

Programme specification

(Notes on how to complete this template are provide in Annexe 2)

1. Overview/ factual information

Programme/award title(s)	<ul style="list-style-type: none"> a. BSc (Honors) – Environmental Studies b. BSc – Environmental Studies c. Diploma in Higher Education – Environmental Studies d. Certificate in Higher Education BSc (Honors) – Environmental Studies
Teaching Institution	The American College of Greece
Awarding Institution	The American College of Greece - The Open University (OU)
Date of latest OU validation	March 2011
Next revalidation	
Credit points for the award	360
UCAS Code	
Programme start date	September 2011
Underpinning QAA subject benchmark(s)	Environmental Studies
Other external and internal reference points used to inform programme outcomes	None
Professional/statutory recognition	
Duration of the programme for each mode of study (P/T, FT,DL)	FT – 4 years
Dual accreditation (if applicable)	NEASC Accredited
Date of production/revision of this specification	January 2016

Please note: This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if s/he takes full advantage of the learning opportunities that are provided.

More detailed information on the learning outcomes, content, and teaching, learning and assessment methods of each module can be found in student module guide(s) and the student handbook.

The accuracy of the information contained in this document is reviewed by the University and may be verified by the Quality Assurance Agency for Higher Education.

2.1 Educational aims and objectives

Mission

In congruence with the mission of the College, the mission of the Environmental Studies program is to provide students with the theoretical knowledge and the skills they will need to enter the professional world, become informed and responsible citizens and undertake postgraduate studies in the field.

Educational Aims and Objectives

The overall educational aims of the Environmental Studies program are to:

- Provide students with an understanding of the structure and functioning of natural systems and of their role in supporting life and human activities.
- Provide students with an understanding of the close interconnections between human societies and natural systems, of the anthropogenic causes of environmental problems and of the social, economic, political and health implications of human interactions with the environment.
- Provide students the necessary background for fully understanding the principles and dimensions of sustainability and the ability to apply them in addressing environmental issues in an integrated manner
- Provide students with an understanding of the complex nature of environmental issues and of the need for an interdisciplinary approach in studying and addressing them, drawing from both the natural and the social sciences.
- Develop students' intellectual (cognitive), practical and transferable skills that will enable them to effectively and responsibly address environmental challenges in an increasingly complex world and to succeed as professionals.
- Develop students' intellectual (cognitive), practical and transferable skills necessary for postgraduate study.

Learning Outcomes

A. Knowledge and Understanding

Students gradually build up knowledge and understanding

- of core concepts, principles and tools in natural sciences, of the structure and functioning of natural systems and of their influence on and by human activities.
- of the role of social sciences in analysing and addressing environmental problems and of the social, economic, political, health and ecological implications of human interactions with the environment.
- of human responses to environmental problems such as the development of environmental policy and law and environmental management, as well as of the importance of temporal and spatial scales in considering the environmental impact of human decisions in different environmental studies fields.
- of the concepts and dimensions of sustainability and sustainable development and of their applications in addressing environmental issues in an integrated manner.
- of a) basic tools in mathematics and statistics, as well as of quantitative

techniques and data processing methods including Geographic Information Systems (GIS) techniques and b) of tools, techniques and research methods used to study and address environmental issues at an advanced level.

- in more specialized fields of environmental studies (such as management and conservation of natural resources, policy and environmental management of corporations)

B. Cognitive Skills

Progressive built up of cognitive skills, namely reasoning, perception, and intuition. Students learn to:

- Recognize the moral and ethical issues of investigations, appreciate the need for professional codes of conduct and undertake a reasoned moral assessment of actions/persons/business practices.
- Collect and analyse data and information on environmental issues using a range of techniques appropriate to the subject.
- Critically evaluate the reliability, validity and significance of data and information collected and the evidence provided to support conclusions.
- Categorize ideas, data and information, reformat and transform them towards a given purpose and design solutions.
- Identify key elements of environmental problems and apply appropriate knowledge and skills to their solution.

C. Practical and Professional Skills

Students acquire practical and professional skills that include the ability to:

- Describe and record materials in the field and laboratory and to interpret practical results in a logical manner.
- Use appropriate laboratory and field equipment competently and safely
- Select and apply a range of methods, including spatial technologies, to study and address environmental problems
- Plan, conduct and present an independent project effectively and appropriately with reliance on guidance, to relate investigations to prior work and to reference appropriately.

D. Key/Transferable Skills

Students acquire key/transferable skills that include the ability to:

- manage, select and process information from a variety of sources to support findings and hypotheses, develop a critical approach to academic literature and other sources of information and develop the ability to perform independent research (using simple to more complex research strategies) in different environmental studies fields.
- communicate effectively to a variety of audiences in written, graphical and verbal forms, to engage in debate in a professional manner and
- produce detailed and coherent project reports.
- interact effectively within a team/learning group, giving and receiving information and ideas and modifying responses when appropriate.
- acquire, process, interpret and present data using appropriate qualitative and quantitative techniques including use of information technology and the internet, mathematics, statistics and GIS.
- conduct independent study and self-evaluation

2.2 Relationship to other programmes and awards

(Where the award is part of a hierarchy of awards/programmes, this section describes the articulation between them, opportunities for progression upon completion of the programme, and arrangements for bridging modules or induction)

This programme specification is part of a US bachelor's degree programme that consists of 121 US credits, comprising 43 credits of General Education credits, 71 credits of Concentration, and 7 credits of Electives.

Liberal Education (distributive requirements). 43

Core modules

Academic Writing	6
Integrated Academic Writing, Research and Ethics.	3
Public speaking or professional communication or equivalent.	3
Mathematics (basic statistics, college algebra, OR higher)	3
Introduction to information systems or equivalent computer literacy course.	3
Any Natural Sciences course with a lab	4
(selected from: biology, chemistry, environmental studies, geology, oceanography, physical science and physics)	

Liberal Education Electives

One course in Natural Sciences (without a Lab)/STEM	3
One course in Fine and Performing Arts.	3
Three courses in Social and Behavioural Sciences	9
(Selected from at least two of the following: anthropology, economics, political science, psychology, sociology)	
Two courses in Humanities	6
(Selected from at least two of the following: archaeology, art history, history, literature, classical literature, music, philosophy, theatre history)	

LIBERAL EDUCATION-MISSION

A vital component of the undergraduate experience, the Liberal Education program prepares students to become globally engaged twenty-first century citizens with the intellectual habits, practical skills, and socio-cultural sensibilities needed in a rapidly changing world. Liberal Education helps students develop essential competencies for success across disciplines and in life beyond college by cultivating open-mindedness, tolerance, problem-solving ability, intellectual curiosity and creativity. It also promotes thoughtful self-expression, an ethical compass, and responsibility to the local and global communities.

COMPETENCIES AND LEARNING OUTCOMES

1. Communication and Information Literacy

1.1 Demonstrate effective verbal (writing, speaking and listening) and nonverbal communication skills.

1.2 Retrieve, critically evaluate and synthesize information adhering to legal and ethical practices.

1.3 Show knowledge of the stages needed from draft to final text or presentation using proper documentation and citation.

1.4 Demonstrate a mastery of the basic skills in information technology.

2. Social Responsibility and Civic Engagement

2.1 Discuss issues of identity and inclusion.

2.2 Explain different dimensions of sustainability and how it relates to one's discipline.

2.3 Discuss ways of responsible civic engagement.

2.4 Engage in activities that serve the needs of the local and global community.

2.5 Evaluate elements of Greek society that reflect Greek cultural values and the desirability to maintain or change such values so that Greek society can succeed in a new interdependent environment without losing its identity.

3. Cultural and Global Perspectives

3.1 Discuss world history or sociocultural traditions from different perspectives.

3.2 Describe diverse worldviews, ideas, institutions or artistic expressions manifest in varied contexts globally.

3.3 Demonstrate understanding of the workings of Greek, American and European social, political and economic systems and trace the geographical and historical factors that shape these systems.

3.4 Discuss issues of cultural diversity.

4. Ethics and Values

4.1 Explain the importance of values in our venture to understand the world.

4.2 Identify ethical issues in different contexts, especially in one's major course of study.

4.3 Discuss ideologies and ethical principles upheld by different cultures and co-cultures.

4.4 Describe different approaches through which ethical dilemmas may be examined and resolved.

5. Aesthetic Expression

5.1 Discuss the main themes, symbols, and means of expression in various art forms.

5.2 Demonstrate ability to create or recreate aesthetic works that reflect knowledge of the artistic process and awareness of self, social and stylistic contexts.

5.3 Reflect on the outcomes of an artistic work.

5.4 Discuss the value of diversity in creative approaches in the visual, verbal and performing arts.

6 Scientific and Quantitative Literacy

6.1 Describe major concepts, principles, laws and theories in mathematics and the natural sciences.

6.2 Discuss the impact of science and technology on the individual, society, and the physical environment.

6.3 Apply scientific and mathematical methods and principles in making informed decisions in various disciplines.

6.4 Demonstrate practical and processing skills associated with natural sciences, mathematics and technology.

7 Integration

7.1 Synthesize concepts learned in the Liberal Education program with major concepts in one's academic major.

7.2 Evaluate theoretical and practical knowledge included in Liberal Education competencies in the context of academic and professional enhancement.

3. Programme outcomes

Intended learning outcomes are listed below.

