodydd cyfoedion a goruchwyliwr.
Wythnos 21: Cyflwyniad poster PowerPoint

DISGRIFIAD:

Mae'r modiwl yma yn cynnig strwythur trwy gefnogaeth grwp-cyfoedion dan arweiniad myfyrwyr a goruchwylio gan staff academiaidd, i fyfyrwyr sy'n dilyn y modiwl 30 credid 'Traethawd Estynedig Daearyddiaeth'. Caiff y broses cefnogaeth a goruchwylio yma ei hasesu trwy gyflwyniad: CD1; Poster PowerPoint/Abstract-Fideo. CD2; Amlinelliad manwl o'r traethawd hir.

Trwy weithio o fewn grwp-cyfoedion dan arweiniad, cewch gyfle i gynnig beirniadaeth gefnogol i fyfyrwyr eraill sy'n ymgymryd mewn prosiectau ymchwil perthnasol, a dysgu o'u profiadau ymchwil a strategaethau datrys nhw. Mae'r modiwl yma yn cyd-fynd a'r 'Traethawd Estynedig Daearyddiaeth' a rhaid cymryd y ddau fodiwl ar y cyd.

(Indicative structure of support:

Week 1: Briefing
Week 2: Dissertation Peer Group Meeting
Week 3: Group meeting with supervisor
Week 5: Dissertation Peer Group Meeting
Group meeting with supervisor
Week 7: PowerPoint poster submission
Week 8: Dissertation Peer Group Meeting
Week 9: Group meeting with supervisor, with feedback on posters
Week 12: Dissertation Peer Group Meeting
Week 13: Group meeting with supervisor
Week 15: Dissertation Peer Group Meeting
Week 18: Dissertation and peer and supervisor meeting minutes submission

DESCRIPTION

This module provides structured, student-led peer-group support and academic staff group supervision for students undertaking the 30-credit 'Dissertation Report: Geography' module. This support and supervision is assessed through the submission of:

a Powerpoint Poster/Video abstract in TB1; Dissertation Outline in TB2.

The 'Dissertation Report: Geography' and 'Dissertation Support - Geography' modules are co-requisites.)

Intended Learning Outcomes: Erbyn diwedd y modiwl yma bydd y myfyriwr yn medru:

- Adolygu'r llenyddiaeth wyddonol, gan wneud defnydd o gronfeydd data digidol lle'n briodol.
- Ymchwilio a deall goblygiadau mesurau a deddfwriaeth iechyd a diogelwch addas
- Gweithredu rhaglen ymchwil ystyrlon
- Cyfuno deunydd o'r llenyddiaeth gyda chanlyniadau sy'n deillio o ymchwil
- Gweithio fel rhan o dîm sy'n cynnig cyngor beirniadol a chefnogol i fyfyrwyr eraill.

(At the end of this module the student should be able to:

- * Survey the scientific literature, making use of electronic databases where appropriate
- * Research and understand the implications of appropriate health and safety legislation
- * Execute a careful research program
- * Keep research records during field, computer or lab work
- * Integrate material from the literature with results obtained from research
- * Work in a team providing critical and supporting advice to other students)

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

Assessment Description: Cyflwynir tiwtorialau yn unol â'r amserlen, y tiwtor fydd yn penderfynu ar y dull cyflwyno.

Asesiad Semester 1. Cyflwyniad 5 munud ar ymchwil dylunio a dulliau trwy fideo/a recordiwyd

Asesiad Semester 2: Asesiad Ysgrifenedig – Amlinelliad o'r Traethawd Estynedig

Dylai amlinelliad y traethawd estynedig fod ar ffurf rhestr gynnwys sy'n cynnwys teitlau penodau ac is-benawdau penodau ynghyd â disgrifiad o'r hyn y bydd y traethawd estynedig yn ei gynnwys o dan bob is-adran. Dylid anelu at gynnwys canlyniadau a chasgliadau cychwynnol.

Assessment Semester 1. 5 min. Video/recorded presentation on research design and methods

Assessment Semester 2: Written assessment – Dissertation Outline

The dissertation outline should take the form of a contents list comprising of chapter titles and chapter sub-headings with description of what the dissertation will include within each sub-section. It should aim to include at least preliminary results and conclusions.

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Feedback through online tutorial system and in written form via University feedback sheets.

Failure Redemption: Nid oes modd achub methiant ar Lefel 3. Failure is non redeemable at Level 3.

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

Dim ar gael i fyfyrwyr dethol o bynciau arall, myfyrwyr sy'n ymweld, na myfyrwyr ar gynllun cyfnewid.

Not available to elective, visiting or exchange students

GEC333 Ffiniau Ymchwil Daearyddol

Credits: 20 Session: 2022/23 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof SM Davies, Dr OH Elias

Format: 2 awr o ddarlithoedd byw
5 awr o seminarau
2 awr o oriau swyddfa bob wythnos
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

Ar y campws

On campus

Module Aims:

Mae'r modiwl yma yn rhoi cyfle i fyfyrwyr i ddangos eu cymhwysedd fel Daearyddwyr drwy gyflawni dadansoddiad beirniadol o amrywiaeth o ffynonellau llenyddol. Er bod y traethawd hir fel arfer yn canolbwyntio ar ddylunio a chyflawni prosiect ymchwil sy'n seiliedig ar gasglu, dadnsoddi a dehongli data, mae'r modiwl yma yn canolbwyntio ar ymgysylltu a llenyddiaeth academiaidd ar y ffin o un agwedd o Ddaearyddiaeth. Gall myfyrwyr ddewis o ystod eang o ffiniau ymchwil o fewn Daearyddiaeth Dynol a Ffisegol sydd wedi eu dewis o flaen llaw gan staff academiaidd yr adran. Gan bod y modiwl yma yn ffocysu ar arddull o ddysgu "myfyriwr-canolog" (student centered), ni fydd y ffinau wedi eu trafod mewn unrhyw fanylder o fmewn modiwlau blaenorol, er efallai bydd rhai modiwlau wedi cyflwyno'r ffiniau. Bydd yna gyflwyniad fyr i bob ffin ac rhestr fyr o gyfeiriadau pwysig ar Canvas.

