Swansea University
Prifysgol Abertawe

FACULTY OF SCIENCE AND ENGINEERING

UNDERGRADUATE STUDENT HANDBOOK

FOUNDATION (FHEQ LEVEL 3)

FOUNDATION GEOGRAPHY

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 [insert Department]	Dr Kevin Rees
[insert programme] 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 0 (FHEQ Level 3) 2023/24
Geography (BSc)
BSc Geography[FL87]

Compulsory Modules

Semester 1 Modules	Semester 2 Modules
CH-012 **Foundational Scientific Skills** **20 Credits** **Prof SG Bott/Dr DW Forman**	**BIO019** **Techniques in Ecology and Biogeography** **20 Credits** **Dr MJ Perkins/Dr AP Devine/Dr WE Harris**
GE-007 **Foundation Physical and Environmental Geography** **20 Credits** **Dr NJ Felstead/Dr HH Harper**	**GE-008** **Foundations in Human Geography** **20 Credits** **Dr JF Maddern**
Total 120 Credits	

Optional Modules

Choose exactly 40 credits

CH-005 and CH-010 MUST be selected together. GE-007 and GE-008 MUST be selected together.

BIO012	Foundation Biology	Dr KAR Rose	TB1	20
BIO016	Molecular Biology and Biochemistry	Dr MPS Gwilliam	TB2	20
CH-005	Elementary Chemistry	Prof SG Bott	TB1	20
CH-010	Reactions and Products	Prof SG Bott	TB2	20

BIO012 Foundation Biology

Credits: 20 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr KAR Rose

Format: Contact hours will include a blend of on-campus lectures (x 16), workshops (x 3) and practical sessions (x 3), and online activities.

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

Blended learning (lectures, practicals)

Module Aims: This module will provide the learner with a detailed and holistic overview of fields in biology including evolution, cell biology, taxonomy and phylogenetics, animal, and plant anatomy and physiology, animal behaviour, ecology, and conservation. The module is supported by three practical sessions designed to build skills in scientific anatomical drawing, the use of species identification keys, data collection handling and report writing, group work, and oral presentation skills.

Module Content: The module includes the following lecture and practical material:

Lectures

- Course introduction
- Evolution
- Taxonomy, phylogeny, and systematics
- Plant and animal cells
- Basic animal anatomy
- Basic plant structure and physiology
- Chordate diversity
- Amniote diversity and basic physiology
- Animal behaviour
- Population Ecology
- Community Ecology
- Revision

Additional classes will be held for in-class tests (formative and summative) and coursework support.

Practicals
(1) Barn owl dietary analysis and identification of small mammals from their skull and jaw anatomy
(2) Animal taxonomy
(3) Roles of plant and animal colouration in nature

Workshops
There will also be three workshops to facilitate a groupwork assignment for practical 3.

Intended Learning Outcomes: 1. The processes involved in evolution
2. The structure and function of animal and plant cells
3. Distinguishing characters of major animal phyla
4. Interpreting phylogenetic trees
5. The structure and function in plant and animal anatomy and physiology
6. The mechanisms involved in animal behaviour and adaptation, including innate and learned behaviour
7. Patterns and processes in population and community ecology

Assessment:
Examination (50%)
Coursework 1 (20%)
Coursework 2 (15%)
Coursework 3 (15%)

Assessment Description: Assignment 1. Anatomical Drawings and taxonomy quiz
Assignment 2. Barn owl diet report and anatomical drawings
Assignment 3. Group PowerPoint oral presentation on colour in nature

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

Assessment Feedback: Assignments - written feedback will be provided for each student, and a general overview will be provided during the feedback lecture. There will also be a written generic overview provided on Canvas.

Formal examination - written generic overview of exam performance provided on Canvas

Failure Redemption: Re-submission of continual assessment, re-examination (MCQ examination),

Reading List: Neil A. Campbell 1946-2004 author., Lisa A. Urry author.; Michael L Cain (Michael Lee), 1956- author.; Steven Alexander Wasserman author.; Peter V. Minorsky author.; Rebecca B. Orr author., Biology : a global approach / Neil A. Campbell, Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky, Rebecca B. Orr., Harlow : Pearson Education Limited, 2021.ISBN: 9781292341699
Neil A. Campbell 1946-2004, author., Lisa A. Urry author.; Michael L Cain (Michael Lee), 1956- author.; Steven Alexander Wasserman author.; Peter V. Minorsky author.; Jane B. Reece author., Biology : a global approach / Neil A. Campbell, Lisa A. Urry, Michael L. Cain, Steven A. Wasserman, Peter V. Minorsky, Jane B. Reece,, Harlow : Pearson Education Limited, 2018.ISBN: 9781292170442