3A. Knowledge and understanding	
Learning outcomes	Learning and teaching strategy/ assessment methods
<p>Upon completion of the Environmental Studies program, students will be able to:</p> <p>A1. Demonstrate knowledge and understanding of core concepts, principles and tools in natural sciences, of the structure and functioning of natural systems and of their role in supporting life and human activities.</p>	<p>A1.</p> <p><u>Where it is taught:</u> Students attain this learning outcome by taking the following six natural science modules (level 4): ES 1000 ENVIRONMENTAL SCIENCE: ECOSYSTEMS AND BIODIVERSITY ES 1010 ENVIRONMENTAL SCIENCE: ENERGY RESOURCES AND POLLUTION CH 1002 PRINCIPLES OF CHEMISTRY GG 1000 ENVIRONMENTAL GEOLOGY One of the following: BI 1000 INTRODUCTION TO BIOLOGY I BI 10XX HUMAN BIOLOGY: BODY ANATOMY AND CURRENT ISSUES One of the following: BI 1101 INTRODUCTION TO BIOLOGY II BI 1007 ENVIRONMENTAL ECOLOGY and the following level 5 optional module: ES/CH 32XX ENVIRONMENTAL CHEMISTRY</p> <p>LEVEL 4: > ES 1000 Environmental Science: Ecosystems and Biodiversity Principles of environmental science with emphasis on sustainability, ecosystem structure and function, biodiversity, the human impact on ecosystems, soil and food production, water resources, conservation and protection of natural resources.</p>

	<ul style="list-style-type: none"> ➤ ES 1010 Environmental Science: Energy Resources and Pollution Principles of environmental science including a discussion of non-renewable and renewable energy resources, water and air pollution, global atmospheric changes, hazardous and solid waste management. Environmental policy and management issues are also discussed, with emphasis on sustainable solutions. ➤ CH 1002 Principles of Chemistry An introduction to chemical science and the chemistry of everyday life. The module presents fundamental principles of chemistry such as atomic theory, chemical bonding, chemical reactions, states of matter, nuclear chemistry as well as basic concepts of inorganic chemistry. Focus is given to chemical applications and their relevance to the natural environment. ➤ GG 1000 Environmental Geology An interdisciplinary approach to studying environmental geosciences. Fundamental geologic concepts such as plate tectonics, geologic time and surficial processes are used as a basis for understanding a variety of natural processes. Elaboration on topics of physical geology, including the rock cycle and plate tectonics, occurrence and distribution of geologic hazards and resources, interactions between humans and the geologic environment, and the issues associated with the exploitation of geologic resources such as water pollution. ➤ BI 1000 Introduction to Biology I An integrated exploration of the fundamentals of biology as a science, the nature of life, biological chemistry, cell biology, metabolism and human body anatomy and function. ➤ BI 10XX Human Biology: Body Anatomy and Current Issues An issues-based course designed for non-science majors that takes a fresh approach to the field of biology. Emphasis is put on basic biological processes, structure and function of organs and organ systems as well as diseases and infections of the human body. ➤ BI 1101 Introduction to Biology II An integrated exploration of major principles of biology. Emphasis on diversity of life, development, cell division, molecular biology, genetics, evolution, and ecology. Consideration of issues and applications related to society. ➤ BI 1007 Environmental Ecology Fundamentals of the science of ecology, including an introduction to life and the physical environment. Adaptations of organisms and evolution, population structure and regulation, species interactions, community ecology, biodiversity, ecosystems and ecological applications. <p>LEVEL 5:</p> <ul style="list-style-type: none"> ➤ ES/CH 31XX Environmental Chemistry A study of the chemistry of the atmosphere, water, and soil as well as the associated pollution problems. Chemical hazards in the environment such as heavy metals and synthetic organic compounds, risk assessment, and the chemistry and environmental implications of energy production are also discussed. <p><u>Learning and Teaching Strategy:</u> In congruence with the Learning and Teaching strategy of the College, the following tools are used in all level 4 science modules: ES 1000, ES 1010, CH 1002, GG 1000, BI 1000, BI 10XX, BI 1101, BI 1007, ES/CH 32XX:</p> <ul style="list-style-type: none"> ➤ Class lectures, interactive learning (class discussions, group work), video presentations, and practical problems solved in class. ➤ Exercises and primary source documents are assigned as homework, the answers and critical
--	--

- response to which are reviewed in class
- Use of textbook web site and online resources.
- Laboratory and field activities (laboratory/field practical work and reports).
- Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.
- Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.
- A recent addition to the teaching and learning strategy at this level is the use of Blackboard online tools (discussion boards, journals, blogs, wikis, surveys) that promote interactive learning outside the classroom.

Assessment Methods: Assessment methods give students the opportunity to display knowledge and understanding and staff the opportunity to identify issues in either. Students get timely feedback (within 21 days) on their formative test and midterm exam by their lecturer.

Student performance in ES 1000, ES 1010, CH 1002, BI 1007 is assessed by two exams (midterm and final) and lab reports, as follows:

Summative:

Midterm examination (2 hours): (Multiple choice/short answers/essay questions)	30%
Final examination (2 hours): (Multiple choice/short answers/essay questions)	45%
Lab report(s)	25%

Formative:

Essay questions (as homework assignments)	0%
In-class or online quizzes	0%

In GG 1000, student assessment is exactly as above, with a slight difference in the weight of the final exam and lab reports:

Summative:

Midterm examination (2 hours): (Multiple choice/short answers/essay questions)	30%
Final examination (2 hours): (Multiple choice/short answers/essay questions)	40%
Lab report(s)	30%

Formative:

Essay questions (as homework assignments)	0%
In-class or online quizzes	0%

In BI 1000, BI 10XX and BI 1101 midterm and final exam each consisting of two components are used for student assessment (see table below):

Summative:

<p>Midterm examination In-class lab midterm (1/2-hour), 10% (Microscopy slide identification, diagram labelling, organ identification, problem solving, short answers, classification of organisms, chemical reactions of processes etc.) In-class midterm examination (2-hour), 30% (Multiple choice/short answers/matching /essay questions combination/problem solving)</p>	40%
<p>Final examination In-class lab final (1/2-hour), 10% (Microscopy slide identification, diagram labelling, organ identification, problem solving, short answers, classification of organisms, chemical reactions of processes etc.) In-class midterm examination (2-hour), 50% (Multiple choice/short answers/matching /essay questions combination/problem solving)</p>	60%

Formative:

Multiple "diagnostic on-line" tests	0%
Multiple choice/short answers/ essay questions	0%

The midterm and final exams of all level 4 modules consist of a combination of multiple choice, short answers, problems and essay questions. These introductory modules provide a survey of the field (e.g. biology, environmental science, chemistry). The multiple choice questions examine a large number of topics and cover breadth, while the essay questions assess students' ability to explain and discuss specific topics, thus allowing students to demonstrate knowledge, understanding and a certain level of critical thinking. Lab exams and lab reports examine the lab component of these modules. Lab or field activities and reports help develop students' practical skills, introducing them to the scientific method and to the process of data collection, processing and interpretation.

In the level 5 ES/CH 32XX, a paper and a final exam are used to assess students:

Summative:

Project (2,000 to 2,500 words)	40%
Final examination (2 hours)	60%

A2. Demonstrate knowledge and understanding of the role of social sciences in analysing and addressing environmental problems and of the social, economic, political, health and ecological implications of human interactions with the environment.

Formative:

Essay questions (as homework assignments)	0%
---	----

ES/CH 32XX explores the chemistry of the environment. Students are assessed by a project that includes research on a selected topic (literature review) and includes paper preparation (through which they develop skills for critical evaluation, analysis and synthesis), oral presentation of student work and/or poster. The final examination consists of essay questions that examine knowledge understanding and critical evaluation of specific topics.

A2.

Where it is taught:

To attain this learning outcome, students take the following two **level 4** modules:

ES 1000 ENVIRONMENTAL SCIENCE: ECOSYSTEMS AND BIODIVERSITY

ES 1010 ENVIRONMENTAL SCIENCE: ENERGY RESOURCES AND POLLUTION

the following six **level 5** modules:

SO/ES 3002 ENVIRONMENT AND SOCIETY

ES 3216 ENVIRONMENTAL POLICY AND LEGISLATION

ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT

ES 3139 THE ECONOMY AND THE ENVIRONMENT

BI 3215 ENVIRONMENTAL HEALTH

and the following level 6 module:

ES 4017 ENVIRONMENTAL JUSTICE

In ES 1000 and ES 1010 they learn about the multiple dimensions of environmental problems and about the need for an interdisciplinary approach in studying and addressing them. In the above listed level 5 modules they explore how the environment influences and is influenced by society, health, economics, policy and management. In ES 4017 they acquire knowledge about environment and social inequality.

Most other level 6 modules also address social, economic and political issues associated with specific environmental studies fields.