Nodwch: rhaid i'r testun a ddewisir beidio a gorgyffwrdd gyda'r testun Traethawd Hir. Os oes unrhyw amheuaeth, yna rhaid i chi drafod gyda'ch Tiwtor Cefnogaeth Traethawd Hir ac bydd angen i chi dderbyn cytundeb ysgrifenedig.

This module provides students with the opportunity to demonstrate their competence as a Geographer by undertaking a critical analysis of a wide variety of literature-based sources in order to develop a cogent, substantial, and persuasive argument. While the Dissertation in Geography normally focuses on the design and execution of an evidenced-based research project that assesses the capacity of students to undertake effective data analysis and interpretation, the purpose of this module is to assess the extent to which students are capable of engaging with the academic literature at the frontier of a particular part of Geography. Students select from a wide range of research frontiers in Human and Physical Geography that have been identified by the academic staff within the Department. Given that this module emphasizes student-centred learning, none of the frontiers will have been covered in other modules, although in many cases modules will have taken students up to some of these frontiers. However, to orientate students and provide them with suitable points of departure and way-stations, there will be a brief introduction to each frontier and a short list of pivotal references disseminated via Blackboard. (Note: The topic selected by you must not overlap with the subject of your Dissertation. If there is any doubt about potential overlap, this must be discussed with your Dissertation Support Group supervisor and agreed in writing.)

Module Content: Cyflwyniad i ffiniau ymchwil ar draws Daearyddiaeth Dynol a Ffisegol.

Dewis ffin ymchwil, adnabod y llenyddiaeth priodol ac addas, asesu'r llenyddiaeth yma yn gritigol, datblygiad o ddadl synhwyrol mewn perthynas a'r ffin ymchwil a ddewiswyd, a gaiff ei gyflwyno ar arddull papur academaidd.

Rhaid mynychu seminarau ymchwil yr adran (lleiafrif o 4). Rhaid cyflwyno mewn a mynychu seminarau myfyrwyr y modiwl (tua 4 awr).

[Nodwch: rhaid i'r testun a ddewisir beidio a gorgyffwrdd gyda'r testun Traethawd Hir. Os oes unrhyw amheuaeth, yna rhaid i chi drafod gyda'ch Tiwtor Cefnogaeth Traethawd Hir ac bydd angen i chi dderbyn cytundeb ysgrifenedig.]

Introduction to research frontiers across Human and Physical Geography.

Selection of a research frontier, identification of the appropriate literature, critical engagement with this literature, and the development of a cogent, sustained, and persuasive argument in relation to this frontier, which will be presented in the style of an academic paper.

Participation in Departmental Research seminar programme as appropriate (minimum of 4).

Presentation at and participation in the module's student seminar series (approx. 4 hours).

[Note: The frontier selected by a student must not overlap with the subject of their Dissertation. If there is any doubt about potential overlap, this must be discussed with the Dissertation Support Group supervisor and agreed in writing.]

Intended Learning Outcomes: I gael marciau uchel yn y modiwl yma, bydd angen i chi ddangos gallu i:

- feddwl yn gritigol am y cynigion cychwynol yn y teitl a ddewiswyd a'r deunyddiau yr ydych yn eu defnyddio wrth ymchwilio'r teitl.
- Ymgysylltu ar lefel uchel gyda syniadau cymhleth a gwybodaeth perthnasol.
- Datblygu dadlaeon cryf a synhwyrol.

Bwriad y modiwl yw i fod yn uchel-bwynt o rhan profiad ysgrifennu academiaidd eich gradd tair mlynedd. Ar ol cwblhau'r modiwl, dylech chi fod yn gallu:

- arddangos ymgysylltiad effeithiol gyda ffin ymchwil Daearyddol.
- Tystiolaeth o ddealltwriaeth manwl o un agwedd o Ddearyddiaeth sydd heb ei ddysgu yn eich modiwlau eraill.
- Arddangos sgiliau a chymhwysedd sy'n gysylltiedig ag archwilio cronfeydd data llyfryddol, ffynonellau ar y we, a chyfnodolion academiaidd.
- Asesu deunyddiau ffynhonnell yn gritigol.
- Cynnal dadl academiaidd a chyflwyno'r ddadl mewn arddull addas i gynulleidfa academiaidd.

Gan fod hwn yn fodiwl 20 credit, mae disgwyl i chi gwblhau tua 200 awr o waith yn astudio, cynllunio ac ysgrifennu eich papur 5,000 o eiriau a pharatoi eich cyflwyniad fideo.

To achieve high marks in this module you will need to display a capacity to:

- think critically about the initial propositions advanced in the title you select and the material you encounter whilst researching that title
- engage at an advanced level with complex ideas and relevant information
- develop a convincing, carefully constructed argument

The module is intended as the 'capstone' writing experience of your three years of degree-level study. On its completion you should be able to:

- demonstrate your effective engagement with a research frontier in Geography
- evidence a detailed appreciation of an area of Geographic knowledge not taught in other modules
- demonstrate skills and competence associated with searching bibliographic data-bases, web-based sources, and academic journals
- critically assess source materials
- sustain an intellectual argument and present this argument in an appropriate style for an academic audience

Because this is a 20-credit module, you should expect to devote close to 200 hours of study-time to your research and to the planning and writing of your 6,000-word paper and preparation of your seminar.

Assessment: Coursework 1 (80%)
Presentation (20%)

Assessment Description: Traethawd 5,000 o eiriau
Cyflwyniad fideo

5000 word essay
video presentation

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Bydd myfyrwyr yn cael adborth ar ol arholiadau os oes rhai yn digwydd ym mis Ionawr. Bydd adborth ar waith cwrs yn cael eu nodi ar ffurflenni adborth safonol yr adran.

Students will receive examination feedback after exams if taken in January. Continual assessment feedback is given in writing on standard departmental feedback forms.

Failure Redemption: Mae methiant yn ddi-adenilladwy yn lefel 3.

