

University of Plymouth

Faculty of Science and Environment

School of Geography, Earth and Environmental Sciences

Programme Specification

BSc (Hons) Environmental Science

Programme Code 4704

BSc (Hons) Environmental Science (Integrated)

Programme Code 4393

Sept 2022

1. **BSc (Honours) Environmental Science**

Final award title:

BSc (Honours) Environmental Science

Level 5 Intermediate award title:

Diploma of Higher Education (DipHE)

Level 4 Intermediate award title:

Certificate of Higher Education (CertHE)

UCAS code: F850

JACS code: F750

2. **Awarding Institution:** University of Plymouth

Teaching Institution: University of Plymouth

3. **Accrediting body(ies)**

BSc (Hons) Environmental Science is accredited by the Institute of Environmental Sciences (IES), through the education committee of IES and the Committee of Heads of Environmental Sciences (CHES). The result of this accreditation is that all students on the programme can apply for free student membership of the institution.

Summary of specific conditions/regulations of CHES-IES accreditation:

UK accreditation information is available at <https://ches.info/>.

Briefly, honours programmes should fall within the remit of the Benchmark Statement for Earth Sciences, Environmental Sciences and Environmental Studies (ES3): [Earth Science, Environmental Science and Environmental Studies \(2019\)](#).

Accredited programmes are scrutinised for alignment with QAA Benchmark Statements, programme aims and the development of environmental professional outcomes for students within the programme.

Date of re-accreditation: Following successful initial scrutiny, accreditation remains current whilst the university retains membership of IES.

4. Distinctive Features of the Programme and the Student Experience

- An **interdisciplinary programme** that integrates relevant aspects of scientific inquiry in physical, chemical and biological sciences and in cultural systems in a systematic way;
- The application of scientific knowledge, research skills and life skills to form a strong discipline identity built upon the concepts of social, economic and environmental sustainability and their interactions with resources, ecosystem services and the principles and tools of environmental management (Figure 1);
- Engagement with the professional body, IES;
- Flexibility to study **specialist areas** in depth as well as maintaining academic breadth;
- A curriculum in which theoretical concepts that are brought to life and applied through progressively more complex and **independent research projects** are carried out from the planning phase through field and laboratory work to data analysis, interpretation and communication;
- Teaching and learning that is underpinned and informed by **award-winning, internationally-recognised research** across the contributing disciplines;
- Use of authentic tasks that mimic **professional practice** throughout the curriculum, and opportunities for both work-based learning and a placement year leading to the University's Certificate of Professional Practice;
- Intensive skills and professional development through **extensive fieldwork and laboratory sessions**, including residential fieldwork;
- **Student support** via personal tutoring, personal development planning (PDP) and a Peer Assisted Learning Scheme (PALS);
- Opportunities for international **student exchange**;
- Access to **excellent facilities**, including LabPlus, a unique, hands-on facility for project-oriented independent learning, ISO 9001-accredited laboratories, and professional diving through the Marine Station.