LEVEL 4:

➤ **ES 1000 Environmental Science: Ecosystems and Biodiversity**

Principles of environmental science with emphasis on sustainability, ecosystem structure and function, biodiversity, the human impact on ecosystems, soil and food production, water resources, conservation and protection of natural

	<p>resources.</p> <ul style="list-style-type: none"> ➤ ES 1010 Environmental Science: Energy Resources and Pollution Principles of environmental science including a discussion of non-renewable and renewable energy resources, water and air pollution, global atmospheric changes, hazardous and solid waste management. Environmental policy and management issues are also discussed, with emphasis on sustainable solutions. <p>LEVEL 5:</p> <ul style="list-style-type: none"> ➤ SO/ES 3002 Environment and Society The study of the interactions between the physical environment, social organization and social behavior. Focus on both local and global dimensions of social behaviours and their environmental impact. ➤ ES 3216 Environmental Policy and Legislation The module provides an overview of environmental policy, politics and related legislation from both a national and international perspective, examining the key concepts, conflicts, political systems and the practices of policy-making. ➤ ES 3220 Principles of Environmental Management An introduction to the basic principles, significant underlying concepts and techniques of environmental management. Issues like uncertainty and public goods and their relation to environmental management as well as cases of environmental management practices in different settings are discussed ➤ ES 3139 The Economy and the Environment Valuing the environment. Sustainability. Market failure and environmental problems. Environmental regulatory policies. Management of natural resources. ➤ BI 3215 Environmental Health The module examines health issues, the scientific understanding of their causes and possible future approaches to control major environmental health problems in industrialized and developing countries. <p>LEVEL 6:</p> <ul style="list-style-type: none"> ➤ ES 4017 Environmental Justice The course explores how social inequalities, like social class, ethnicity and gender, relate with the environment; how they impact the environment and how the environment affects different social groups. Issues of environmental justice (distributive and participative), resource colonization, environmental insecurity and just sustainability are also analyzed. <p><u>Learning and Teaching Strategy:</u> In congruence with the Learning and Teaching strategy of the College, the following tools are used:</p> <ul style="list-style-type: none"> ➤ Class lectures, interactive learning (class discussions, group work), video presentations, invited speakers, articles from scientific journals and case studies discussed in class. ➤ Exercises and primary source documents are assigned as homework, the answers and critical response to which are reviewed in class. ➤ The level 4 modules ES 1000 Environmental Science: Ecosystems and Biodiversity and ES 1010 Energy Resources and Pollution include laboratory activities (laboratory practical work and reports). ➤ The level 5 modules SO/ES 3002 Environment and Society, ES 3216 Environmental Policy and Legislation, ES 3220 Principles of Environmental Management, ES 3139 The Economy and the
--	---

- Environment as well as the level 6 module ES 4017 Environmental Justice include a student term project and, in some cases, a presentation. Student project may involve field work.
- Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.
 - Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.

Assessment Methods:

In ES 3216 Environmental Policy and Legislation and ES 3220 Principles of Environmental Management, students are assessed as follows:

Summative:

Project (2,000 to 2,500 words)	50%
Final examination (2-hour)	50%

Formative:

Critical response to selected questions during the semester – sample test or in-class, 1-hour, "diagnostic" test	0%
--	----

In ES 3139 The Economy and the Environment and SO/ES 3002 Environment and Society students are assessed as follows:

Summative:

Project (2,000 to 2,500 words)	40%
Final Examination (2-hour)	60%

Formative:

"Diagnostic" examination (in-class or take-home)	0%
--	----

In ES 3139, ES 3216 and ES 3220, students are assessed by a project based on research on selected topics relevant to class material in different ways (literature review or primary data collection through observations, measurements, interviews, surveys). The project includes paper preparation (through which they develop skills for critical evaluation, analysis and synthesis) and in some cases oral presentation of student work and/or poster. Critical essays, role playing and case study analysis can also be included as part of the project. In SO/ES 3002, the project is based on analysing connections between social changes and environment in a specific area. An analytical description of the

requirements of the project and of the assessment method is always included as part of the module information package. The final exam of these modules consists of essay questions.

In BI 3215 Environmental Health students are assessed as follows:

Summative:

Midterm examination (2 hours): Essay questions	40%
Final examination (2 hours): Essay questions	60%

Formative:

Essay questions (as homework assignments)	0%
---	----

The midterm and final exam in BI 3215 examine knowledge, understanding, analysis and critical evaluation through essay questions.

In ES 4017, students are assessed in the following way:

Summative:

Project (3,000-3,500 words)	50%
Critical response to 3 selected essay questions (take home)	50%

Formative:

Critical response to selected questions during the semester and/or engagement with on-line tools	0%
--	----

The student project in the L6 ES 4017 module is also based on research on selected topics relevant to class material (literature review or primary data collection through observations, measurements, interviews, surveys) and includes paper preparation (through which they develop skills for critical evaluation, analysis and synthesis), and in some cases oral presentation of student work and/or poster. Critical essays, role playing and case study analysis can also be included as part of the project. The final assessment consists of critical response to 3 selected essay questions; this assessment is expected to allow more in-depth engagement with the topic of the essay than a conventional 2-hour final examination.

A3. Demonstrate knowledge and understanding of human responses to environmental problems such as the development of environmental policy and law and environmental management, as well as of the importance of temporal and spatial scales in considering the environmental impact of human decisions in different environmental studies fields.

A3.

Where it is taught:

The build-up of knowledge is gradual, starting from level 5 modules and continuing with the more specialized level 6 modules.

Students take the following level 5 modules:

ES 3216 ENVIRONMENTAL POLICY AND LEGISLATION

ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT

ES 3139 THE ECONOMY AND THE ENVIRONMENT

ES/CH 32XX ENVIRONMENTAL CHEMISTRY

BI 3215 ENVIRONMENTAL HEALTH

and the following level 6 modules:

ES 4017 ENVIRONMENTAL JUSTICE

Optional Modules:

Five out of the following

ES 4115 ENERGY AND ENVIRONMENT

ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT

ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES

ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT

ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS

ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS

ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION

ES 4229 SUSTAINABLE CITIES

ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT

HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY

LEVEL 5:

➤ **ES 3216 Environmental Policy and Legislation**

The module provides an overview of environmental policy, politics and related legislation from both a national and international perspective, examining the key concepts, conflicts, political systems and the practices of policy-making.

➤ **ES 3220 Principles of Environmental Management**

An introduction to the basic principles, significant underlying concepts and techniques of environmental management. Issues like uncertainty and public goods and their relation to environmental management as well as cases of environmental management practices in different settings are discussed.

➤ **ES 3139 The Economy and the Environment**

Valuing the environment. Sustainability. Market failure and environmental problems. Environmental regulatory policies. Management of natural resources.

➤ **ES/CH 32XX Environmental Chemistry**

A study of the chemistry of the atmosphere, water, and soil as well as the associated pollution problems. Chemical hazards in the environment such as heavy metals and synthetic organic compounds, risk assessment, and the chemistry and environmental implications of energy production are also discussed.

➤ **BI 3215 Environmental Health**

The module examines health issues, the scientific understanding of their causes and possible future approaches to

	<p>control major environmental health problems in industrialized and developing countries.</p> <p>LEVEL 6:</p> <ul style="list-style-type: none"> ➤ ES 4017 Environmental Justice The module explores how social inequalities, like social class, ethnicity and gender, relate with the environment; how they impact the environment and how the environment affects different social groups. Issues of environmental justice (distributive and participative), resource colonization, environmental insecurity and just sustainability are also analysed. ➤ ES 4115 Energy and the Environment The course provides an overview of different energy resources with an analysis of main fossil fuels, nuclear, and renewable energy resources, energy management aspects with supply and demand technologies and practices, and finally key energy policies and associated challenges. ➤ ES 4223 Water Resources: Threats and Sustainable Management World water resources and threats such as the increasing demand for water, overuse and depletion of freshwater resources, changes to the hydrologic cycle and water pollution. Current legislation on water and sustainable management of water resources. ➤ ES 4124 Air Quality and Global Atmospheric Changes Discussion of the structure of the atmosphere, urban air pollution, acid deposition, stratospheric ozone depletion, global climate change and their impacts. Policy issues, international legislation, energy options and solutions towards a more sustainable future are examined. ➤ ES 4126 Conservation of Wildlife and Mediterranean Ecosystems An analysis of terrestrial, aquatic and marine Mediterranean ecosystems and wildlife with emphasis on endangered and protected species, conservation and management techniques. ➤ ES 4125 Sustainable Food Production: Soil and Environment An integrated approach to soil fertility and sustainable food production. The principles of soil formation and self-sustaining soil systems, biodiversity, biologically grown food, irrigation, water management and social values are also discussed. Focus on crops and livestock management cases, minimizing the severe irreversible soil damages to Mediterranean ecosystems. Sustainable food production and organic farming for the society. Food as a product, food policies. ➤ ES 4327 Environmental Management Systems An exploration of the commonly applied Environmental Management Systems by corporations, with emphasis on international environmental management systems, such as ISO 14001 and EMAS. The Valdez principles and the Natural Step approach are also discussed. ➤ ES 4328 Environmental Policies in the European Union The course provides an introduction to the EU environmental policy, the seventh Environment Action Programme to 2020 and the renewed sustainable development strategy as well as the integration of environmental issues in the decisions and activities of other policy sectors. ➤ ES 4229 Sustainable Cities This course studies cities and how these can be sustainable. It addresses the political, social and physical dimensions of sustainable cities. It explores why and how to plan living environments that are attractive, functional, appropriately scaled and enjoyable, while reducing their environmental impacts and the energy it takes to build them and operate them. ➤ ES 4135 Sustainable Use of Resources and Waste Management Integrated Solid Waste Management with emphasis on Waste Prevention, Reuse, Recycling and Composting. Discussion of principles and policies aiming at Zero Waste societies. Discussion of Municipal Solid Waste Management
--	--

	<p>Systems based on current Environmental E.U Policy. Economic and regulatory tools applied in order to promote prevention, reuse and recycling strategies and implementation of the “polluter pays principle”. Discussion of disposal options, landfills and incinerators, with emphasis on their environmental impacts.</p> <ul style="list-style-type: none"> ➤ HT 4021 Sustainable Management in Tourism and Hospitality The course discusses the application of sustainable development principles in tourism and hospitality and examines industry, consumer and policy perspectives and priorities in managing tourism and hospitality in a sustainable manner. <p><u>Learning and Teaching Strategy:</u> In congruence with the Learning and Teaching strategy of the College, the following tools are used:</p> <ul style="list-style-type: none"> ➤ Class lectures, interactive learning (class discussions, group work), video presentations, invited speakers, articles from scientific journals and case studies discussed in class. ➤ Exercises and primary source documents are assigned as homework, the answers and critical response to which are reviewed in class. ➤ Blackboard online tools are also used in some modules. ➤ Student term project and, in some cases, presentation (except in BI 3215 Environmental Health). Student project may involve field work. ➤ Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material. ➤ Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources. <p><u>Assessment Methods:</u> In the L5 modules ES 3216 Environmental Policy and Legislation, ES 3220 Principles of Environmental Management, as well as the L6 modules ES 4115 Energy and Environment, ES 4125 Sustainable Food Production: Soil and Environment and ES 4328 Environmental Policies in the European Union, students are assessed by a paper/project and a final exam, with 50% and 50% weights respectively. as follows:</p> <p>Summative:</p> <table border="1" data-bbox="831 1090 1621 1251"> <tr> <td>Project (2,000-2,500 words for L5 modules and 3,000-3,500 words for L6 modules)</td> <td>50%</td> </tr> <tr> <td>Final examination (2-hour)</td> <td>50%</td> </tr> </table> <p>Formative:</p> <table border="1" data-bbox="831 1275 1621 1331"> <tr> <td>Critical response to selected questions during the semester – including a sample test</td> <td>0%</td> </tr> </table>	Project (2,000-2,500 words for L5 modules and 3,000-3,500 words for L6 modules)	50%	Final examination (2-hour)	50%	Critical response to selected questions during the semester – including a sample test	0%
Project (2,000-2,500 words for L5 modules and 3,000-3,500 words for L6 modules)	50%						
Final examination (2-hour)	50%						
Critical response to selected questions during the semester – including a sample test	0%						