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 or exchange students with exception of those within the College's existing exchange
programmes

BIO016 Molecular Biology and Biochemistry

Credits: 20 Session: 2023/24 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr MPS Gwilliam

Format: 15 hours lectures,
9 hours practical sessions (3 x 3 hours), two workshop sessions (2x 3 hours)
2 hour revision session
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: BIO016 is currently delivered using a "flipped approach", whereby lecture content is released via the Canvas Digital Learning Platform before the lectures each week. This allows for students to study and fully prepare for 'in-person lectures'. The lectures are delivered less formally allowing for more student- lecturer interaction- including extra activities such as problem solving, practical / computer activities, in-class discussion and quizzes. In person sessions are also recorded and made available (where feasible) for future use by the student on Canvas. Additional self directed learning activities are outlined in the lectures and on canvas each week. Additionally three practical laboratory sessions are run during the module where students can apply their knowledge and develop essential laboratory skills

Module Aims: This module introduces the identification and role of essential macromolecules within a cell and their basic biochemical processes. Lectures and laboratory-based practicals will explore the core concepts of molecular biology and the practical application of molecular techniques. Lectures will cover the fundamental cellular chemistry that is necessary to understand the molecular nature of cells and the processes involved in maintaining life. Practicals will develop this learning to investigate specific molecular applications utilised in real-life situations, and also provide context to how and why gene regulation occurs. The workshop sessions explore the applications of molecular biology to wider society exploring topics such as science communication, ethics, vaccines and genetic modification

Module Content: This module will use a combination of lectures (20 x 1 hour) and practicals (3 x 3 hours). Practicals will use specific examples highlighted in the lectures to put the theory-based learning into a real-world context. The topics covered will explore how molecular tools can be used to in crime investigations, identification of disease causing agents, assessing human/animal relatedness, sources of contamination and more, and how genes are regulated and why.

The syllabus is split into four major themes:
1. Molecules: the stuff of life – Chemistry, carbohydrates, proteins, lipids, DNA and RNA
2. The working cell – Metabolism, cellular respiration and photosynthesis
3. Molecular Genetics – DNA synthesis, transcription, translation and gene regulation
4. Tools of Molecular Biology – Recombinant DNA technology, molecular techniques and genomics.

Practical classes:
1. Will investigate different methods to identify macromolecules
2. Will apply concepts of gene regulation and biochemistry. You will perform a Dinitro Salicylic Acid (DNS) method and a calibration curve for carbohydrates which will allow you to estimate the amount of sugar in different solutions; you will also relate these results with the type/amount of enzymes produced under specific substrates
3. Will apply the principles of restriction analysis and electrophoresis to cleave, separate and visualize DNA fragments. We will see how these techniques can be combined to obtain a DNA fingerprint and undertake our own crime scene investigation.

Specific skills employed include: Aseptic technique, molecular techniques, micropipette handling, identification of substances via basic chemistry techniques, generating and devising how to present data to allow critical analysis.

E-learning
Additional resources provided on Canvas.

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

LO1) Identify essential macromolecules within a cell environment
LO2) Show an understanding of the role of the macromolecules and their regulating mechanisms
LO3) Show an understanding of cell structure and metabolism
LO4) Show an understanding of the most common techniques used in molecular biology

Assessment:
Examination 1 (50%)
Coursework 1 (16%)
Coursework 2 (16%)
Coursework 3 (18%)

Assessment Description: E1 - 50% MCQ (75 questions in 2 hours)
CW1- 16% Macromolecules lab report
CW2- 16% Gene regulation lab report
CW3- 18% CSI Swansea lab report

Moderation approach to main assessment: Not applicable

Assessment Feedback: Individual written constructive feedback of how to improve the work will be given for each piece of coursework. Contact the lecturer for further feedback by email or discuss after lecture / during 'open office' hours.

Failure Redemption: Re-submission of coursework, re-sit of examination

Reading List: Campbell, Neil A., 1946-2004., Biology a global approach, Pearson, 2021.ISBN: 9781292341699
Campbell, Neil A., 1946-2004, author., Urry, Lisa A., author.; Cain, Michael L. (Michael Lee), 1956- author.; Wasserman, Steven Alexander, author.; Minorsky, Peter V., author.; Reece, Jane B., author., Biology : a global approach, Pearson Education Limited, 2018.ISBN: 9781292170442

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 or exchange students with exception of those within the school's existing exchange programmes.