Failure is non-redeemable in level 3

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

Semester 1 neu 2

Nid yw hyn ar gael i fyfyrwyr sy'n ymweld a'r adran, myfyrwyr cyfnewid na myfyrwyr "elective".

Teaching block 1 OR 2

Not available to elective, visiting or exchange students.

GEG331 Dissertation Report: Geography	
Credits: 30 Session: 2022/23 September-June	
Pre-requisite Modules:	
Co-requisite Modules:	
Lecturer(s): Prof NJ Loader, Dr OH Elias, Dr NJ Felstead, Dr JF Maddern, Prof PRJ North, Dr KJ Preece, Dr KG Rees, Dr I Robertson, Dr A Rogers, Dr Y Sun, Dr E Urbanek	
Format:	Dissertation support - Geography Delivery subject to covid-19 restrictions). 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	
Synchronous online delivery / on campus - delivery mode subject to covid-19 restrictions.	
Module Aims: The dissertation is an original, substantive and independent research project in an aspect of Geography. It is typically based on approximately 20 - 25 days of primary research and several weeks of analysis and write-up. The end result must be less than 7,500 words of text. The dissertation offers you the chance to follow your personal interests and to demonstrate your capabilities as a Geographer. During the course of your dissertation you will be supported by a student-led discussion group and a staff supervisor, and you will also provide constructive criticism to fellow students undertaking related research projects, learning from their research problems and subsequent solutions. This support and supervision is delivered through the 'Dissertation Support' module, which is a co-requisite.	
Module Content: The dissertation is an original, substantive, and independent research project focused on an aspect of Geography that is supervised by one or more appropriate members of academic staff. The dissertation is presented as a 7,500 word (maximum) report and supported through peer and supervisor meetings provided through the 'Dissertation Support' module. These two modules are co-requisites.	
Intended Learning Outcomes: At the end of this module the student should be able to:	
<ul style="list-style-type: none"> - Survey the scientific literature, making use of electronic databases where appropriate - Research and understand the implications of appropriate health and safety legislation - Execute a careful research program - Keep research records during field, computer or lab work - Integrate material from the literature with results obtained from research - Work independently producing substantial research report 	
Assessment:	Project (100%)
Assessment Description: Submission of original dissertation, 7,500 words (max).	
Moderation approach to main assessment: Universal double-blind marking	
Assessment Feedback: Continual assessment feedback in writing on standard department feedback forms	
Failure Redemption: Failure is non-redeemable in level 3	
Additional Notes:	

GEG332 Dissertation Support: Geography

Credits: 10 Session: 2022/23 September-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof NJ Loader, Prof DB Clarke, Dr A Closs Stephens, Prof SM Davies, Prof SH Doerr, Dr KJ Ficken, Dr RP Gruffudd, Dr KH Halfacree, Dr R Hernandez-Clemente, Dr J Hiemstra, Dr SO Los, Prof AJ Luckman, Dr CM Muellerleile, Prof PRJ North, Dr KG Rees, Dr A Rogers, Prof SV Shubin, Dr RG Smith, Prof RPD Walsh

Format: 7 (online delivery subject to covid-19 restrictions)

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

On-line synchronous due to covid-19 restrictions

Tutorials delivered as per timetable, method of delivery remains the choice of the tutor.

Module Aims: This module provides structured, student-led peer-group support and academic staff group supervision for students undertaking the 30-credit 'Dissertation Report: Geography' module. This support and supervision is assessed through the submission of a PowerPoint Poster in TB1 and the submission outline in TB2. Working within a supervised Student Peer Group, you will also have the opportunity to provide constructive criticism to fellow students undertaking related research projects, learning from their research problems and subsequent solutions. This module complements the 'Dissertation Report: Geography' module, which is a co-requisite.

Module Content: Indicative structure of support:

Week 1: Briefing

Week 2: Dissertation Peer Group Meeting

Week 3: Group meeting with supervisor

Week 5: Dissertation Peer Group Meeting

Group meeting with supervisor

Week 7: PowerPoint poster submission

Week 8: Dissertation Peer Group Meeting

Week 9: Group meeting with supervisor, with feedback on posters

Week 12: Dissertation Peer Group Meeting

Week 13: Group meeting with supervisor

Week 15: Dissertation Peer Group Meeting

Week 18: Dissertation and peer and supervisor meeting minutes submission

Attendance at all group meetings is compulsory.

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DESCRIPTION

This module provides structured, student-led peer-group support and academic staff group supervision for students undertaking the 30-credit 'Dissertation Report: Geography' module. This support and supervision is assessed through the submission of a PowerPoint Poster in TB1, and the submission in TB2 of a dissertation outline. The 'Dissertation Report: Geography' and 'Dissertation Support - Geography' modules are co-requisites.

Intended Learning Outcomes: At the end of this module the student should be able to:

- * Survey the scientific literature, making use of electronic databases where appropriate
- * Research and understand the implications of appropriate health and safety legislation
- * Execute a careful research program
- * Keep research records during field, computer or lab work
- * Integrate material from the literature with results obtained from research
- * Work in a team providing critical and supporting advice to other students

Assessment: Assignment 1 (50%)

Assignment 2 (50%)

Assessment Description: Coursework comprises of two elements:

Assessment Semester 1. 5 min. Video/recorded presentation on research design and methods

Assessment Semester 2: Written assessment – Dissertation Outline

The dissertation outline should take the form of a contents list comprising of chapter titles and chapter sub-headings with description of what the dissertation will include within each sub-section. It should aim to include at least preliminary results and conclusions.

Moderation approach to main assessment: Universal double-blind marking

Assessment Feedback: Continual assessment feedback in writing on standard department feedback forms

Failure Redemption: Failure is non-redeemable in level 3

Additional Notes: Not available to elective, visiting or exchange students.