In the L5 modules ES/CH 32XX Environmental Chemistry and ES 3139 The Economy and the Environment and in the L6 modules ES 4223 Water Resources: Threats and Sustainable Management, ES 4124 Air Quality and Global Atmospheric Changes, ES 4126 Conservation of Wildlife and Mediterranean Ecosystems and ES 4135 Sustainable Use of Resources and Waste Management students are assessed by a paper/project and a final exam, with 40% and 60% weights respectively.

Summative:

Project (2,000-2,500 words for L5 modules and 3,000-3,500 words for L6 modules)	40%
Final examination (2-hour)	60%

Formative:

Critical response to selected questions during the semester – including a sample test	0%
--	----

In all above modules, students are assessed by a project based on research on selected topics relevant to class material in different ways (literature review or primary data collection through observations, measurements, interviews, surveys) and includes paper preparation (through which they develop skills for critical evaluation, analysis and synthesis), and in some cases oral presentation of student work and/or poster. Critical essays, role playing and case study analysis can also be included as part of the project. An analytical description of the requirements of the project and of the assessment method is always included as part of the module information package. Students are expected to do a more thorough analysis of the topic and produce longer papers at level 6. The final exam examines material covered in class and assesses students' knowledge, understanding, analysis and critical evaluation skills.

In the L6 modules ES 4017 Environmental Justice and ES 4327 Environmental Management Systems, the final exam has been replaced by a critical response to selected essay questions (take-home), as follows:

Summative:

Project (3,000-3,500 words)	50%
Critical response to selected essay questions (take home)	50%

A4. Demonstrate knowledge and understanding of the concepts and dimensions of sustainability and sustainable development and of their applications in addressing environmental issues in an integrated manner.

Formative:

Critical response to selected questions during the semester and/or engagement with on-line tools	0
--	---

In the L5 module BI 3215 Environmental Health students are assessed by a midterm and a final exam, having weights 40 and 60% respectively.

Summative:

Midterm examination (2 hours): Essay questions	40%
Final examination (2 hours): Essay questions	60%

Formative:

Essay questions (as homework assignments)	0%
---	----

And in the optional L6 module HT 4021 Sustainable Management in Tourism and Hospitality, a group presentation and an individual written project are used to assess students:

Group presentation – summative Approximately 10-15 minutes per group	30%
Individual written project – summative 3,000–3,500 words	70%
Coursework – formative Discussion of case studies, articles and other sources	0%

Group presentations develop students' ability for team work, an important transferable skill.

A4.

Where it is taught:

Students take two level 4 modules:

ES 1000 ENVIRONMENTAL SCIENCE: ECOSYSTEMS AND BIODIVERSITY

ES 1010 ENVIRONMENTAL SCIENCE: ENERGY RESOURCES AND POLLUTION

the following level 5 modules:

SO/ES 3002 ENVIRONMENT AND SOCIETY

ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT

ES 3216 ENVIRONMENTAL POLICY AND LEGISLATION

ES 3139 THE ECONOMY AND THE ENVIRONMENT

and the following level 6 modules:

ES 4017 ENVIRONMENTAL JUSTICE

	<p>Optional Modules: Five out of the following: ES 4115 ENERGY AND ENVIRONMENT ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION ES 4229 SUSTAINABLE CITIES ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY</p> <p>In level 4 modules they get exposed to the concept of sustainability and sustainable development and acquire understanding of sustainability principles that govern natural systems, in level 5 modules they explore the social, political and economic dimensions of the concepts and in the level 6 modules they acquire knowledge of applications of the concepts in different environmental studies fields.</p> <p>LEVEL 4</p> <ul style="list-style-type: none"> ➤ ES 1000 Environmental Science: Ecosystems and Biodiversity Principles of environmental science with emphasis on sustainability, ecosystem structure and function, biodiversity, the human impact on ecosystems, soil and food production, water resources, conservation and protection of natural resources. ➤ ES 1010 Environmental Science: Energy Resources and Pollution Principles of environmental science including a discussion of non-renewable and renewable energy resources, water and air pollution, global atmospheric changes, hazardous and solid waste management. Environmental policy and management issues are also discussed, with emphasis on sustainable solutions. <p>LEVEL 5</p> <ul style="list-style-type: none"> ➤ SO/ES 3002 Environment and Society The study of the interactions between the physical environment, social organization and social behavior. Focus on both local and global dimensions of social behaviors and their environmental impact. ➤ ES 3216 Environmental Policy and Legislation The module provides an overview of environmental policy, politics and related legislation from both a national and international perspective, examining the key concepts, conflicts, political systems and the practices of policy-making. ➤ ES 3220 Principles of Environmental Management An introduction to the basic principles, significant underlying concepts and techniques of environmental management. Issues like uncertainty and public goods and their relation to environmental management as well as cases of environmental management practices in different settings are discussed. ➤ ES 3139 The Economy and the Environment Valuing the environment. Sustainability. Market failure and environmental problems. Environmental regulatory policies. Management of natural resources. <p>LEVEL 6</p> <ul style="list-style-type: none"> ➤ ES 4017 Environmental Justice
--	--

	<p>The module explores how social inequalities, like social class, ethnicity and gender, relate with the environment; how they impact the environment and how the environment affects different social groups. Issues of environmental justice (distributive and participative), resource colonization, environmental insecurity and just sustainability are also analysed.</p> <ul style="list-style-type: none"> ➤ ES 4115 Energy and Environment The module provides an overview of different energy resources with an analysis of main fossil fuels, nuclear, and renewable energy resources, energy management aspects with supply and demand technologies and practices, and finally key energy policies and associated challenges. ➤ ES 4223 Water Resources: Threats and Sustainable Management World water resources and threats such as the increasing demand for water, overuse and depletion of freshwater resources, changes to the hydrologic cycle and water pollution. Current legislation on water and sustainable management of water resources. ➤ ES 4124 Air Quality and Global Atmospheric Changes Discussion of the structure of the atmosphere, urban air pollution, acid deposition, stratospheric ozone depletion, global climate change and their impacts. Policy issues, international legislation, energy options and solutions towards a more sustainable future are examined. ➤ ES 4126 Conservation of Wildlife and Mediterranean Ecosystems An analysis of terrestrial, aquatic and marine Mediterranean ecosystems and wildlife with emphasis on endangered and protected species, conservation and management techniques. ➤ ES 4125 Sustainable Food Production: Soil and Environment An integrated approach to soil fertility and sustainable food production. The principles of soil formation and self-sustaining soil systems, biodiversity, biologically grown food, irrigation, water management and social values are also discussed. Focus on crops and livestock management cases, minimizing the severe irreversible soil damages to Mediterranean ecosystems. Sustainable food production and organic farming for the society. Food as a product, food policies. ➤ ES 4327 Environmental Management Systems An exploration of the commonly applied Environmental Management Systems by corporations, with emphasis on international environmental management systems, such as ISO 14001 and EMAS. The Valdez principles and the Natural Step approach are also discussed. ➤ ES 4328 Environmental Policies in the European Union The course provides an introduction to the EU environmental policy, the seventh Environment Action Programme to 2020 and the renewed sustainable development strategy as well as the integration of environmental issues in the decisions and activities of other policy sectors. ➤ ES 4229 Sustainable Cities This course studies cities and how these can be sustainable. It addresses the political, social and physical dimensions of sustainable cities. It explores why and how to plan living environments that are attractive, functional, appropriately scaled and enjoyable, while reducing their environmental impacts and the energy it takes to build them and operate them. ➤ ES 4135 Sustainable Use of Resources and Waste Management Integrated Solid Waste Management with emphasis on Waste Prevention, Reuse, Recycling and Composting. Discussion of principles and policies aiming at Zero Waste societies. Discussion of Municipal Solid Waste Management Systems based on current Environmental E.U Policy. Economic and regulatory tools applied in order to promote prevention, reuse and recycling strategies and implementation of the "polluter pays principle". Discussion of disposal options, landfills and incinerators, with emphasis on their environmental impacts. ➤ ES 42XX Education for the Environment and Sustainability
--	--

	<p>This course aims to provide students with knowledge and skills on how to teach about / for / in the environment and for sustainability in order to engage students in the learning process and mobilize them towards a sustainable society. The history of Education for Sustainable Development, pedagogy and teaching methods will be discussed.</p> <ul style="list-style-type: none"> ➤ HT 4021 Sustainable Management in Tourism and Hospitality The course discusses the application of sustainable development principles in tourism and hospitality and examines industry, consumer and policy perspectives and priorities in managing tourism and hospitality in a sustainable manner. <p><u>Learning and Teaching Strategy:</u> In congruence with the Learning and Teaching strategy of the College, the following tools are used: For ES 1000, ES 1010 (level 4):</p> <ul style="list-style-type: none"> ➤ Class lectures, interactive learning (class discussions, group work), video presentations, and practical problems solved in class. ➤ Exercises and primary source documents are assigned as homework, the answers and critical response to which are reviewed in class ➤ Laboratory activities (laboratory practical work and reports) ➤ Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material. ➤ Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources. <p>For the above listed level 5 and level 6 modules, the following teaching and learning methods are used:</p> <ul style="list-style-type: none"> ➤ Class lectures, interactive learning (class discussions, group work), video presentations, invited speakers, articles from scientific journals and case studies discussed in class. ➤ Exercises and primary source documents are assigned as homework, the answers and critical response to which are reviewed in class. ➤ Other formative activities (e.g. involvement with Blackboard online tools) which may be reviewed in class and/or peer-reviewed. ➤ Student term project (may involve field work). ➤ ES 42XX Education for the Environment and Sustainability may involve a practicum (an actual teaching session) ➤ Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material. ➤ Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources. <p><u>Assessment Methods:</u></p>
--	--

A5. Demonstrate knowledge and understanding of
a) basic tools in mathematics and statistics, as well as of

Student performance in ES 1000 and ES 1010 is assessed as described in A1 (through a midterm, a final exam and lab reports having weights of 30%, 45% and 25% respectively).