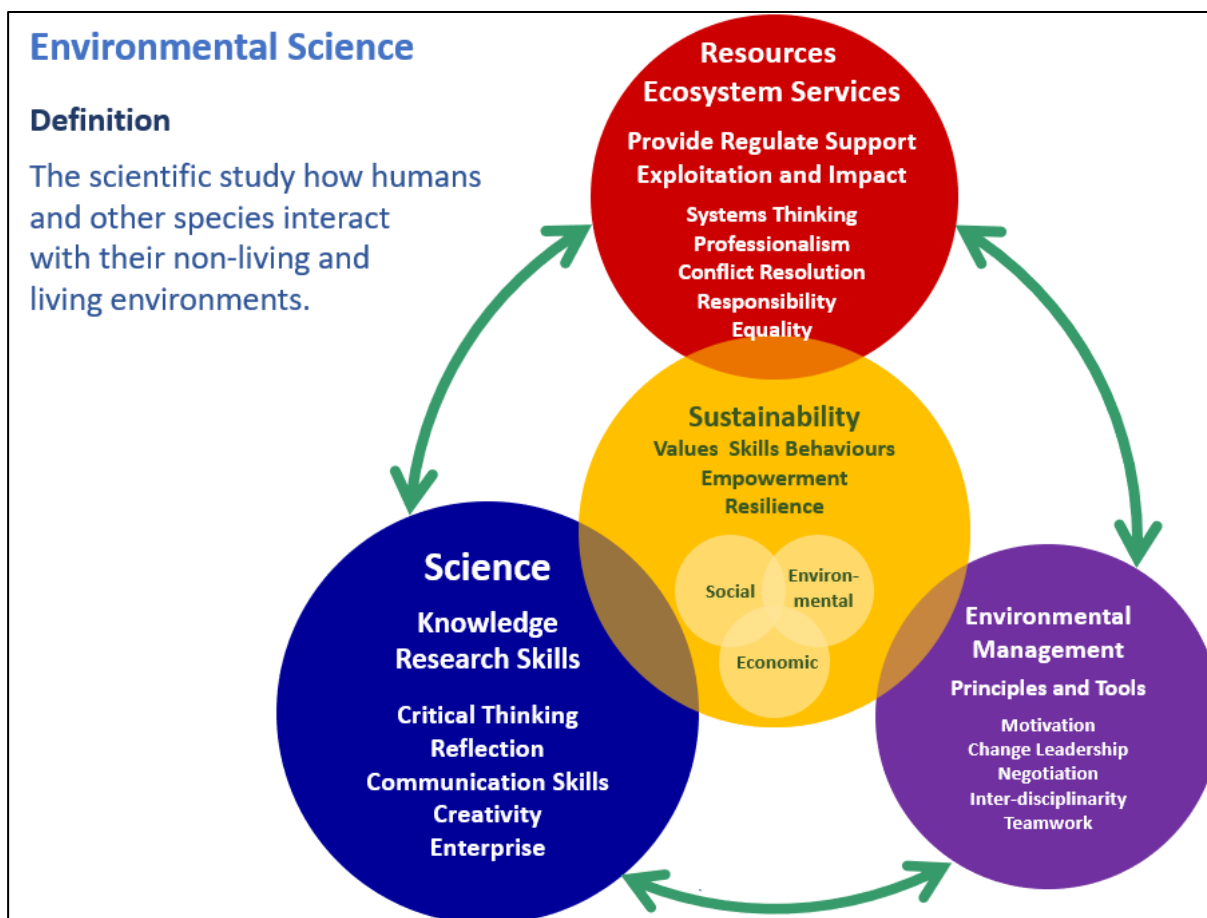


Figure 1. BSc Environmental Science discipline identity

5. Relevant QAA Subject Benchmark Group(s)

The Environmental Science programme closely adheres to the format identified in the subject benchmark statements for ES3: <https://www.qaa.ac.uk/docs/qaa/subject-benchmark-statements/subject-benchmark-statement-earth-sciences-environmental-sciences-and-environmental-studies.pdf> .

6. Programme Structure

The structure of the programme is shown in Figure 2. Students benefit from a programme of core modules which, over the three stages, provide the underlying principles required for an environmental scientist. The core modules in Stage 1 ensure that later stages of the programme have the appropriate underpinning required. The integrated programme consists of Stage 1 of the standard programme together with the module ILS1005, Interactive Learning Skills and Communications. Successful completion of both of these components allows students to proceed to Stage 2 of the standard programme.