GEG333 Geographical Research Frontiers

Credits: 20 Session: 2022/23 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof SM Davies, Dr OH Elias

Format: 2 hour live lectures
5 hours seminars / interactive small group sessions
2 hours office hours every week

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

On campus

Module Aims: This module provides students with the opportunity to demonstrate their competence as a Geographer by undertaking a critical analysis of a wide variety of literature-based sources in order to develop a cogent, substantial, and persuasive argument. While the Dissertation in Geography normally focuses on the design and execution of an evidenced-based research project that assesses the capacity of students to undertake effective data analysis and interpretation, the purpose of this module is to assess the extent to which students are capable of engaging with the academic literature at the frontier of a particular part of Geography. Students select from a wide range of research frontiers in Human and Physical Geography that have been identified by the academic staff within the Department. Given that this module emphasizes student-centred learning, none of the frontiers will have been covered in other modules, although in many cases modules will have taken students up to some of these frontiers. However, to orientate students and provide them with suitable points of departure and way-stations, there will be a brief introduction to each frontier and a short list of pivotal references disseminated via Canvas. (Note: The topic selected by you must not overlap with the subject of your Dissertation. If there is any doubt about potential overlap, this must be discussed with your Dissertation Support Group supervisor and agreed in writing.)

Module Content: Introduction to research frontiers across Human and Physical Geography.

Selection of a research frontier, identification of the appropriate literature, critical engagement with this literature, and the development of a cogent, sustained, and persuasive argument in relation to this frontier, which will be presented in the style of an academic paper.

[Note: The frontier selected by a student must not overlap with the subject of their Dissertation. If there is any doubt about potential overlap, this must be discussed with the Dissertation Support Group supervisor and agreed in writing.]

Intended Learning Outcomes: To achieve high marks in this module you will need to display a capacity to:

- think critically about the initial propositions advanced in the title you select and the material you encounter whilst researching that title
- engage at an advanced level with complex ideas and relevant information
- develop a convincing, carefully constructed argument

The module is intended as the 'capstone' writing experience of your three years of degree-level study. On its completion you should be able to:

- demonstrate your effective engagement with a research frontier in Geography
- evidence a detailed appreciation of an area of Geographic knowledge not taught in other modules
- demonstrate skills and competence associated with searching bibliographic data-bases, web-based sources, and academic journals
- critically assess source materials
- sustain an intellectual argument and present this argument in an appropriate style for an academic audience

Because this is a 20-credit module, you should expect to devote close to 200 hours of study-time to your research and to the planning and writing of your 5,000-word paper and preparation of your video presentation.

Assessment: Coursework 1 (80%)
Presentation (20%)

Assessment Description: 5000 word essay
video presentation

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Students will receive examination feedback after exams if taken in January. Continual assessment feedback is given in writing on standard departmental feedback forms.

Failure Redemption: Failure is non-redeemable in level 3

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

Not available to elective, visiting or exchange students.

This module will only run with 6 or more students.

GEG337 Wildfires

Credits: 20 Session: 2022/23 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof SH Doerr

Format: As lectures, seminars and Q&A sessions (face to face or online, as appropriate) with the potential of a half-day field trip (subject to any future CV-19 restrictions)

Delivery Method: The module will be delivered through a blend of activities, and may include, for example, lectures, seminars, practical sessions and Academic Mentoring sessions (face to face or online, as appropriate) with the potential of a half day field trip (subject to any future CV-19 restrictions)

Module Aims: Wildfires are a natural phenomenon in the Earth System that has shaped the landscapes and ecology of a wide range of Earth's biomes for many millions of years. They currently burn 3–5 million km² of the Earth's surface annually (around 12–20 x the size of the UK). Wildfires (i.e. uncontrolled fires) and managed vegetation fires emit around 8 billion tonnes of CO₂ to the atmosphere on average each year, with some of these emissions contributing to climate change, but most of them being sequestered again during vegetation recovery. Many fires are an essential driver of maintaining ecosystems whether ignited naturally by lightning or humans as land management tool, and do not present an immediate risk to society or the environment. However, some fires lead to loss of life or infrastructures and can also threaten ecosystems that are not adapted to fire or in which fire regimes are altered by human influence. Fire impacts on society extend beyond direct destruction, such as accelerated soil erosion and water contamination, or exposure to smoke contributing to over 300,000 premature deaths per year. Major fire outbreaks in recent years have received extensive media attention and fuelled concern that climate change is increasing fire activity, threatening human livelihood, destroying ecosystems and accelerating climate change. These conflicting roles of fire pose a huge challenge: how do we balance the natural role of vegetation fires on Earth with the need to protect life and infrastructure?

This module will provide an multifaceted overview of vegetation fires and its role in maintaining ecosystems, how fire is ignited, how climate change, land management, weather and fuel types interact to determine the nature and behaviour of fire, how fire directly and indirectly impacts the natural environment and societies, how the media and societies perceive fire, and how we can manage and co-exist with fire in our changing world.

Given the multidisciplinary nature of fire science, ranging from physical principles to ecology and socio-economic and political dimensions, no textbook exists that covers all these comprehensively. The module thus will use a few textbooks, but also requires engaging critically with the latest scientific literature. It particularly suited to students who focus on physical geography, but it also offers insights and skills relevant to cultural, social and economic geography, and other disciplines.

Module Content: • Fire principles (combustion and fire behaviour)

- Fire as a factor shaping ecosystems through the Earth's history
- Fire in the tropics
- Fire in temperate and Mediterranean regions
- Fire in boreal and arctic regions
- Fire in the UK
- Direct environmental and social impacts of fire
- Indirect environmental and social impacts of fire
- Fire feedbacks with global climate change
- Temporal and regional trends in fire activities and their drivers
- Social 'fire': perceptions versus realities and the role of media
- Fire management, insurance, and policies
- Coexisting with fire: rethinking resilience to wildfire

The reading list field below does not work, hence reading list added here:

Fire on Earth – An Introduction, Andrew Scott et al. Wiley & Sons, 2014

Fire – A Very Short Introduction, Andrew Scott Oxford University Press, 2020

Most reading will be based on journal articles

<p>Intended Learning Outcomes: 1. Understanding the principles of fire, its ignition and behavior</p> <p>2. Understanding the co-evolution of fire with ecosystems and their adaption to fire (pyromes).</p> <p>3. Knowledge of the causes, temporal trends and impacts of fires in the Earth's major biomes.</p> <p>4. Understanding the complex interactions between climate, land use and societies in fire occurrence and behavior</p> <p>5. Skills in mapping and assessing the impacts of fires using commonly used modelling tools</p> <p>6. Understanding of the tools and associated benefits and drawbacks of modern fire suppression approaches</p> <p>7. Insights into the complexities of managing fire for conflicting purposes and in deriving fire policies</p> <p>8. Understanding of how science, media, policy and major industries affect perceptions and management of fire in the UK and a selection of major fire affected countries across the world</p>	
Assessment:	<p>Class Test 1 - Coursework (15%)</p> <p>Assignment 1 (25%)</p> <p>Briefing Paper (60%)</p>
<p>Assessment Description: Assessment 1 (online problem-based test) 15%</p> <p>Seminar presentation on modelling exercise 25%</p> <p>End of module report (policy briefing document) 60%</p>	
<p>Moderation approach to main assessment: Second marking as sampling or moderation</p>	
<p>Assessment Feedback: Students will receive feedback immediately after the online tests and individual written comments on coursework within 3 weeks of the submission deadline</p>	
<p>Failure Redemption: Failure is non-redeemable in level 3</p>	
<p>Additional Notes: Delivery of both teaching and assessment will be blended including live and self-directed activities online and on-campus.</p> <p>Normally available to elective, visiting or exchange students. Please note that any failures are redeemed during the August resit period, so you must ensure your availability.</p>	

GEG344 The Cryosphere in a Changing Climate

Credits: 20 Session: 2022/23 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof T Murray, Dr SL Cornford, Dr J Hiemstra, Prof B Kulesa, Prof AJ Luckman

Format: 32 (25 lecture + 7 presentation & discussion)

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

On campus

Module Aims: This module will provide you with the scientific basis to understand the physical behaviour of glacier ice at spatial scales ranging from individual ice crystals to continental-scale glaciation. The module core topics will include glacier mass balance, transformation of snow to ice, glacier hydrology, dynamics, ice crystal structure and deformation, glacier sliding, deformation of glacial sediments, glacier flow instabilities and glacier surging. We will then introduce example topics of current research interest. You will have the opportunity to work in a small group on a guided research project. The module is assessed through an individual paper critique and “take-home” examination, as well as group presentation of your research project results at a poster-based mini-conference, and as a report. The research project work will normally be assigned a group mark, however, individual student’s marks may be moderated based on self and peer assessment.

Module Content: 1) Fundamentals of Glaciology, including mass balance, glacial dynamics, glacial hydrology and sedimentology, glacial geomorphology, Antarctic and Greenland ice sheets.

2) Approaches and Techniques in Glaciology, such as remote sensing, geophysics, computer modelling.

Intended Learning Outcomes: At the end of this module you will have knowledge and understanding of:

1. The physical processes controlling the behaviour of glaciers and ice sheets.
2. How glaciers and ice sheets interact with the landscape.
3. The 'practice of Glaciology': techniques used to investigate glacial systems.

At the end of this module you will be able to:

1. Discuss the key concepts of glacier and ice sheet behaviour
2. Evaluate state-of-the-science hypotheses in Glaciology
3. Appraise the usefulness of different approaches to problems in Glaciology

Assessment: Examination 1 (55%)
Coursework 1 (20%)
Group Work - Presentation (20%)
Coursework 2 (5%)

Assessment Description: Exam
Coursework 1 - Computer Worksheet
Group Presentation
Coursework 2 - contribution and engagement

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Students will receive examination feedback after exams if taken in January. Continual assessment feedback is given in writing on standard departmental feedback forms.

Failure Redemption: Failure is non-redeemable in level 3

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

This module has no pre- or co- requisites

GEG358 Measuring Climate Change

Credits: 20 Session: 2022/23 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr I Robertson, Prof MH Gagen, Prof NJ Loader

Format: Lectures (virtual) 24;
Workshops (virtual) 6.

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

Primarily on the Singleton Campus

Module Aims: The aim of this module is to provide the participants with the relevant skills to place the widely reported anthropogenic influences upon climate into the perspective of a naturally changing climatic system. The module focuses upon the techniques used to reconstruct changes in climate over the last 1000 years and presents reconstructions at differing temporal scales. The module is directed towards students with a basic scientific and mathematical background.

Module Content: Description

The aim of this module is to provide the participants with the relevant skills to place the widely reported anthropogenic influences upon climate into the perspective of a naturally changing climatic system. The module focuses upon the techniques used to reconstruct changes in climate over the last 1000 years and presents reconstructions at differing temporal scales. There is an emphasis upon dendrochronology reflecting the relative importance of this topic within the literature. The mathematical techniques used to reconstruct past climates are discussed briefly. The module is directed towards students with a basic scientific and mathematical background.

Intended Learning Outcomes: - Develop a knowledge and understanding of the physical basis, application and limitations of the main techniques used in reconstructing the climate of the last 1000 years
- Synthesize the existing information on the climate of the last 1000 years
- Critically evaluate the published literature on the climate of the last 1000 year
- Assess the techniques used to obtain climatic information from proxy data.
- Discuss the key concepts involved in standardizing proxy indices to remove non-climatic trends
- Place the widely-reported anthropogenic trends in recent climate into the perspective of a naturally changing climatic system

Assessment: Coursework 1 (30%)
Coursework 2 (20%)
Examination 1 (50%)

Assessment Description: Outline of typical lecture topics:

- 1) Introduction (Climate dynamics, Medieval Climatic Anomaly, Little Ice Age, IPCC Report)
- 2) Dendrochronology (Ring-widths, methods of standardization, signal strength)
- 3) Dendrochronology (density)
- 4) Dendrochronology (stable isotopes, mass spectrometry)
- 5) The dating of other archives (including radiocarbon and lead-210 dating)
- 6) Documentary evidence for climatic change
- 7) Tephrochronology
- 8) Ice cores
- 9) Peat bogs
- 10) Laminated sediments
- 11) Methods of climatic reconstruction (correlation, calibration/verification of relationships)
- 12) Summary

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Continual assessment feedback is provided online using standard departmental feedback forms.