BIO019 Techniques in Ecology and Biogeography

Credits: 20 Session: 2023/24 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr MJ Perkins, Dr AP Devine, Dr WE Harris

Format: 23 hours lectures
2 hours revision sessions
16 hours practical sessions (4 x 4 hours)

Delivery Method: Blended learning (lectures, practicals and e-learning)

Module Aims: This module builds on the principles of ecology and biogeography, incorporating appropriate terminology and techniques required for field work. You will learn about the major biomes and their characteristics, and the techniques to survey the plants and animals within them. Alongside these topics, you will develop key skills to support you working safely and competently in the field, and the knowledge to plan and carry out robust surveys.

Module Content: Direct teaching (approximate time allocation in brackets)

Introduction to ecological studies (1 hour)
The distribution of ecological communities over space and time (1 hour)
Key terrestrial and aquatic biomes and their associated characteristics (3 hours)
Prior considerations, including health and safety in the field, preparing risk assessments, recording keeping (1 hour)
An introduction to wildlife legislation (1 hour)
Using maps and GPS (1 hour)
Managing your data (1 hour)
Monitoring site characteristics (1 hour)
Sampling static organisms (1 hour)
Sampling mobile organisms (1 hour)
Survey techniques for specific animal groups (6 hours)
Examining community structure (1 hour)
Assessment workshops (3 hours)
Revision session (2 hours)

Practicals
The course will be supplemented by 4 practical sessions (4 x 4 hours). This will include:
- Orienteering around campus; aquatic invertebrate surveys; terrestrial invertebrate and terrestrial mammal surveys; dune succession survey
Attendance at practicals is mandatory for successful completion of this module

E-learning
Additional resources provided on Canvas will include relevant articles, useful websites, and interactive quizzes to support revision and learning

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

LO1) Discuss the basic principles of ecology and biogeography
LO2) Outline the key terrestrial and aquatic biomes and their associated characteristics
LO3) Identify the factors that limit geographic range of organisms, considering dispersal and mechanisms of movement
LO4) Be familiar with how the distribution of ecological communities may change over space and time.
LO5) Use maps and GPS effectively, record grid position
LO6) Design a simple field experiment using appropriate experimental design; choose survey techniques for a range of plant and animal groups
LO7) Choose and use basic keys/guides to identify species
LO8) Keep accurate records in the field and work safely in various environments
LO9) Develop skills required to write a scientific report to a professional standard

Assessment:	Examination 1 (50%) Coursework 1 (15%) Coursework 2 (15%) Coursework 3 (20%)
Assessment Description: Coursework 1 - 15% Biomes practical report Coursework 2 - 15% Aquatic invertebrates practical report (500 words) Coursework 3 - 20% Terrestrial invertebrates and mammal survey report (500 words) Exam - MCQ (75 questions) in 2 hours	
Moderation approach to main assessment: Moderation by sampling of the cohort	
Assessment Feedback: Direct general feedback during lectures and practical sessions, general feedback provided via Canvas (due to term ending), formal feedback session to discuss examination results	
Failure Redemption: Re-submission of coursework, re-sit of examination	
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 or exchange students.	

CH-005 Elementary Chemistry

Credits: 20 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof SG Bott

Format: 44 hours of workshops and lectures
156 hours of independent study and assessment preparation

Delivery Method: Flipped content, active classrooms, workshops, peer-led learning.

Module Aims: This module will introduce students to the concept of atomic structure and electron configuration, inter- and intra- molecular forces, bonding and molecular structures. Through a series of interactive workshops, students will apply this knowledge in order to be able to describe and explain periodicity, the properties of groups and the observed trends, and to predict the shape and simple structures of molecules and ions. Students will also be introduced to acids, bases and pH, Avogadro's constant, simple molecular calculations and the concept of an ideal gas. Students will also become familiar with organic molecules, their functional structures and their uses. This module will form the bridge to help students to transition from GCSE and A-level Chemistry, building a strong foundation for Chemistry at Level 4.