In the L5 modules ES 3216 Environmental Policy and Legislation, ES 3220 Principles of Environmental Management as well as the L6 modules ES 4115 Energy and Environment, ES 4125 Sustainable Food Production: Soil and Environment, ES 4328 Environmental Policies in the EU, student performance is assessed by a project (50% weight) and a final exam (50% weight), as described in A2. In the L6 modules ES 4017 Environmental Justice and ES 4327 Environmental Management Systems, the final exam has been replaced by a critical response to three selected essay questions (take-home), as described in A3.

In the L5 modules SO/ES 3002 Environment and Society and ES 3139 The Economy and the Environment and in the L6 modules ES 4223 Water Resources: Threats and Sustainable Management, ES 4124 Air Quality and Global Atmospheric Changes, ES 4126 Conservation of Wildlife and Mediterranean Ecosystems, ES 4135 Sustainable Use of Resources and Waste Management, students are assessed by a project (40% weight) and a final exam (60% weight), as described in A2.

Finally, in the ES 42XX Education for the Environment and Sustainability module, students are assessed by selected take-home essay questions, a lesson plan and peer review of a colleague's lesson plan, as follows:

Summative:

Selected take-home essay questions (3)	35%
Lesson plan (preparation and presentation or implementation) – with a theoretical for a selected environmental and sustainability topic	50%
Peer-review of a colleague's lesson plan	15%

Formative:

Participation to selected educational activities during the semester and/or engagement with on-line tools	0%
---	----

This new module will include significant field work as it will involve actual teaching. It is expected to enhance students' practical and employability skills in the area of environmental education.

A5. a)

Where it is taught:

Students take one module in statistics, MA 3111 STATISTICS II, and one module in Geographic Information Systems, GG 3115 GEOGRAPHIC INFORMATION SYSTEMS.

quantitative techniques and data processing methods including GIS techniques

b) tools, techniques and research methods used to study and address environmental issues at an advanced level.

- **MA 3111: Statistics II**
Confidence interval for one mean, one variance, and one proportion. Hypotheses testing. Parametric tests for one mean and for the difference between two means. Parametric tests for one standard deviation and for the difference between two standard deviations. Parametric tests for one proportion and for the difference between two proportions. Test for independence of two qualitative/categorical variables. One way analysis of variance. Simple and multiple correlation and regression.
- **GG 3115: Geographic Information Systems**
An introduction to the field of Geographic Information Systems (GIS), its diversified applications and exploration of basic concepts, principles, approaches and techniques of GIS. Topics include applications of geographic information system; spatial data collection; data accuracy and uncertainty; cartographic principles; data visualization; geographic analysis; legal, economic and ethical issues.

Learning and Teaching Strategy:

In both MA 3111 and GG 3115, classes consist of lectures and class discussions. Blackboard and office hours are available, as stated previously. MA 3111 uses computer software that will be available both as a teaching aid and as a medium for solving problems. GG 3115 also includes programming, problem solving and laboratory sessions, involving training and practice in program design and development.

Assessment Methods:

Student performance in MA 3111 is assessed by two examinations (midterm and final) as follows:

Summative:

Midterm examination	40%
Final examination	60%

Formative:

examination	0%
-------------	----

Examinations assess students' ability to use statistical methods to address/solve specific questions and problems.

Student performance in GG 3115 is assessed by one term project:

Summative:

Project: 1,500-1,800 words report describing the work done with references and a map output	100%
--	------

Formative:

Take-home "diagnostic" case study	0%
-----------------------------------	----

In the GG 3115 module, students use GIS to examine a specific topic/question of environmental interest, producing a report with references and a map output.

A5. b)

Where it is taught:

Students take two modules on methods of environmental analysis and their capstone module that has a strong empirical component:

ES 32XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS I (LEVEL 5)
ES 43XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS II (LEVEL 6)
ES 4430 ENVIRONMENTAL STUDIES CAPSTONE (LEVEL 6)

In ES 32XX and ES 43XX they get exposed to research methodology and methods used in both natural and social sciences and in ES 4430 they apply previous knowledge to research a specific topic.

- **ES 32XX Integrated Methods in Environmental Analysis I**
The course aims to cover basic methods and techniques needed in environmental science. Selected natural science methods and their basic principles and techniques are presented, with emphasis on interdisciplinary inquiry. Hands-on experience, laboratory and field work on some of the presented methods and techniques are offered.
- **ES 43XX Integrated Methods in Environmental Analysis II**
This module aims to cover basic methods and techniques needed in environmental studies and management. It includes the presentation of selected natural scientific and social scientific methods and their basic principles and techniques, in order to provide a sound basis for the interdisciplinary inquiry required in environmental studies. It also offers hands-on experience on some of the presented methods and techniques, since it involves laboratory work and a small field research project.
- **ES 4430 Environmental Studies Capstone**
This module is the culmination of the work in Environmental Studies. It is designed to provide students with opportunities to research significant environmental issues from multiple perspectives. It involves a project on an environmental issue/topic of local or national relevance.

Learning and Teaching Strategy:

In ES 32XX and ES 43XX, the following tools are used:

- Class lectures, interactive learning (class discussions, group work), video presentations, and case studies discussed in class.
- Laboratory and field practical work and reports
- Practical problems addressed (e.g. creation of a questionnaire)
- Formative activities (e.g. homework assignments, involvement with on-line tools) which are reviewed in class
- Students' projects and presentations
- Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.
- Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely

announcements, as well as additional resources.

ES 4430 does not involve regular lectures and class discussion; students conduct independent research that includes literature review, collection of data and information, critical evaluation, analysis and synthesis. Depending on the project, laboratory or field work may be required. Students should regularly meet with teaching staff who should follow the progress of their work and provide feedback. They should make maximum use of the instructor's office hours and of the blackboard site.

Assessment Methods:

Student performance in ES 32XX is assessed by a project, a portfolio of lab reports and a final examination in the following way:

Summative:

Project (1,500-1,800 words)	35%
Portfolio of lab reports	25%
Final examination (2-hour)	40%

Formative:

Critical response to selected questions during the semester – including a sample test	0
---	---

The student project will allow students to examine and analyse an environmental research topic that is based on natural science methodology; their focus will be on analysing the methodology and methods used in addressing the topic. Students will also conduct lab or field work that will be assessed by lab reports. The final examination will examine knowledge, understanding, application and evaluation of natural science methods and methodology relevant to environmental studies.

In ES 43XX, students will prepare the proposal for their capstone projects and will be assessed by a project (the capstone proposal), practical work and take-home essay questions in the following way:

Summative:

Student's capstone proposal (2,000 - 3,000 words)	40%
Selected practical exercises	30%
Critical response to selected essay questions (take home)	30%

Formative:

Critical response to selected questions during the semester and/or engagement with on-line tools	0
--	---

The students will be trained to social science methods used in environmental studies and will be assessed by selected practical exercises (application of methods) and critical response to selected

<p>A6. Demonstrate knowledge in more specialized fields of environmental studies (such as management and conservation of natural resources, policy and environmental management of corporations)</p>	<p>essay questions that will allow them to engage in more depth with the material of the module than what would be possible in an in-class 2-hour examination. In this module, they will apply knowledge on research methodology by preparing the proposal for their capstone projects that that they will conduct in the Environmental Studies Capstone module.</p>				
	<p>Student performance in ES 4430 is assessed by the capstone project as follows:</p>				
	<p>Summative:</p> <table border="1" data-bbox="817 446 1624 502"> <tr> <td>Research project (6,500 - 7,000 words)</td> <td>100%</td> </tr> </table> <p>Formative:</p> <table border="1" data-bbox="817 526 1624 662"> <tr> <td>Regular meetings with instructor at different stages of research in which students receive feedback on their work (use of appropriate tools and techniques, preparation of structured documentation, planning and meeting project deadlines will be assessed)</td> <td>0%</td> </tr> </table>	Research project (6,500 - 7,000 words)	100%	Regular meetings with instructor at different stages of research in which students receive feedback on their work (use of appropriate tools and techniques, preparation of structured documentation, planning and meeting project deadlines will be assessed)	0%
	Research project (6,500 - 7,000 words)	100%			
Regular meetings with instructor at different stages of research in which students receive feedback on their work (use of appropriate tools and techniques, preparation of structured documentation, planning and meeting project deadlines will be assessed)	0%				
<p>The capstone project is the culmination of students' work in the programme and will consist of a one-semester research project on a selected topic; research will be based on literature review or primary data collection (through observations, measurements, interviews, surveys). Students will have to synthesize a paper in which they will provide a background on the topic, describe their methodology, present the results of their work, interpret and discuss them and provide conclusions. They will present their work orally to Environmental Studies teaching staff and students. The project may also involve poster preparation and/or production of audiovisual material.</p> <p>An analytical description of the requirements of all projects and of the assessment method is always included as part of the module information package.</p> <p>A6. <u>Where it is taught:</u> Students take five out of nine level 6 optional modules in which they acquire knowledge in specialized fields of environmental studies: ES 4115 ENERGY AND ENVIRONMENT ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION</p>					