Failure Redemption: Failure is non-redeemable in level 3

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

Semester 2. Introductory lecture in Semester 1.

Normally available to elective, exchange and visiting students

GEG363 Volcanology	
Credits: 20 Session: 2022/23 January-June	
Pre-requisite Modules:	
Co-requisite Modules:	
Lecturer(s): Dr KJ Preece, Dr PG Albert, Prof SM Davies	
Format:	5 full days in the field (40 hours) 5 hour session on campus before and after trip (5 hours)
Delivery Method: Preparatory on-campus lectures, practical sessions and group meetings. Field trip.	
Module Aims: In this module, students will study magmatic and volcanic processes, from source to surface. We will follow the journey of magma, from its production inside the Earth, to eruption at the surface through volcanoes, and injection of volcanic ash and gases into the atmosphere. The module will cover magma generation, storage and evolution, ascent and eruption. Students will gain an understanding of processes underpinning eruptive styles and interpretation of these processes from the volcanic products. The module also explores how volcanism affects our planet's climate and society.	
Delivery of the module will include a combination of on-campus sessions and a field course to the Eifel Volcanic Field (Germany). The field course will enable in-situ study of diverse volcanic landforms and products, formed via a wide range of eruptive styles, including effusive and explosive eruptions. During the field course, students will study various aspects of volcanic geology, including learning how to observe, measure and interpret volcanic rocks and deposits.	
The module has a strong geological focus, and therefore a keen interest in geology and some previous knowledge of geology is highly recommended.	
Module Content: The module syllabus will include the following topics:	
<ul style="list-style-type: none"> • Volcanoes and their tectonic setting • Magma generation and evolution • Physical properties of magma • Effusive volcanism and lava • Explosive volcanism and pyroclastic deposits • Tephrochronology – principles and applications • Volcanoes, the atmosphere and climate 	
Intended Learning Outcomes: With successful completion of this module, students should be able to:	
<ul style="list-style-type: none"> • Describe, evaluate and interpret volcanic phenomena and processes operating on the journey of magma from source to surface. • Distinguish different volcanic products and determine from their characteristics the processes involved in their formation. • Analyze and interpret volcanological datasets. • Communicate scientific ideas and arguments in a coherent and concise manner. 	
Assessment:	Coursework 1 (25%) Coursework 2 (50%) Coursework 3 (25%)
Assessment Description: Pre-field course coursework (Assessment 1) Field course exercises (Assessment 2) Post- field course coursework (Assessment 3)	
Moderation approach to main assessment: Second marking as sampling or moderation	
Assessment Feedback: Students will receive individual feedback for all assessments in writing on standard departmental feedback forms and electronically via Canvas	
Failure Redemption: Resubmit failed assessment components. Alternative and/or supplementary assessment.	
Additional Notes: The module will be capped at 40 participants. Initial priority will go to students enrolled on Environmental Geoscience and Physical Geography degree programmes. If capacity allows, students enrolled on BSc and BA Geography pathways may enrol based on a random allocation.	
Not available to visiting and exchange students.	
Fieldtrip dates to be confirmed. There will be a small charge associated with the trip to cover travel costs.	

MN-3575 Enterprise and Creativity: Entrepreneurship in Practice

Credits: 20 Session: 2022/23 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr LA Huxtable-Thomas, Mr DR Bolton, Prof PD Hannon

Format: 10x 2 hour workshops
10x 1 hour directed independent project based learning
10x 1 hour online learning

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 delivered through directed and self-directed experiential learning, interactive workshops and reflective learning practice. The module starts with an intensive 6 hour session during employability week during which the principles, skills and self awareness needed to pursue entrepreneurial practice are explored and developed. The module is delivered on campus and formative feedback is provided through classroom clicker tests and feedback on the creation and presentation of mindmaps. The final assessment takes the form of an amended mindmap plus a reflective journal completed via an online blog platform.

Module Aims: This generic cross-disciplinary module aims to provide an introduction for learners to:

- (a) the practice of becoming entrepreneurial;
- (b) Using creativity and creative thinking to generate and develop opportunities
- (c) the development of entrepreneurial ways of thinking and doing; and,
- (d) the exploitation of opportunities in the achievement of value.

This practical course will help learners to develop their own ideas and pursue personal achievement by developing and delivering a project that will make a difference in their communities.

The module focuses on the underpinning and fundamental requisites for innovation, new venture creation and successful commercialisation – the entrepreneurial mindset, skills and behaviours of individuals who are seeking to create their own futures and make a difference in their world. It emphasises the importance of developing new ways of thinking and doing; the need for self-reliance and self-belief; the capacity for identifying needs and problems and seeing them as challenges and opportunities; the ability to take action, execute solutions, manage risk and failure and take responsibility for the consequences.

Module Content: The module will focus on the factors shaping personal entrepreneurial activity in practice across a diversity of contexts. It will be concerned with entrepreneurial ways of thinking and doing in practice, the need for entrepreneurial values, opportunity identification and exploitation, personal management of networks, failure and risk, preparing for an entrepreneurial life journey. The syllabus is contextualised to individual learner needs and aspirations through tailored case studies and discipline-specific examples.

Directed and self-directed experiential activity will address the following topics :

- Introduction to the module – what we mean by enterprise, creativity and the entrepreneurial mindset
- Introduction to reflective practice, skills for planning and presentation skills (r*)
- Alternative entrepreneurial role models
- What kind of an entrepreneur are you? Introduction to reflective practice (r*)
- The role of relationships to the entrepreneurial project (r*)
- What it means to be entrepreneurial (r*)
- Creativity and the first steps to getting started (r*)
- Getting off the ground – starting up
- The role of the client – ‘who needs my idea?’ (r*)
- People skills – relationships, negotiation, selling and collaborating (r*)
- Coping with failure – learning to be resilient (r*)
- Entrepreneurial Leadership (r*)
- Continuous Improvement – the quality cycle (r*)

As would be expected from any module based on the Kolb Learning Cycle, those topics identified with (r*) contain strong elements of reflective practice. Reflective practice is used as a pedagogy to embed learning and to enable students to identify their own personal practice in those areas that are inherently unique to each individual. For example – under the topic ‘the role of the client, who needs my idea? The student is encouraged to consider their motivations in taking a product or project to a group (whether a market, a single client or a community). This is based on the finding that the understanding of personal motivations helps the entrepreneurial individual to justify the energy they spend in being resilient in challenging and flexible environments. This has been proven with both nascent and extant entrepreneurs and is one example of ways in which the need for reflective practice is vital to the practice of the entrepreneurial mindset.