BSc (Hons) Environmental Science from 2021-22

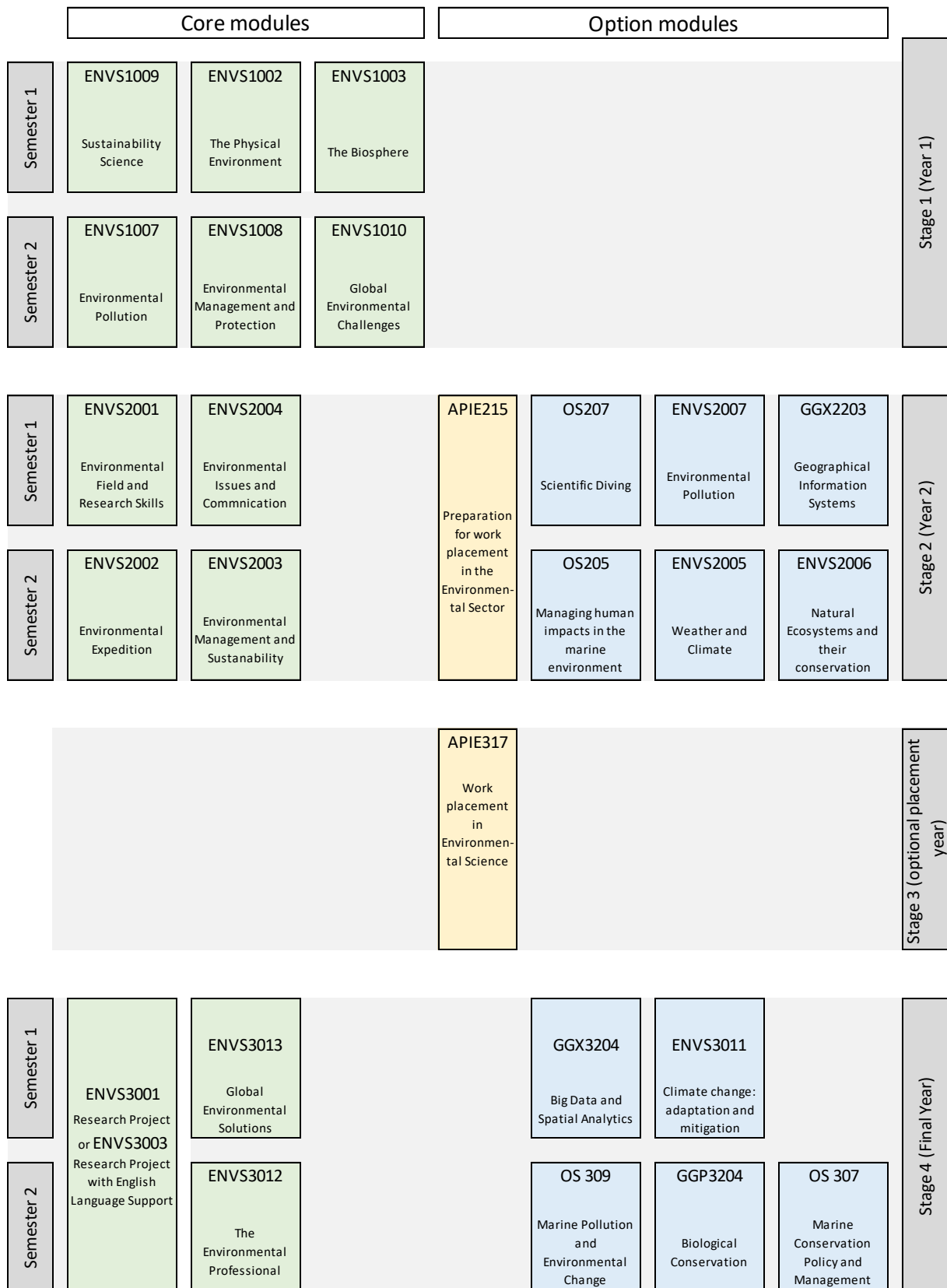


Fig 2. Structure diagram for BSc Hons Environmental Science

6.1. Stage 1

- Stage 1 comprises six core modules (three running concurrently in each semester) that deliver subjects concerned with the principles and practice of environmental science and sustainability.
- Stage 1 is designed to give students from diverse backgrounds a common, excellent standard of knowledge in environmental science. The depth and breadth of knowledge is highly appropriate to their progression to stage 2.
- Stage 1 has a tutorial scheme designed to support specific compulsory assessments within the tutorial-based module in each semester and which link clearly to the principles and practice covered in the other stage 1 core modules. Within the tutorials, students will also pursue a programme of activities that is designed to enhance their study and key graduate skills and this will link closely with personal development planning (PDP).

6.2. Stage 2

- Stage 2 is arranged so that all students study four core modules and two optional modules (see Figure 1).
- Two core modules and one optional module run in parallel in each semester.
- The field programmes and their preparation are incorporated into the Semester 2 Environmental Expedition module (ENVS2002). The field activities will take normally place in the period between March and May with both residential and non-residential options available. Within ENVS2002, the development of an understanding of what is involved in research design and execution is key to preparing students for their Stage 4 project (for ENVS3001, see below).
- Students select two optional modules from those available (see Figure 2). These will normally be decided at the end of Stage 1. Students will be offered advice on module selection by the module leaders, the Stage 2 Tutor and their personal tutor.
- Students are expected to engage with their career development and complete the Stage 2, Semester 1 (zero credit) module APIE215 Preparation for Environmental Sector Work. This module also prepares for the (optional) placement year in Stage 3. We recognise the value of placement learning for students in fulfilling professional imperatives as well as offering the opportunities to enhance students' future employability.
- Students are able to undertake Stage 2 as an exchange year and at one of a selection of universities abroad (mainly Canada) where Environmental Science programmes are offered. Credits will be transferrable but marks attained while on the exchange year will not contribute to the overall degree profile.

6.3. Stage 3

- Students wishing to pursue an optional placement year (through the zero credit Stage 3 module APIE317) will normally need to have completed the Stage 2 module APIE215.

6.4. Stage 4

- All students reading for Environmental Science will take one core module and one optional module in each semester.
- In addition, all Honours students will undertake a 40 credit research module that runs through Semesters 1 and 2. This will either be the Research Project (ENVS3001) or, for direct entry international students, the Research Project with English Language support (ENVS3003).

7. Programme Aims

- 7.1.** To provide a sound critical understanding of the inter-disciplinary nature of environmental science;
- 7.2** To provide a scientifically-based and intellectually stimulating programme of study incorporating theoretical, quantitative, practical and applied aspects of environmental science;
- 7.3.** To provide a core of key knowledge areas vital for environmental scientists, including resource management and sustainability, ecological economics, vulnerability and resilience of human and non-human populations, ecosystem services, environmental law and environmental impact assessment;
- 7.4** To enable students to acquire transferable, technical, communication and professional skills appropriate to both personal development and employability;
- 7.5** To enable students to develop an attitude of professional competence and safe working practices;
- 7.6** To enable students to develop an in-depth, self-managed scientific approach to the investigation of real-world problems suitable for a wide range of vocational and non-vocational careers;
- 7.7** To enable students to construct and communicate a reasoned, evidence-based argument and rationale for change.