	<p>ES 4229 SUSTAINABLE CITIES ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT ES 42XX EDUCATION FOR THE ENVIRONMENT AND SUSTAINABILITY HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY</p> <ul style="list-style-type: none"> ➤ ES 4115 Energy and Environment The module provides an overview of different energy resources with an analysis of main fossil fuels, nuclear, and renewable energy resources, energy management aspects with supply and demand technologies and practices, and finally key energy policies and associated challenges. ➤ ES 4223 Water Resources: Threats and Sustainable Management World water resources and threats such as the increasing demand for water, overuse and depletion of freshwater resources, changes to the hydrologic cycle and water pollution. Current legislation on water and sustainable management of water resources. ➤ ES 4124 Air Quality and Global Atmospheric Changes Discussion of the structure of the atmosphere, urban air pollution, acid deposition, stratospheric ozone depletion, global climate change and their impacts. Policy issues, international legislation, energy options and solutions towards a more sustainable future are examined. ➤ ES 4126 Conservation of Wildlife and Mediterranean Ecosystems An analysis of terrestrial, aquatic and marine Mediterranean ecosystems and wildlife with emphasis on endangered and protected species, conservation and management techniques. ➤ ES 4125 Sustainable Food Production: Soil and Environment An integrated approach to soil fertility and sustainable food production. The principles of soil formation and self-sustaining soil systems, biodiversity, biologically grown food, irrigation, water management and social values are also discussed. Focus on crops and livestock management cases, minimizing the severe irreversible soil damages to Mediterranean ecosystems. Sustainable food production and organic farming for the society. Food as a product, food policies. ➤ ES 4327 Environmental Management Systems An exploration of the commonly applied Environmental Management Systems by corporations, with emphasis on international environmental management systems, such as ISO 14001 and EMAS. The Valdez principles and the Natural Step approach are also discussed. ➤ ES 4328 Environmental Policies in the European Union The course provides an introduction to the EU environmental policy, the seventh Environment Action Programme to 2020 and the renewed sustainable development strategy as well as the integration of environmental issues in the decisions and activities of other policy sectors. ➤ ES 4229 Sustainable Cities This course studies cities and how these can be sustainable. It addresses the political, social and physical dimensions of sustainable cities. It explores why and how to plan living environments that are attractive, functional, appropriately scaled and enjoyable, while reducing their environmental impacts and the energy it takes to build them and operate them. ➤ ES 4135 Sustainable Use of Resources and Waste Management Integrated Solid Waste Management with emphasis on Waste Prevention, Reuse, Recycling and Composting. Discussion of principles and policies aiming at Zero Waste societies. Discussion of Municipal Solid Waste Management Systems based on current Environmental E.U Policy. Economic and regulatory tools applied in order to promote prevention, reuse and recycling strategies and implementation of the “polluter pays principle”. Discussion of disposal
--	---

	<p>options, landfills and incinerators, with emphasis on their environmental impacts.</p> <ul style="list-style-type: none"> ➤ ES 42XX Education for the Environment and Sustainability This course aims to provide students with knowledge and skills on how to teach about / for / in the environment and for sustainability in order to engage students in the learning process and mobilize them towards a sustainable society. The history of Education for Sustainable Development, pedagogy and teaching methods will be discussed. ➤ HT 4021 Sustainable Management in Tourism and Hospitality The course discusses the application of sustainable development principles in tourism and hospitality and examines industry, consumer and policy perspectives and priorities in managing tourism and hospitality in a sustainable manner <p><u>Learning and Teaching Strategy:</u> In congruence with the Learning and Teaching strategy of the College, the following tools are used:</p> <ul style="list-style-type: none"> ➤ Class lectures, interactive learning (class discussions, group work), video presentations, invited speakers, articles from scientific journals and case studies discussed in class. ➤ Exercises and primary source documents are assigned as homework, the answers and critical response to which are reviewed in class. ➤ Students' projects, presentations and possibly practicums in the case of ES32XX Education for the Environment and Sustainability. Field work may be involved in some of the projects. ➤ Formative activities (e.g. homework assignments, involvement with on-line tools) which may be reviewed in class and/or peer-reviewed ➤ Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material. ➤ Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources. <p><u>Assessment Methods:</u> In ES 4115 Energy and Environment, ES 4327 Environmental Management Systems and ES 4328 Environmental Policies in the European Union, ES 4125 Sustainable Food Production: Soil and Environment students are assessed by a paper (50%) and a final exam (50%), as described in A3. In 4017 Environmental Justice and ES 4229 Sustainable Cities, instead of final examination, students are assessed by take-home essay questions (see A3).</p> <p>In ES 4223 Water Resources: Threats and Sustainable Management, ES 4124 Air Quality and Global Atmospheric Changes, ES 4126 Conservation of Wildlife and Mediterranean Ecosystems, and ES 4135 Sustainable Use of Resources and Waste Management, assessment takes place through a paper and a final examination, but with weights 40% and 60% respectively (see A3).</p> <p>HT 4021 Sustainable Management in Tourism and Hospitality students are assessed by an individual</p>
--	--

	written project and a group presentation (weights 70:30) (see A3).
--	--

3B. Cognitive skills	
Learning outcomes	Learning and teaching strategy/ assessment methods
<p>Upon completion of the Environmental Studies program, students will be able to:</p> <p>B1. Recognize the moral and ethical issues of investigations, appreciate the need for professional codes of conduct and undertake a reasoned moral assessment of actions/persons/ business practices.</p>	<p>B1. <u>Where it is taught:</u> The moral and ethical issues of investigations are discussed throughout the curriculum, but are mostly emphasized in the following modules: LEVEL 5: ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT ES 32XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS I SO/ES 3002 ENVIRONMENT AND SOCIETY LEVEL 6: ES 42XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS II ES 4430 ENVIRONMENTAL STUDIES CAPSTONE ES 4017 ENVIRONMENTAL JUSTICE Optional Modules: ES 4115 ENERGY AND ENVIRONMENT ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION ES 4229 SUSTAINABLE CITIES ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT ES 42XX EDUCATION FOR THE ENVIRONMENT AND SUSTAINABILITY HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY</p> <p>SO/ES 3002 and ES 4017 examine issues of social inequality and environmental justice, ES 3220</p>

3B. Cognitive skills

teaches principles of environmental management at all levels, while in most level 6 modules, students discuss the ethical dimensions of environmental research and apply this knowledge to case studies and research projects they undertake.

LEVEL 5

- **ES 3220 Principles of Environmental Management**
An introduction to the basic principles, significant underlying concepts and techniques of environmental management. Issues like uncertainty and public goods and their relation to environmental management as well as cases of environmental management practices in different settings are discussed.
- **ES 32XX Integrated Methods in Environmental Analysis I**
The course aims to cover basic methods and techniques needed in environmental science. Selected natural science methods and their basic principles and techniques are presented, with emphasis on interdisciplinary inquiry. Hands-on experience, laboratory and field work on some of the presented methods and techniques are offered.
- **SO/ES 3002 Environment and Society**
The study of the interactions between the physical environment, social organization and social behavior. Focus on both local and global dimensions of social behaviors and their environmental impact.

LEVEL 6

- **ES 4017 Environmental Justice**
The course explores how social inequalities, like social class, ethnicity and gender, relate with the environment; how they impact the environment and how the environment affects different social groups. Issues of environmental justice (distributive and participative), resource colonization, environmental insecurity and just sustainability are also analyzed.
- **ES 43XX Integrated Methods in Environmental Analysis II**
This module aims to cover basic methods and techniques needed in environmental studies and management. It includes the presentation of selected natural scientific and social scientific methods and their basic principles and techniques, in order to provide a sound basis for the interdisciplinary inquiry required in environmental studies. It also offers hands-on experience on some of the presented methods and techniques, since it involves laboratory work and a small field research project.
- **ES 4430 Environmental Studies Capstone**
This module is the culmination of the work in Environmental Studies. It is designed to provide students with opportunities to research significant environmental issues from multiple perspectives. It involves a project on an environmental issue/topic of local or national relevance.
- **ES 4115 Energy and Environment**
The module provides an overview of different energy resources with an analysis of main fossil fuels, nuclear, and renewable energy resources, energy management aspects with supply and demand technologies and practices, and finally key energy policies and associated challenges.
- **ES 4223 Water Resources: Threats and Sustainable Management**
World water resources and threats such as the increasing demand for water, overuse and depletion of freshwater resources, changes to the hydrologic cycle and water pollution. Current legislation on water and sustainable management of water resources.
- **ES 4124 Air Quality and Global Atmospheric Changes**

3B. Cognitive skills

Discussion of the structure of the atmosphere, urban air pollution, acid deposition, stratospheric ozone depletion, global climate change and their impacts. Policy issues, international legislation, energy options and solutions towards a more sustainable future are examined.