Intended Learning Outcomes: By the end of this module, students will be able to:

- A. Critically appraise and discuss personal views and opinions of the need for developing entrepreneurial values, attitudes, behaviours and skills,
- B. Critically evaluate options for initiating entrepreneurial action in order to address a complex social or economic problem or market need,
- C. Formulate an understanding of the complex interactions between social and professional skills and behaviours demonstrated by the entrepreneurial mindset,
- D. Plan and apply findings from personal knowledge and research to test practical application of entrepreneurial activity,
- E. Critically Reflect on personal experience of entrepreneurial practice,
- F. Make conclusions on the skills and practices needed to influence successful personal entrepreneurial practice.

Assessment: Coursework 1 (50%)
Coursework 2 (10%)
Coursework 3 (40%)

Assessment Description: Individual coursework 1 50% Reflective journal - 2000 words
Individual coursework 2 10% Mindmap
Individual coursework 3 40% Report - 1000 words

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Students will receive verbal feedback on the formative assessments of mindmaps, clicker tests and draft reports when they are presented in class. Individual written feedback will be provided to all students on all three summative components.

Failure Redemption: Students will be required to repeat any failed component. In order to make the assessment environment equitable, flexible modes of assessment will be used if deemed appropriate. In addition, students will have been given skills training in mindmapping, reflective journal writing and retrospective evaluation during dedicated workshops during the course. Students requiring additional skills development in order to satisfactorily redeem failure will be assisted to do so.

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

This module is available to students studying at Level 6 in the College of Science where a 20 credit module is required. The module aligns with the new HEAR Swansea Entrepreneurial Leadership Award that recognises entrepreneurial thinking, action and impact.

MN-3576 Menter a Chreadigrwydd: Mentergarwch mewn Ymarfer (Enterprise and Creativity: Entrepreneurship in Practice)

Credits: 20 Session: 2022/23 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr R Bowen

Format: Interactive workshops and practice sessions:

40 Hours (14 workshops 1 hr. plus

14 tutorials 1 hrs. plus 2 hours online learning) over one semester

Directed Private Study: 120 Hours

Delivery Method: Cyflwynir y modiwl hwn trwy ddysgu drwy brofiad cyfeiriedig a hunangyfeiriedig, gweithdai rhyngweithiol ac ymarfer dysgu adfyfyriol. Mae'r modiwl yn dechrau gyda sesiwn dwys 6 awr yn ystod yr wythnos gyflogadwyedd lle caiff yr egwyddorion, sgiliau a hunanymwybyddiaeth sydd eu hangen i ddilyn arferion entrepreneuriaid eu harchwilio a'u datblygu. Cyflwynir y modiwl ar y campws a darperir adborth ffurfiannol trwy brofion clicker yn yr ystafell ddosbarth ac adborth ar greu a chyflwyno mapiau meddwl. Mae'r asesiad terfynol ar ffurf map meddwl diwygiedig ynghyd â chofnod adfyfyriol a gwblhawyd trwy blatfform blog ar-lein.

Module Aims: Nod y modiwl trawsddisgyblaethol generig hwn yw rhoi cyflwyniad i ddysgwyr i: (a) yr arfer o fod yn entrepreneuriaid; (b) defnyddio creadigrwydd a meddwl yn greadigol i greu a datblygu cyfleoedd; (c) datblygu ffyrdd entrepreneuriaid o feddwl a gwneud; ac, (ch) manteisio ar gyfleoedd wrth gyflawni gwerth. Bydd y cwrs ymarferol hwn yn helpu dysgwyr i ddatblygu eu syniadau eu hunain a dilyn cyflawniad personol trwy ddatblygu a chyflwyno prosiect a fydd yn gwneud gwahaniaeth yn eu cymunedau. Mae'r modiwl yn canolbwyntio ar y gofynion sylfaenol ar gyfer arloesi, creu mentrau newydd a masnacheiddio llwyddiannus - meddylfryd entrepreneuriaid, sgiliau ac ymddygiadau unigolion sy'n ceisio creu eu dyfodol eu hunain a gwneud gwahaniaeth yn eu byd. Mae'n pwysleisio pwysigrwydd datblygu ffyrdd newydd o feddwl a gwneud; yr angen am hunanddibyniaeth a hunan-gred; y gallu i nodi anghenion a phroblemau a'u gweld fel heriau a chyfleoedd; y gallu i weithredu, gosod atebion mewn lle, rheoli risg a methiant a chymryd cyfrifoldeb am y canlyniadau.

Module Content: Bydd y modiwl yn canolbwyntio ar y ffactorau sy'n siapia gweithgarwch entrepreneuriaid personol mewn ymarfer ar draws amrywiaeth o gyd-destunau. Bydd yn ymwneud â ffyrdd entrepreneuriaid o feddwl a gwneud yn ymarferol, yr angen am werthoedd entrepreneuriaid, adnabod a manteisio ar gyfleoedd, rheoli personol rhwydweithiau, methiant a risg, paratoi ar gyfer taith entrepreneuriaid mewn bywyd. Mae'r maes llafur yng nghyd-destun anghenion a dyheadau dysgwyr unigol trwy astudiaethau achos sydd wedi'u teilwra ac enghreifftiau sy'n benodol i ddisgyblaeth.