8. Programme Intended Learning Outcomes

8.1 Knowledge and Understanding

On successful completion, graduates should be able to:

- a. recognise the interdisciplinarity of environmental science and demonstrate an appreciation of the contribution made by the physical and social sciences;
- b. describe selected aspects of the structure, functioning and perturbation of biogeochemical cycles;
- c. understand the principles of ecology relevant to environmental science and their application to nature conservation;
- d. identify the basic principles of social, economic and legal systems and their relevance to environmental science;
- e. understand the environmental implications of resource exploitation and industrial development and evaluate the management and sustainability of such practices.

8.2 Cognitive and Intellectual Skills

On successful completion, graduates should be able to:

- a. obtain, present and evaluate information/data from a variety of sources;
- b. use techniques and/or knowledge that are at the forefront of the subject to propose solutions to environmental problems;
- c. generate new knowledge and/or analyse existing knowledge to answer a question or address a hypothesis.

8.3 Key and Transferable Skills

On successful completion, graduates should be able to:

- a. communicate effectively by written, verbal and electronic means, with structured and coherent arguments;
- b. work as part of a team, identifying defined outcomes, recognising options and taking responsibility;
- c. select and retrieve data and information from appropriate scientific databases.

8.4 Employment-Related Skills

On successful completion, graduates should be able to:

- a. demonstrate personal skills, knowledge and attitudes equivalent to those of an environmental professional;
- b. select and use appropriate environmental assessment and management tools in line with best professional practice;

- c. demonstrate self-management and professional development, including self-evaluation.

8.5 Practical Skills

On successful completion, graduates should be able to:

- a. apply field and laboratory techniques to observe, measure, record and test environmental phenomena and materials;
- b. manage the planning, execution and evaluation of a practical environmental investigation;
- c. apply appropriate software and statistical tests to manage, model and interpret environmental datasets.

9. Admissions Criteria, including APCL, APEL and DAS arrangements

9.1 AS/A Level and Vocational A-Level

We welcome a mix of AS/A-Level and Vocational A-Level qualifications as well as specialisation in either. Table 1 sets out normal minimum qualifications required for entry to First Degree/Diploma in Higher Education programmes.

The standard entry requirements will be:

- a minimum of two A-Level subjects;
- the equivalent in the Vocational A-Level;
- the equivalent as a mix of both qualifications.

We encourage applicants to study more subjects at AS Level or the equivalent.

Offers will be based on results at the end of year 13, although AS grades gained at the end of year 12 may be used in conjunction with the predicted A-Level grades as an important indicator of ability.

Not all 'Curriculum 2000' qualifications are acceptable for certain programmes. The acceptability of qualifications by programme is stated in the current University Prospectus, and on the University's website, www.plymouth.ac.uk. Some courses may have specific entry requirements (e.g., portfolio). Offers made to mature applicants (over 21) may take account of work and life experience.

9.2 Key Skills

We encourage the attainment of Key Skills at a high level to enhance performance on a higher education programme. Although key skills tariff points do not count towards the admissions tariff score, they will enhance students' performance on their degree programme.

9.3 Accreditation of Prior Certificated Learning (APCL) and Assessment of Prior Experiential Learning (APEL)

The University's regulations for Accreditation of Prior Certificated Learning (APCL) and Assessment of Prior Experiential Learning (APEL) are set out in the [University Academic Regulations](#).. We may also consider admission on the basis of work or life experience.

Table 1. Typical routes and entry requirements for Environmental Science

Qualifications Accepted	Level required
A-Level/	104–112 points from a minimum of two A levels to include grade B in a science subject.
GCSE or equivalent	GCSE: Grade C/4 or above in English and Maths.
General Studies A-Level	Is not accepted as part of a points offer.
AVCE Double Award: 12 unit	Accepted only in combination with additional qualification. Refer to institution.
BTEC National Certificate/Diploma	National Diploma: Distinction, Merit, Merit from a science related course. National Certificate: can be accepted only in combination with additional qualifications. Refer to institution.
Access to Higher Education	Pass – QAA Recognised Access to HE Diploma (Science/Technology preferred but other appropriate courses).
National Vocational Qualification (including Advanced Modern Apprenticeships)	An appropriate NVQ at Level 3/AMA will be considered with other information that demonstrates your ability to successfully complete the course you have selected.
Scottish Qualifications Authority	280 points to include at least one Advanced Higher from a science related subject.
Irish Leaving Certificate	280 points / BBBBC from a minimum of 5 Highers to include a science related subject at Higher Level.
International Baccalaureate	International Baccalaureate: 28 points overall including 5 at Higher Level in a science-related subject.
European Baccalaureate	70% overall to include a science related subject.
Greek National Apolytirion	Refer to institution.
Apolytirion of Lykeio (pre 1999)	Minimum average of 18, plus Foundation to Higher Education and English language proficiency.