- **ES 4126 Conservation of Wildlife and Mediterranean Ecosystems**
An analysis of terrestrial, aquatic and marine Mediterranean ecosystems and wildlife with emphasis on endangered and protected species, conservation and management techniques.
- **ES 4125 Sustainable Food Production: Soil and Environment**
An integrated approach to soil fertility and sustainable food production. The principles of soil formation and self-sustaining soil systems, biodiversity, biologically grown food, irrigation, water management and social values are also discussed. Focus on crops and livestock management cases, minimizing the severe irreversible soil damages to Mediterranean ecosystems. Sustainable food production and organic farming for the society. Food as a product, food policies.
- **ES 4327 Environmental Management Systems**
An exploration of the commonly applied Environmental Management Systems by corporations, with emphasis on international environmental management systems, such as ISO 14001 and EMAS. The Valdez principles and the Natural Step approach are also discussed.
- **ES 4328 Environmental Policies in the European Union**
The course provides an introduction to the EU environmental policy, the seventh Environment Action Programme to 2020 and the renewed sustainable development strategy as well as the integration of environmental issues in the decisions and activities of other policy sectors.
- **ES 4229 Sustainable Cities**
This course studies cities and how these can be sustainable. It addresses the political, social and physical dimensions of sustainable cities. It explores why and how to plan living environments that are attractive, functional, appropriately scaled and enjoyable, while reducing their environmental impacts and the energy it takes to build them and operate them.
- **ES 4135 Sustainable Use of Resources and Waste Management**
Integrated Solid Waste Management with emphasis on Waste Prevention, Reuse, Recycling and Composting. Discussion of principles and policies aiming at Zero Waste societies. Discussion of Municipal Solid Waste Management Systems based on current Environmental E.U Policy. Economic and regulatory tools applied in order to promote prevention, reuse and recycling strategies and implementation of the "polluter pays principle". Discussion of disposal options, landfills and incinerators, with emphasis on their environmental impacts.
- **ES 42XX Education for the Environment and Sustainability**
This course aims to provide students with knowledge and skills on how to teach about / for / in the environment and for sustainability in order to engage students in the learning process and mobilize them towards a sustainable society. The history of Education for Sustainable Development, pedagogy and teaching methods will be discussed.
- **HT 4021 Sustainable Management in Tourism and Hospitality**
The course discusses the application of sustainable development principles in tourism and hospitality and examines industry, consumer and policy perspectives and priorities in managing tourism and hospitality in a sustainable manner.

Learning and Teaching Strategy: In congruence with the Learning and Teaching strategy of the College, the following tools are used:

3B. Cognitive skills

- Class lectures, interactive learning (class discussions, group work), video presentations, invited speakers, articles from scientific journals and case studies discussed in class.
- Exercises and primary source documents are assigned as homework, the answers and critical response to which are reviewed in class.
- Use of Blackboard online tools.
- Student term project (may involve field work).
- Office hours: students are encouraged to make full use of the office hours of their instructor, where they can ask questions, see their exam paper, and/or go over lecture/lab material.
- Use of a blackboard site, where instructors post lecture notes, assignment instructions, timely announcements, as well as additional resources.

As outlined in learning outcome A5 b), ES 32XX and 43XX involves practical work (laboratory or field work, exercises) and reports. ES 4430 does not involve regular lectures and class discussion; students conduct independent research that includes literature review, collection of data and information, critical evaluation, analysis and synthesis. Depending on the project, laboratory work may be required. Students should regularly meet with teaching staff who should follow the progress of their work and provide feedback. They should make maximum use of the instructor's office hours and of the blackboard site.

Assessment Methods:

Assessment methods for the above modules are described in learning outcomes A3, A4 and A5b.

B2. Collect and analyse data and information on environmental issues using a range of techniques appropriate to the subject.

B2.

Where it is taught:

This learning outcome is achieved through all the modules of the curriculum. In level 4 natural science modules, students learn basic methods in natural sciences, including the ability to collect and process data and information. In most higher level modules they collect and analyse data and/or information for their term projects, in MA 3111 Statistics II, GG 3115 Geographic Information Systems and ES 32XX and ES 43XX Integrated Methods in Environmental Analysis modules they get exposed to a range of techniques needed for environmental research. In the ES 4430 Environmental Studies Capstone they collect and analyse data and information for their thesis project.

3B. Cognitive skills

B3. Critically evaluate the reliability, validity and significance of data and information collected and the evidence provided to support conclusions.

B4. Categorize ideas, data and information, reformat and transform them towards a given purpose and design solutions.

Module Description, Learning and Teaching Strategy and Assessment Methods as outlined above in Learning Outcomes (LOs) of section A (A1 through A6).

B3 and B4.

Where it is taught:

This learning outcome is achieved through all the level 5 and level 6 modules of the curriculum that include a term project. In level 5 and level 6 modules students develop the ability to critically evaluate data and information through essay questions, case study analyses, critical responses to selected questions and term projects. In the projects, students develop their ability for synthesis, as they are asked to propose solutions based on the information collected and analysed. In level 6 modules, students conduct longer research projects on more specialized topics.

LEVEL 5

GG 3115 GEOGRAPHIC INFORMATION SYSTEMS

SO/ES 3002 ENVIRONMENT AND SOCIETY

ES 3216 ENVIRONMENTAL POLICY AND LEGISLATION

ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT

ES 3139 THE ECONOMY AND THE ENVIRONMENT

ES 32XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS I

ES/CH 32XX ENVIRONMENTAL CHEMISTRY

LEVEL 6

ES 43XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS II

ES 4430 ENVIRONMENTAL STUDIES CAPSTONE

ES 4017 ENVIRONMENTAL JUSTICE

Optional Modules:

Five out of the following:

ES 4115 ENERGY AND ENVIRONMENT

ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT

ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES

ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT

ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS

ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS

ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION

ES 4229 SUSTAINABLE CITIES

ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT

3B. Cognitive skills

ES 42XX EDUCATION FOR THE ENVIRONMENT AND SUSTAINABILITY
HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY

LEVEL 5

- **GG 3115: Geographic Information Systems**
 An introduction to the field of Geographic Information Systems (GIS), its diversified applications and exploration of basic concepts, principles, approaches and techniques of GIS. Topics include applications of geographic information system; spatial data collection; data accuracy and uncertainty; cartographic principles; data visualization; geographic analysis; legal, economic and ethical issues.
- **SO/ES 3002 Environment and Society**
 The study of the interactions between the physical environment, social organization and social behavior. Focus on both local and global dimensions of social behaviors and their environmental impact.
- **ES 3216 Environmental Policy and Legislation**
 The module provides an overview of environmental policy, politics and related legislation from both a national and international perspective, examining the key concepts, conflicts, political systems and the practices of policy-making.
- **ES 3220 Principles of Environmental Management**
 An introduction to the basic principles, significant underlying concepts and techniques of environmental management. Issues like uncertainty and public goods and their relation to environmental management as well as cases of environmental management practices in different settings are discussed.
- **ES 313 The Economy and the Environment**
 Valuing the environment. Sustainability. Market failure and environmental problems. Environmental regulatory policies. Management of natural resources.
- **ES 32XX Integrated Methods in Environmental Analysis I**
 The course aims to cover basic methods and techniques needed in environmental science. Selected natural science methods and their basic principles and techniques are presented, with emphasis on interdisciplinary inquiry. Hands-on experience, laboratory and field work on some of the presented methods and techniques are offered.
- **ES/CH 32XX Environmental Chemistry**
 A study of the chemistry of the atmosphere, water, and soil as well as the associated pollution problems. Chemical hazards in the environment such as heavy metals and synthetic organic compounds, risk assessment, and the chemistry and environmental implications of energy production are also discussed.

LEVEL 6

- **ES 4017 Environmental Justice**
 The course explores how social inequalities, like social class, ethnicity and gender, relate with the environment; how they impact the environment and how the environment affects different social groups. Issues of environmental justice (distributive and participative), resource colonization, environmental insecurity and just sustainability are also analyzed.
- **ES 43XX Integrated Methods in Environmental Analysis II**
 This module aims to cover basic methods and techniques needed in environmental studies and management. It includes the presentation of selected natural scientific and social scientific methods and their basic principles and techniques, in order to provide a sound basis for the interdisciplinary inquiry required in environmental studies. It also offers hands-on experience on some of the presented methods and techniques, since it involves laboratory work and a small field research project.
- **ES 4430 Environmental Studies Capstone**

3B. Cognitive skills

This module is the culmination of the work in Environmental Studies. It is designed to provide students with opportunities to research significant environmental issues from multiple perspectives. It involves a project on an environmental issue/topic of local or national relevance.