Module Content: - electromagnetic spectrum and atomic spectra
- atomic structure and electron configuration;
- molecular formulas;
- the mole and molar mass
- organic molecules and functional groups;
- trends across and down the periodic table;
- predicting structure and shapes of simple molecules and ions;
- inter- and intra-molecular forces and bonding;
- states of matter and phase diagrams;
- gas laws and the Ideal Gas equation.
- acids, bases
- molar calculations of concentration

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

- describe atomic structure and electron configuration and use this to explain periodicity, inter and intro-molecular interactions and bonding, as well as simple molecular and atomic structures;

- perform basic molar calculations;

- draw simple organic molecules and recall functional groups

- critically evaluate and solve problems on chemical concepts

Assessment: Examination (50%)
Assignment 1 (25%)
Coursework 1 (5%)
Coursework 2 (5%)
Coursework 3 (5%)
Coursework 4 (5%)
Coursework 5 (5%)

Resit Assessment: Examination (100%)

Assessment Description: -Examination
-Courseworks are biweekly workshops - there are 5 x 5% assignments
-Assignment 1 are weekly on Canvas - there are 10 x 2.5% quizzes.

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

Assessment Feedback: Students will receive verbal, written and online feedback, both formative and summative and at regular intervals.

Failure Redemption: Resit exam worth 100%

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

Module code reserved by j.d.stanford on 27/02/2018 15:46:41

CH-010 Reactions and Products

Credits: 20 Session: 2023/24 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof SG Bott

Format: 44 hours of workshops and classes
156 hours of independent study and assessment preparation
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

Flipped content, active classrooms, workshops, peer-led learning.

Module Aims: This module will introduce students to theories and laws that underpin our knowledge of atomic and molecular interactions/reactions. It will start with discussions and calculations for chemical equations. Thermodynamics will be include equilibrium, enthalpy, entropy, Gibbs Free Energy, calorimetry and Hess' Law (including,Born-Haber cycles and Le Chatelier's Principle). Simple kinetics and rate laws including catalysis will be introduced. A variety of simple and fundamental organic reactions will be introduced including but not limited to electrophilic and nuleophilic addition and substitution. This module will form the bridge to help students to transition from GCSE and A-level Chemistry, building a strong foundation for Chemistry at Level 4.

Module Content: Chemical Equations and Stoichiometry

Calorimetry, Enthalpy, Hess’ Law, Born-Haber cycles

Rate of reaction and rate laws, the Arrhenius equation, simple Collision theory

Equilibrium including Le Chatelier's Principle (including workshop on the quadratic equations)

Acid-base reactions including titrations and buffer calculations

Entropy;

Gibbs free energy

Oxidation, reduction and redox reactions

Electrochemical potential and Galvanic cells

Electrolysis

Nucleophilic addition and substitution reactions

Electrophilic addition and substitution reactions

Elimination reactions

Organic redox reactions

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

- Perform standard stoichiometric calculations

- Define and use the standard enthalpy of combustion and formation, molar enthalpy changes (calorimetry) and Hess's Law.

- Construct lattice enthalpies and enthalpies of hydration.

- Apply the concept of entropy to explaining various reaction properties

- Combine enthalpic and entropic considerations to predicting the spontaneity of reactions

- Calculate the Gibbs free energy of a reaction using multiple procedures

- Use collision theory to explain why small increases in T can increase a rate of reaction and to understand why pressure and concentration can effect the rate of reaction.

- Apply simple mechanistic considerations (reaction coordinate, intermediate, slow step, catalysis)

- Perform calculations using the rate equation and explain qualitatively how changes in T affect the rate constant.

- Use Le Chatelier's Principle to qualitatively predict the position of equilibrium, when T, P or C is changed.

- Perform calculations with Kc and Kp and derive partial pressures from the mole fraction and total pressure.

- Perform multiple types of calculations associated with acids and bases

- Construct, balance and apply redox reactions

- Determine the potential of electrochemical reactions

- Predict the products of electrolytic processes

- Predict the products and explain mechanisms of simple organic reactions

- Critically evaluate and solve problems on chemical concepts

Assessment:	Assignment 1 (25%) Examination (50%) Online Class Test (25%)
Resit Assessment:	Examination (Resit instrument) (100%)

Assessment Description: -Examination
-Assignments are biweekly workshops - there are 5 x 5% assignments
-Online quizzes are weekly on Canvas - there are 10 x 2.5% quizzes.

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

Assessment Feedback: Students will receive verbal, written and online feedback, both formative and summative and at regular intervals.

Failure Redemption: A suitable alternative supplementary assessment will be provided, in line with University policy.