9.4 English Language Requirements

If students have not obtained or do not expect to obtain required entry qualifications in the English language, they are required to produce evidence of English language ability. This will normally be the equivalent of:

- GCSE Grade C or above in English language;
- IELTS average score of 6.0 or above with a score of at least 6.0 in the written component;
- Equivalencies are detailed in 'Admissions Information and Procedures' issued by the University Secretariat.

9.5 Overseas Qualifications

The University International Admissions Team provides advice on, and maintains oversight of, the acceptability of any qualifications from overseas offered for entry.

9.6 Progression from HND to Degree

Achievement of an HND to a good standard in one of the University's Partner Colleges may permit progression to Stage 2 or 4 of a degree. Details are set out in the current University Prospectus.

9.7 Science Foundation Degrees

Applications from students in receipt of a science foundation degree following approved articulations and agreements are welcome and permit entry into Stage 4. Students who pass the Extended Science year at the University of Plymouth are guaranteed progression to one of the Faculty's BSc (Hons) programmes and detailed advice will be provided by the Admissions Tutor.

9.8 PUIC Integrated Programme

Admission to the Integrated Programme is subject to successful completion of the University of Plymouth International College (PUIC) Foundation Year. Direct entry into Stage 1 is also possible. Applicants are required to have the equivalent of 240 UCAS tariff points and an overall IELTS score of 6.0 (no less than 5.5 in any band). PUIC admissions should liaise with the relevant PU subject contact to identify any specific entry requirements prior to making any direct offers.

9.9 Partnership Arrangements

PUIC Stage 1 Equivalent Integrated programmes

On successful completion of their Stage 0 programme PUIC students progress to Stage 1 of their designated programme and are taught and assessed by PU staff.

Additionally, the students will undertake a module (ILS 1005) of skills and support designed to facilitate their transition to the HE learning culture in the UK.

Progression to Stage 1 Integrated programmes is dependent upon achieving 50% in all modules of the PIUC Stage 0 programme.

Progression to PU Stage 2 is dependent upon successful completion of the PU Stage 1 and at least 60% in ILS 1005 (The PUIC DMD for ILS 1005 is in Appendix A).

10. Progression Criteria for Final and Intermediate Awards

The Environmental Science programme follows the [University's Academic Regulations](#) for undergraduate programmes.

Progression onto Stage 2 of the degree is subject to passing Stage 1 of the PUIC Equivalent Integrated Programme. This consists of the standard Stage 1 of the programme plus ILS1005.

11. Exceptions to Regulations

None.

12. Transitional Arrangements

Module in which repeat is required	Module to be taken in 2021-22
Any option module	Students should select an option module from those available

13. Mapping and Appendices

13.1 ILOs and Skills Against Modules Mapping

Appendix B shows the intended learning outcomes in respect of the relevant core modules for Honours level.

13.2 Assessment Against Modules Mapping

Appendix C shows the modes of assessment for each core and option module. More details of each assessment can be found in the corresponding PUMRs.

13.3 Appendices

Appendix A. The PUIC DMD for ILS 1005 (overleaf).

**Module Interactive Learning Skills and Communication
Code ILS1005**

FHEQ 4

Version	Current Version	2.14	October 2014
	Prior Version/s	1.14	September 2014
		1.13	October 2013
		1.12	July 2012

This Definitive Module Document (DMD) is designed for all prospective, enrolled students, academic staff and potential employers. It provides a concise summary of the main features of the module and the Specific Learning Outcomes (LOs) that a typical student might reasonably expect to achieve and demonstrate if he/she takes full advantage of the learning opportunities. Detailed information regarding the content and assessment criteria of this module should be considered alongside the appropriate Programme Specifications (PSs) and Module Guide (see MG ILS1005).