Bydd gweithgaredd profiad cyfeiriedig a hunangyfeiriedig yn mynd i'r afael â'r pynciau canlynol:

- Cyflwyniad i'r modiwl – yr hyn a olygwn wrth fenter, creadigrwydd a'r meddylfryd entrepreneuriaid
- Cyflwyniad i ymarfer adfyfyriol, sgiliau ar gyfer sgiliau cynllunio a chyflwyno (r*)
- Modelau rôl entrepreneuriaid amgen
- Pa fath o entrepreneur ydych chi? Cyflwyniad i ymarfer adfyfyriol (r*)
- Rôl perthynas â'r prosiect entrepreneuriaid (r*)
- Beth mae'n ei olygu i fod yn entrepreneuriaid (r*)
- Creadigrwydd a'r camau cyntaf i gychwyn (r*)
- Cychwyn arni – dechrau arni
- Rôl y cleient – 'pwy sydd angen fy syniad i?' (r*)
- Sgiliau pobl – perthnasoedd, trafod, gwerthu a chydweithio (r*)
- Ymdopi â methiant – dysgu bod yn wydn (r*)
- Arweinyddiaeth entrepreneuriaid (r*)
- Gwelliant parhaus – y cylch ansawdd (r*)

Fel y byddid yn disgwyl gan unrhyw fodiwl sy'n seiliedig ar gylch dysgu Kolb, mae'r pynciau hynny a nodwyd gyda (r*) yn cynnwys elfennau cryf o ymarfer adfyfyriol. Defnyddir ymarfer adfyfyriol fel addysgeg i wreiddio dysgu ac i alluogi myfyrwyr i nodi eu hymarfer personol eu hunain yn y meysydd hynny sydd yn eu hanfod yn unigryw i bob unigolyn. Er enghraifft – o dan y testun 'rôl y cleient, pwy sydd angen fy syniad i?' Anogir y myfyriwr i ystyried ei gymhellion wrth fynd â chynnyrch neu brosiect i grp (boed yn farchnad, yn gleient sengl neu'n gymuned). Mae hyn yn seiliedig ar y canfyddiad bod y ddealltwriaeth o gymhellion personol yn helpu'r unigolyn entrepreneuriaid i gyfiawnhau'r egni a werir ganddo i fod yn wydn mewn amgylcheddau heriol a hyblyg. Profwyd hyn gydag entrepreneuriaid egin a rhai sydd mewn bodolaeth ac mae'n un enghraifft o ffyrdd y mae'r angen am ymarfer myfyriol yn hanfodol i arfer y meddylfryd entrepreneuriaid.

Intended Learning Outcomes: Ar ôl cwblhau'r modiwl hwn dylai myfyrwyr allu:

- A. Arfarnu'n feirniadol a thrafod safbwyntiau a barn bersonol am yr angen i ddatblygu gwerthoedd, agweddau, ymddygiad a sgiliau entrepreneuriaid,
- B. Gwerthuso'n feirniadol opsiynau ar gyfer cychwyn gweithredu entrepreneuriaid er mwyn mynd i'r afael â phroblem gymdeithasol neu economaidd gymhleth neu angen yn y farchnad,
- C. Llunio dealltwriaeth o'r rhyngweithio cymhleth rhwng sgiliau cymdeithasol a phroffesiynol ac ymddygiad a ddangosir gan feddylfryd entrepreneuriaid ,
- CH. Cynllunio a chymhwyso canfyddiadau o wybodaeth bersonol ac ymchwil i brofi cymhwysiad ymarferol gweithgaredd entrepreneuriaid,
- D. Adfyfyrio'n feirniadol ar brofiad personol o ymarfer entrepreneuriaid,
- DD. Llunio casgliadau ar y sgiliau a'r arferion sydd eu hangen i ddylanwadu ar arferion entrepreneuriaid personol llwyddiannus.

Assessment:	Coursework 1 (10%)
	Coursework 2 (30%)
	Coursework 3 (60%)

Assessment Description: Coursework 1 – Mindmap (10%): The student will submit a mindmap on 1 sheet of A3 which describes their understanding of the views and opinions of entrepreneurial values, attitudes, behaviours and skills as well as options for initiating action to address complex problems (learning outcomes A, B and C). The mindmap has an indicative word count of 500 words but will be marked according to criteria relating to the understanding of the complexity and inter-relationships of the entrepreneur with their activity.

Coursework 2 – Report (30%): The student will submit a typed report of no more than 1000 words which describes their findings having tested practical application of entrepreneurial activity (Learning outcome D). The evaluation report will be marked according to criteria relating to the student's description and evaluation of the various choices and options that they utilised in undertaking their project.

Coursework 3 – Reflective journal (60%): The student will produce an online reflective journal or blog (Web Log) which charts the changes in their understanding of entrepreneurial mindset, their ability to create and exploit ideas and recognise opportunities as well as reflect upon their ability to do so. This activity will assess learning outcomes E and F listed above relating to applying findings, critical reflection and making conclusions. Indicative word count: 1500

Moderation approach to main assessment: Second marking as sampling or moderation

Assessment Feedback: Bydd myfyrwyr yn derbyn adborth ar lafar ar yr asesiadau ffurfiannol o fapiau meddwl, profion clicker ac adroddiadau drafft pan fyddan nhw'n cael eu cyflwyno yn y dosbarth. Rhoddir adborth ysgrifenedig unigol i bob myfyriwr ar bob un o'r tair cydran grynodol.

Failure Redemption: Bydd yn ofynnol i fyfyrwyr ailadrodd unrhyw gydran sydd wedi methu. Er mwyn sicrhau bod yr amgylchedd asesu yn deg, defnyddir dulliau asesu hyblyg os tybir bod hynny'n briodol. Yn ogystal, bydd myfyrwyr wedi derbyn hyfforddiant sgiliau mewn mapio meddwl, ysgrifennu dyddlyfr adfyfyriol ac ôl-werthusiad yn ystod gweithdai pwrpasol yn ystod y cwrs. Bydd myfyrwyr y mae angen iddynt ddatblygu sgiliau ychwanegol er mwyn sicrhau methiant yn foddhaol yn cael cymorth i wneud hynny.

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

This module is available to all students across colleges. The module aligns with the HEAR Swansea Entrepreneurial Leadership Award that recognises entrepreneurial thinking, action and impact. This module can be selected as an elective module subject to the permission of the Programme Director within your college, or for extra credit.