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

Module code reserved by j.d.stanford on 27/02/2018 15:46:41

CH-012 Foundational Scientific Skills

Credits: 20 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Prof SG Bott, Dr DW Forman

Format: 30 hours of workshop
4 drop-in support sessions (2 hours each)

Delivery Method: A composite of workshops supported by blended and flipped learning

Module Aims: This module is designed to develop the core analytical skills of foundation year students in Biosciences, Chemistry and Geography

The module focuses on the elements of data analysis and scientific communication, drawing to together these important skills to develop a critical approach to learning in science.

Students will be guided through the process of researching and writing a literature review on a pertinent topic in their subject. Workshops will focus on the different stages of research and writing and will be supported in developing these skills through group activities and short weekly tests. Students will also develop their literature review topic into a scientific poster - a valuable skills for future academic study. In the second part of this module, students continue to develop analytical skills through the introduction of experimental design and hypothesis testing as well as some of the key methods of presenting and analysing data.

All coursework will be submitted electronically via TURNITIN to ensure compliance with the University's policies on plagiarism.

Module Content: The material is divided into 3, sometimes overlapping areas:

Maths:

Numbers
Roots
Exponent
Algebra
Graphs

Data and Analysis

What are data
Introduction to Excel
Displaying data
Descriptive and inferential statistics
Introduction to SPSS

Scientific Communication

Scientific writing and presentation
Find and using literature
Appropriate referencing
Academic misconduct
Introduction to literature reviews
Poster presentations

Intended Learning Outcomes: Students will be able to:

LO1 - Conduct an effective literature search
LO2 - Describe, summarise and clarify scientific information
LO3 - Identify and articulate the relationships between the literature
LO4 - Format, reference and structure a scientific review
LO5 - Summarise information through the production of a scientific poster
LO6 - Discuss and implement the scientific method and hypothesis formulation
LO7 - Rearrange and solve simple algebraic problems;
LO8 - Recognise and use different functions of x;
LO9 - Distinguish variables and generate different types of data (counts, percentages)
LO10 - Generate frequency distributions and report data in an appropriate form (graphs and tables)
LO11 - Be able to comprehend descriptive and inferential statistics
LO12 - Perform simple statistical analyses

Assessment: Assignment 1 (20%)
Assignment 2 (25%)
Assignment 3 (25%)
Assignment 4 (15%)
Assignment 5 (15%)

Assessment Description: Assignment 1 (20%) - Scientific Poster
Assignment 2 (25%) - Literature Review
Assignment 3 (15%) - Data analysis report
Assignment 4 (25%) - Displaying data report
Assignment 5 (15%) - maths online quizzes

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

Assessment Feedback: Individual written feedback on literature review
Individual written feedback on poster
Individual feedback on displaying data report
Individual feedback on data analysis report
Automatic feedback on the maths quizzes

Failure Redemption: Redo the failed components

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

Module not available to visiting or exchange students with exception of those within the school's existing exchange programme

GE-007 Foundation Physical and Environmental Geography

Credits: 20 Session: 2023/24 September-January

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr NJ Felstead, Dr HH Harper

Format: 20 hours (online delivery lecture and practical classes) covid-19 restrictions permitting. 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

Delivery of course through on-line and on campus dependent upon covid-19 restrictions (synchronous and asynchronous material).

Delivery of course through outdoor face-to-face practical classes – these activities will be formative in nature and are dependent upon UKGOV, WG and University Health and safety guidance – and appropriate timetabling.

Module Aims: This module complements topics taught in the Foundation Human Geography module (GE-008), to give an understanding of physical geography and the environment.

The module considers the impacts of physical geography processes on human habitation, and how humans might mitigate against the effects of nature's extreme events. It also examines the complex issues surrounding human impacts on the landscape.

Foundation Physical & Environmental Geography will pave the way for students to study Geography at Level 4 (Year 1).

Module Content: GE-007 uses the following broad themes/issues to explore physical geography systems and processes, and human impacts on - and relationships with - the natural environment:

- Coastal processes
- Weather and climate
- Quaternary Research / the Anthropocene
- Rivers
- Geomorphology
- Desertification
- Earth science
- Renewable energy
- Erosion and weathering

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

- Understand and describe key physical geography systems and processes;
- Identify and give examples of features and landforms associated with key physical geography systems and processes;
- Demonstrate an awareness of the complex issues that surround human interactions with environments; and
- Show an appreciation of issues involved in hazard mitigation and landscape management.