Module Name	Interactive Learning Skills and Communication (ILSC)
Module Code	ILS1005
Module Duration (per semester)	Thirteen (13) weeks
Contact Hours (per semester)	52
Directed Study Hours (per semester)	-
Self-directed Study Hours (per semester)	98
Notional Hours (per module)	150
Teaching Rotation	01,03
Teaching Body	PUIC
Articulating Institution	Plymouth University
Articulating Faculty	Faculty of Science and Environment; Faculty of Arts and Humanities; Plymouth Business School
University Campus	Drakes Circus
Pathways (on which this module is offered)	All Integrated Pathways
Credit Points	Zero
Pathway Stage	PUIC Stage 2 (Plymouth University Stage 1)
Stage FHEQ Level	4
Language of Delivery	English
Language of Assessment	English
E-Learning	IT software packages (Word, PowerPoint, Excel), internet access; College Portal; University Student Portal.
Moderation	See CPR QS9
Standard Progression Criteria	Summary: minimum overall pass mark of 65% (Grade C*) across all assessment events and a minimum of 65% in assessments B, D and E. See CPR QS9.
Failure to Progress	[Summary: a student may not fail a module assessment on more than one (1) occasion, failure of the module assessment once requires that a student re-sit the failed assessment thereafter re-take the entire module at full cost; failure of a student to complete a module on the re-take of that module will result in referral to the College Learning and Teaching Board for a student management decision. The University will not be incumbent to progress students who fail].

Aims

This module has been designed to be delivered in conjunction with the Integrated FHEQ Level 4 (equivalent) first year degree and associated programmes in order to benchmark and satisfy the transfer criteria with regard to student communication and learning skills competency. This module is part of a wider pedagogic approach taken by NAVITAS UK to ensure the preparedness of its students and graduates with a focus on the relevant transferable and portable skills of effective and professional communication to support further study at a variety of levels, whether it involves higher education or further post-degree vocational programmes and/or professional awards, as well as providing a basis to foster career and life-building skills.

Utilising a number of practical activities to allow candidates to achieve these essential skills, students will be introduced to techniques and strategies to manage speech anxiety; enhance grammar and vocabulary; think critically under pressure; research, package and deliver logical and persuasive communication both orally and in a variety of written formats (inclusive of dissertation); summarise; become an effective listener; understand cultural and gender differences; and work effectively in a team.

This module ensures that graduates have attained the prescribed level of inter-disciplinary communication competence described as Level B2 'Proficient User' by the Council of Europe, see *Common European Framework of Reference for languages: Learning, teaching assessment 2001*, Council of Europe, CUP, Cambridge, p. 24, Table 1. *Common Reference Levels: global scale*. This module is ACL accredited and benchmarked: ACL is a leading provider of English language provision to students seeking entry to Australian HEIs and a variety of levels. ACL now forms part of Navitas English and carries dual accreditation by the Australian National ELT Accreditation Scheme (NEAS) and the NSW Government's Vocational Education and Training Accreditation Board (VETAB). Navitas English is also a Registered Training Organisation (RTO) under the Australian Quality Training Framework (AQTF).

Successful completion of this module indicates that students have obtained a good understanding of and ability to apply the requisite knowledge and skills to enable them for successful onward study at undergraduate degree level.

Topics

- ⇒ Preparation for college and university programmes
- ⇒ Personal development planning (PDP)
- ⇒ Presentation skills
- ⇒ Listening skills
- ⇒ Skills for self-directed study
- ⇒ Appropriateness
- ⇒ Library induction
- ⇒ Writing at university
- ⇒ Analysing questions/titles
- ⇒ Planning written work projects
- ⇒ Teamwork
- ⇒ Composition and style
- ⇒ Summarising techniques
- ⇒ Revision techniques
- ⇒ Examination overview and techniques
- ⇒ Critical analysis and use of evidence

Specific Learning Outcomes

A	Knowledge and Understanding
	<i>Upon completion of this module students will be able to demonstrate their knowledge and understanding of the following:</i>
1	The structure of the UNIVERSITY degree programmes and classification.
2	UNIVERSITY undergraduate degree scheme structures and awards.
3	UNIVERSITY laboratory, library and e-learning facilities; College resources and personal resources to support study.
4	Time management and its application to notional hours of study and assessment events.
5	Public speaking techniques and managing communication apprehension.
6	Non-verbal communication techniques.
7	Listening skills and knowledge dissemination and retention techniques.
8	The importance of ensuring a clear basic understanding of the history of scholarship with regard to certain subject areas and/or the use of appropriate nomenclature to aid communication.
9	What language styles to employ in a variety of situations to ensure appropriateness and clarity of communication.
10	A comprehensive set of clear writing techniques (plain English, factual and persuasive writing) that can be applied to a variety of written formats.
11	How to create appropriate and effective document layouts.
12	The importance and basic precepts of style when composing written work in a variety of forms.
13	How to embed the concept of continuous improvement and objectivity in relation to an individual's academic performance.
14	Professional communication and presentation.
15	How to enhance personal creativity and lateral thought processes.
16	Examination techniques and skills.
17	Design and communicate effective messages to a variety of audiences.
18	How to work effectively as a team member.
19	How to work effectively as an individual.

20	How to apply basic research and referencing techniques to formulate reasoned academic opinion in a variety of forms so as to avoid plagiarism and collusion.				
B	Intellectual / Cognitive Skills				
1	Ability to employ appropriate nomenclature and terminologies across subject contexts.				
2	Ability to analyse various modes of information when delivered in different formats.				
3	Make full use of library and e-learning search (catalogue and bibliographic) resources.				
4	Ability to effectively retain and communicate knowledge and understanding of topics covered in the module in a comprehensive manner under timed conditions without re-course to learning aids.				
C	Practical Skills				
1	Develop organisational skills for deadline submission.				
2	Proficiently use techniques and technology in the collation, interpretation and presentation of data in oral and written formats.				
3	Develop oral presentation skills.				
4	Develop written skills for a variety of formats and requirements.				
D	Transferable Skills				
1	Select, read, digest, summarise and synthesise information material in a variety of forms, both qualitative and quantitative (text, numerical data and diagrammatic) and in an appropriate manner to identify and determine key facts/themes, relevancy and assessment of problems and identification and implementation of solutions.				
2	Use and clearly communicate discursive, numerical, statistical and diagrammatic ideas, concepts, results and conclusions using appropriate technical and non-technical language and language style, structure and form.				
3	Apply basic research and referencing techniques to all aspects of study, information collation, information presentation and formulation of academic opinion.				
4	Embedding the importance of self-study and reliance. This involves cultivating and developing a responsibility within each student to take cognizance for their own learning, initiative, effective time-management and self-discipline within the academic and professional environments.				
Generic Learning Outcomes					
Key skills demonstrated:			Key skills demonstrated by the ability to:		
Personal organisation and time-management skills to achieve research goals and maintain solid performance levels;			Meet converging assessment deadlines – based on punctuality and organisation with reference to class, group and individual sessions within a dynamic and flexible learning environment with variable contact hours and forms of delivery.		
Understanding of the importance of attaining in-depth knowledge of terminology as used in a given topic area, as a basis to further study;			Communicate clearly using appropriate nomenclature to enhance meaning in all oral and written assessments with no recourse to collusion or plagiarism.		
Understanding, knowledge and application of appropriate and effective methods of communication to meet formal assessment measures;			Present clearly, coherently and logically in a variety of oral and written formats using a variety of appropriate qualitative and quantitative tools and evidence bases.		
Understanding and knowledge as to the development of the industry and/or scholarship in relation to a given topic under study;			Demonstrate an understanding of the current themes of a given topic, the academic and practical foundation on which they are based – demonstrated by a lack of plagiarism and need for collusion in both individual and group work.		
Understanding of the rules applying to plagiarism and collusion;			Collate, summarise, reason and argue effectively on a given topic without reference to another's work or ideas/concepts.		
Ability to work as an individual, in a small team and in a larger group to effect data collation, discussion and presentation of evidence;			Meet and succeed in each of the varied assessments presented.		
Assessment					
Type	Duration	Method	Topic	Schedule	Weighting
Assessment E	10 weeks	efficacy of individual PDP	Attendance and participation in PDP	NA	10%
Assessment A	Nine (9) weeks	research project (1,500 – 2000 words)	Computing/engineering /biological or biomedical/environment studies	Set session 2.2 Submission session 11.1	30%
Assessment B	1 session (1 hour)	Listening assessment	Listen to a lecture (computing/engineering /biological or biomedical/environment studies) and answer set questions.	Session 10.2	10%

Assessment C Individual presentation	1 session	Presentation	Project presentation and defence	Session 11.2	20%
Assessment D Final Examination	Two (2) hour (closed-book) examination	Examination	Final summative examination covering academic reading and writing skills; history of scholarship and academic debate and critical analysis	Week 13	30%
Total Weighting					100%

Standard Progression Criteria

For the purposes of PUIC this module carries a standard minimum progression requirement: [grade C* / pass mark 65%].

For Plymouth University this is a Pass/Fail zero credited module that the student must pass to progress into University Stage 2.

Grade	Classification	Mark
A*	High Distinction	80% – 100%
B*	Distinction	70% - 79%
C*	Pass	65% - 69%
F	Fail	Less than 65%

Bibliographic Resources

Essential Reading

Essential Reading

Module Guide – see MG ILS1005

Recommended Reading

Cottrell, S., *The Study Skills Handbook*, 3rd ed., Macmillan, 2008.

Fry, R., *How to Study*, 6th ed., Delmar Learning, 2005.

Race, P., *How to Get a Good Degree – Making the most of your time at university*, 2nd ed., Open University Press, 2007.

Further Sources

Baker, E., Barrett, M., and Roberts, L., *Working communication*. Milton, 2002.

Berko, R. M., Wolvin, A. D., and Wolvin, D. R., *Communicating: A social and career focus*, Boston, 8th ed., 2001.

Blundel, R., *Effective organisational communication: Perspectives, principles and practices*, Essex, 2nd ed., 2004.