Assessment: Assignment 1 (34%)
Assignment 2 (33%)
Assignment 3 (33%)

Resit Assessment: Examination (100%)

Assessment Description: Assessment revised to comprise: 4 x Short answer written questions (comprising c. 4-5 questions) set throughout the course Best three marks to comprise the module mark

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

Assessment Feedback: Generic feedback on coursework via lectures synchronous and possibly Canvas. Individual feedback on exam performance via tutorial system.

Failure Redemption: Resit examination in August (essay)

Reading List: David. Waugh, Geography : an integrated approach / David Waugh., Nelson Thornes, 2009.ISBN: 9781408504079
Marshak, Stephen, 1955- author., Earth : portrait of a planet, W.W. Norton & Company, Inc., 2019.ISBN: 9780393617511
Stephen Marshak 1955- author., Earth : portrait of a planet / Stephen Marshak., New York : W.W. Norton & Company, 2015.ISBN: 9780393937503
Stephen Marshak 1955-, Earth : portrait of a planet / Stephen Marshak., W. W. Norton, 2012.ISBN: 9780393118261
Marshak, Stephen, 1955- author., Earth : portrait of a planet, W.W. Norton & Company, Inc., 2019.ISBN: 9780393617511

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

Only available to students enrolled on Science Foundation Year in Geography.

GE-008 Foundations in Human Geography

Credits: 20 Session: 2023/24 January-June

Pre-requisite Modules:

Co-requisite Modules:

Lecturer(s): Dr JF Maddern

Format: 20 hours of lectures. Contact Hours will be delivered through on-campus lectures and will be recorded where facilities exist.

Delivery Method: The course is delivered in person on campus. Materials and recordings will be made available via Canvas, the online learning platform.

Module Aims: An introduction to human geography concepts and themes from the perspective of contemporary research. The material covered builds on the WJEC A-level syllabus and focuses on the areas of development, globalisation and sustainability. Development is a continuing concern of geographers while the economic, political, social and environmental aspects of Globalisation increasingly impact on people and places. Themes relating to Sustainability (Sustainable Water, Sustainable Energy, Sustainable Population and Sustainable Cities) draw attention to the complexities and the management of a sustainable planet. The course provides a bridge between A-level and University level study.

Module Content: Outline of typical lecture topics:

Introduction

Development
- development as a value-laden and contested concept
- development as state and process
- introduction to key development theories

Globalisation
- economies aspects
- political aspects
- social aspects
- environmental aspects

Sustainability
- Sustainable Water
- Sustainable Energy
- Sustainable Population
- Sustainable Cities

Summary and Revision Session

Intended Learning Outcomes: The module is designed to encourage students to:
- develop and apply their understanding of geographical concepts and processes to understand and interpret our changing world.
- develop their awareness of the complexity of interactions within and between societies, economies, cultures and environments at scales from local to global

By the end of this module, the student should be able to:

- extend their understanding of geographical ideas, concepts and processes
- identify and analyse the connections between the different aspects of geography
- analyse and synthesise geographical information in a variety of forms and from a range of sources
- consider new ideas and developments about the changing nature of geography in the 21st century;

Assessment:
Presentation (10%)
Coursework 1 (10%)
Coursework 2 (40%)
Examination (40%)

Assessment Description: 1) Student presentation

Students should sign up to partake in and lead one 10 minute presentation addressing the questions in the seminar preparation sheet, which includes doing the preparatory reading.

2) The essay plan is a chance to get formative feedback before the essay. It should contain an introduction, thesis statement, a main body, a conclusion and an annotated bibliography.

3) The essay is a 1,500 word piece of work in which students choose 1 out of 5 questions to answer, which relate to the course themes. Students are able to take advantage of the opportunity to get formative feedback on an essay plan, several weeks prior to submitting their essay. They are also supported through 4 workshop sessions on academic writing and referencing skills delivered by CAS.

4) A MCQ exam is provided to students during the May / June exam period using inbuilt Canvas quiz facilities. Students are given an opportunity to practice multiple choice quizzes in the last week of term during a dedicated revision session using live, interactive quiz software.

Moderation approach to main assessment: Not applicable

Assessment Feedback: Feedback is given at several points:
1) After the presentation (oral)
2) After the essay plan (written)
3) After the essay (written with rubrics).
Feedback meetings are available at any time on request.

Failure Redemption: Resit examination in August exam period.

Additional Notes: The primary aim of this module is to provide the participants with the relevant background information on human geography which is an essential base for all geographers at degree level. This module is only available to students studying a Foundation Year within the Faculty of Science and engineering. Not available to visiting or exchange students.