Daly, J. A., and Engleberg, I. N., *Presentations in everyday life: Strategies for effective speaking*, Boston, 2001.

O'Rourke, J. S. (2004). *Management communication: A case-analysis approach*, New Jersey, 2nd ed., 2004.

Whalen, D. J., *I see what you mean*, Chicago, 1995.

Journals (general reading)

Asian Journal of Communication

Communication Education

Journal of Communication

Relevant computing/engineering/biological or biomedical/environment journals – supplied as focus by Instructor

List

Appendix B: Honours level programme learning outcomes for Environmental Science (ENVS) core modules. (Note that option modules for the programme are areas in which knowledge and understanding is distributed.)

Core Programme Intended Learning Outcomes	Stage 1	Stage 2	Stage 4
Knowledge / Understanding			
a. recognise the interdisciplinarity of environmental science and demonstrate an appreciation of the contribution made by the physical and social sciences;	1007/1009/1010	2003	3001/3003/3012/ 3013
b. describe selected aspects of the structure, functioning and perturbation of biogeochemical cycles;	1002/1003/1007/ 1009	2001	
c. understand the principles of ecology relevant to environmental science and their application to nature conservation;	1003		
d. identify the basic principles of social, economic and legal systems and their relevance to environmental science;	1008	2003	3012/3013
e. understand the environmental implications of resource exploitation and industrial development and evaluate the management and sustainability of such practices.	1007/1008/1009/ 1010	2003	3012/3013
Cognitive and Intellectual			
a. obtain, present and evaluate information/data from a variety of sources;	1002/1003/1009/ 1010	2001/2004	3001/3003/ 3012/3013

<p>b. use techniques and/or knowledge that are at the forefront of the subject to propose solutions to environmental problems;</p> <p>c. generate new knowledge and/or analyse existing knowledge to answer a question or address a hypothesis.</p>	<p>1007/1008/1010</p> <p>1002/1003/ 1007/1008/1009</p>	<p>2001/2002/2003</p> <p>2001/2002/2004</p>	<p>3001/3003/ 3012/3013</p> <p>3001//3003/ 3012</p>
<p>Key and Transferable</p> <p>a. communicate effectively by written, verbal and electronic means, with structured and coherent arguments;</p> <p>b. work as part of a team, identifying defined outcomes, recognising options and taking responsibility;</p> <p>c. select and retrieve data and information from appropriate scientific databases.</p>	<p>1002/1003/1007/ 1008/1009/1010</p> <p>1007/1009/1010</p> <p>1008</p>	<p>2001/2002/2003/ 2004</p> <p>2001/2002</p> <p>2001</p>	<p>3001/3003/3012/ 3013</p> <p>/3013</p> <p>3001/3003/3012/ 3013</p>
<p>Employment-Related</p> <p>a. demonstrate personal skills, knowledge and attitudes equivalent to those of an environmental professional;</p> <p>b. select and use appropriate environmental assessment and management tools in line with best professional practice;</p> <p>c. demonstrate self-management and professional development, including self-evaluation.</p>	<p>1007/1010</p> <p>1007/1009/1010</p>	<p>2002/2004</p> <p>2001</p> <p>2002/2004</p>	<p>3001/3003/3012/ 3013</p> <p>3013</p> <p>3001/3003/3012/ 3013</p>

<p>Practical</p> <p>a. apply field and laboratory techniques to observe, measure, record and test environmental phenomena and materials;</p> <p>b. manage the planning, execution and evaluation of a practical environmental investigation;</p> <p>c. apply appropriate software and statistical tests to manage, model and interpret environmental datasets.</p>	<p>1002/1003/ 1007/1009</p> <p>1002/1003/ 1007</p> <p>1002/1003/1007/ 1008/1009/1010</p>	<p>2001/2002</p> <p>2001/2002</p> <p>2001</p>	<p>3001/3003/3012/ 3013</p>
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Appendix C: Assessment against modules mapping for core and optional modules.

Stage	Module	Assessment					
		E1	C1	T1	A1	P1	O1
1 (core)	ENVS1009		50			50	
	ENVS1002		60	40			
	ENVS1003		50	50			
	ENVS1007			40		60	
	ENVS1008		100				
	ENVS1010		50			50	
2 (core)	ENVS2001		100				
	ENVS2002		60			40	
	ENVS2003			60		40	
	ENVS2004		60			40	
2 (optional)	GGX2203	50	50				
	OS205		100				
	OS207		80			20	
	ENVS2005		50				50
	ENVS2006		30				70
	ENVS2007		50				70
	APIE215				100		
3 (placement)	APIE317		100				
4 (core)	ENVS3001/3		85			15	
	ENVS3012		50			50	
	ENVS3013		50			50	
4 (optional)	OS307		100				
	OS309	40	60				
	GGP3204		100				
	GGX3204		100				
	ENVS3011		50				50