- **ES 4115 Energy and Environment**
The module provides an overview of different energy resources with an analysis of main fossil fuels, nuclear, and renewable energy resources, energy management aspects with supply and demand technologies and practices, and finally key energy policies and associated challenges.
- **ES 4223 Water Resources: Threats and Sustainable Management**
World water resources and threats such as the increasing demand for water, overuse and depletion of freshwater resources, changes to the hydrologic cycle and water pollution. Current legislation on water and sustainable management of water resources.
- **ES 4124 Air Quality and Global Atmospheric Changes**
Discussion of the structure of the atmosphere, urban air pollution, acid deposition, stratospheric ozone depletion, global climate change and their impacts. Policy issues, international legislation, energy options and solutions towards a more sustainable future are examined.
- **ES 4126 Conservation of Wildlife and Mediterranean Ecosystems**
An analysis of terrestrial, aquatic and marine Mediterranean ecosystems and wildlife with emphasis on endangered and protected species, conservation and management techniques.
- **ES 4125 Sustainable Food Production: Soil and Environment**
An integrated approach to soil fertility and sustainable food production. The principles of soil formation and self-sustaining soil systems, biodiversity, biologically grown food, irrigation, water management and social values are also discussed. Focus on crops and livestock management cases, minimizing the severe irreversible soil damages to Mediterranean ecosystems. Sustainable food production and organic farming for the society. Food as a product, food policies.
- **ES 4327 Environmental Management Systems**
An exploration of the commonly applied Environmental Management Systems by corporations, with emphasis on international environmental management systems, such as ISO 14001 and EMAS. The Valdez principles and the Natural Step approach are also discussed.
- **ES 4328 Environmental Policies in the European Union**
The course provides an introduction to the EU environmental policy, the seventh Environment Action Programme to 2020 and the renewed sustainable development strategy as well as the integration of environmental issues in the decisions and activities of other policy sectors.
- **ES 4229 Sustainable Cities**
This course studies cities and how these can be sustainable. It addresses the political, social and physical dimensions of sustainable cities. It explores why and how to plan living environments that are attractive, functional, appropriately scaled and enjoyable, while reducing their environmental impacts and the energy it takes to build them and operate them.
- **ES 4135 Sustainable Use of Resources and Waste Management**
Integrated Solid Waste Management with emphasis on Waste Prevention, Reuse, Recycling and Composting. Discussion of principles and policies aiming at Zero Waste societies. Discussion of Municipal Solid Waste Management Systems based on current Environmental E.U Policy. Economic and regulatory tools applied in order to promote prevention, reuse and recycling strategies and implementation of the "polluter pays principle". Discussion of

3B. Cognitive skills

- disposal options, landfills and incinerators, with emphasis on their environmental impacts.
- **ES 42XX Education for the Environment and Sustainability**
This course aims to provide students with knowledge and skills on how to teach about / for / in the environment and for sustainability in order to engage students in the learning process and mobilize them towards a sustainable society. The history of Education for Sustainable Development, pedagogy and teaching methods will be discussed.
- **HT 4021 Sustainable Management in Tourism and Hospitality**
The course discusses the application of sustainable development principles in tourism and hospitality and examines industry, consumer and policy perspectives and priorities in managing tourism and hospitality in a sustainable manner.

Learning and Teaching Strategy and Assessment Methods as outlined above in LOs of section A (A2 through A6).

B5.

Where it is taught:

This learning outcome is achieved through the most advanced, level 6 modules of the curriculum. Students use knowledge from lower level modules to identify key elements of environmental problems and apply it to their solution.

LEVEL 6

ES 43XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS II

ES 4430 ENVIRONMENTAL STUDIES CAPSTONE

ES 4017 ENVIRONMENTAL JUSTICE

Optional Modules:

Five out of the following:

ES 4115 ENERGY AND ENVIRONMENT

ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT

ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES

ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT

ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS

ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS

ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION

ES 4229 SUSTAINABLE CITIES

ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT

ES 42XX EDUCATION FOR THE ENVIRONMENT AND SUSTAINABILITY

HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY

LEVEL 6

B5. Identify key elements of environmental problems and apply appropriate knowledge and skills to their solution.

3B. Cognitive skills

- **ES 4017 Environmental Justice**
The course explores how social inequalities, like social class, ethnicity and gender, relate with the environment; how they impact the environment and how the environment affects different social groups. Issues of environmental justice (distributive and participative), resource colonization, environmental insecurity and just sustainability are also analyzed.
- **ES 43XX Integrated Methods in Environmental Analysis II**
This module aims to cover basic methods and techniques needed in environmental studies and management. It includes the presentation of selected natural scientific and social scientific methods and their basic principles and techniques, in order to provide a sound basis for the interdisciplinary inquiry required in environmental studies. It also offers hands-on experience on some of the presented methods and techniques, since it involves laboratory work and a small field research project.
- **ES 4430 Environmental Studies Capstone**
This module is the culmination of the work in Environmental Studies. It is designed to provide students with opportunities to research significant environmental issues from multiple perspectives. It involves a project on an environmental issue/topic of local or national relevance.
- **ES 4115 Energy and Environment**
The module provides an overview of different energy resources with an analysis of main fossil fuels, nuclear, and renewable energy resources, energy management aspects with supply and demand technologies and practices, and finally key energy policies and associated challenges.
- **ES 4223 Water Resources: Threats and Sustainable Management**
World water resources and threats such as the increasing demand for water, overuse and depletion of freshwater resources, changes to the hydrologic cycle and water pollution. Current legislation on water and sustainable management of water resources.
- **ES 4124 Air Quality and Global Atmospheric Changes**
Discussion of the structure of the atmosphere, urban air pollution, acid deposition, stratospheric ozone depletion, global climate change and their impacts. Policy issues, international legislation, energy options and solutions towards a more sustainable future are examined.
- **ES 4126 Conservation of Wildlife and Mediterranean Ecosystems**
An analysis of terrestrial, aquatic and marine Mediterranean ecosystems and wildlife with emphasis on endangered and protected species, conservation and management techniques.
- **ES 4125 Sustainable Food Production: Soil and Environment**
An integrated approach to soil fertility and sustainable food production. The principles of soil formation and self-sustaining soil systems, biodiversity, biologically grown food, irrigation, water management and social values are also discussed. Focus on crops and livestock management cases, minimizing the severe irreversible soil damages to Mediterranean ecosystems. Sustainable food production and organic farming for the society. Food as a product, food policies.
- **ES 4327 Environmental Management Systems**
An exploration of the commonly applied Environmental Management Systems by corporations, with emphasis on international environmental management systems, such as ISO 14001 and EMAS. The Valdez principles and the Natural Step approach are also discussed.
- **ES 4328 Environmental Policies in the European Union**
The course provides an introduction to the EU environmental policy, the seventh Environment Action Programme to 2020 and the renewed sustainable development strategy as well as the integration of environmental issues in the

3B. Cognitive skills

decisions and activities of other policy sectors.

➤ **ES 4229 Sustainable Cities**

This course studies cities and how these can be sustainable. It addresses the political, social and physical dimensions of sustainable cities. It explores why and how to plan living environments that are attractive, functional, appropriately scaled and enjoyable, while reducing their environmental impacts and the energy it takes to build them and operate them.

➤ **ES 4135 Sustainable Use of Resources and Waste Management**

Integrated Solid Waste Management with emphasis on Waste Prevention, Reuse, Recycling and Composting. Discussion of principles and policies aiming at Zero Waste societies. Discussion of Municipal Solid Waste Management Systems based on current Environmental E.U Policy. Economic and regulatory tools applied in order to promote prevention, reuse and recycling strategies and implementation of the "polluter pays principle". Discussion of disposal options, landfills and incinerators, with emphasis on their environmental impacts.

➤ **ES 42XX Education for the Environment and Sustainability**

This course aims to provide students with knowledge and skills on how to teach about / for / in the environment and for sustainability in order to engage students in the learning process and mobilize them towards a sustainable society. The history of Education for Sustainable Development, pedagogy and teaching methods will be discussed.

➤ **HT 4021 Sustainable Management in Tourism and Hospitality**

The course discusses the application of sustainable development principles in tourism and hospitality and examines industry, consumer and policy perspectives and priorities in managing tourism and hospitality in a sustainable manner

Learning and Teaching Strategy and Assessment Methods as outlined above in LOs A5b and A6.

3C. Practical and professional skills	
Learning outcomes	Learning and teaching strategy/ assessment methods
<p>Upon completion of the Environmental Studies program, students will be able to:</p> <p>C1. Acquire the ability to describe and record materials in the field and laboratory and to interpret practical results in a logical manner.</p> <p>C2. Acquire the ability to use appropriate laboratory and field equipment competently and safely</p>	<p>C1 and C2:</p> <p><u>Where it is taught:</u> Students attain these learning outcomes by taking modules that include a lab component and /or field trip:</p> <p>LEVEL 4: ES 1000 ENVIRONMENTAL SCIENCE: ECOSYSTEMS AND BIODIVERSITY ES 1010 ENVIRONMENTAL SCIENCE: ENERGY RESOURCES AND POLLUTION CH 1002 PRINCIPLES OF CHEMISTRY GG 1000 ENVIRONMENTAL GEOLOGY One of the following: BI 1000 INTRODUCTION TO BIOLOGY I BI 10XX HUMAN BIOLOGY: BODY ANATOMY AND CURRENT ISSUES One of the following: BI 1101 INTRODUCTION TO BIOLOGY II BI 1007 ENVIRONMENTAL ECOLOGY LEVEL 5: ES 32XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS I</p> <p>The ES 4430 ENVIRONMENTAL STUDIES CAPSTONE may also include a lab component, depending on project. The ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT module includes field work and a project based on this work.</p> <p>LEVEL 4: > ES 1000 Environmental Science: Ecosystems and Biodiversity Principles of environmental science with emphasis on sustainability, ecosystem structure and function, biodiversity, the human impact on ecosystems, soil and food production, water resources, conservation and protection of natural resources. > ES 1010 Environmental Science: Energy Resources and Pollution</p>

3C. Practical and professional skills

- Principles of environmental science including a discussion of non-renewable and renewable energy resources, water and air pollution, global atmospheric changes, hazardous and solid waste management. Environmental policy and management issues are also discussed, with emphasis on sustainable solutions.
- **CH 1002 Principles of Chemistry**
An introduction to chemical science and the chemistry of everyday life. The course presents fundamental principles of chemistry such as atomic theory, chemical bonding, chemical reactions, states of matter, nuclear chemistry as well as basic concepts of inorganic chemistry. Focus is given to chemical applications and their relevance to the natural environment.
 - **GG 1000 Environmental Geology**
An interdisciplinary approach to studying environmental geosciences. Fundamental geologic concepts such as plate tectonics, geologic time and surficial processes are used as a basis for understanding a variety of natural processes. Elaboration on topics of physical geology, including the rock cycle and plate tectonics, occurrence and distribution of geologic hazards and resources, interactions between humans and the geologic environment, and the issues associated with the exploitation of geologic resources such as water pollution.
 - **BI 1000 Introduction to Biology I**
An integrated exploration of the fundamentals of biology as a science, the nature of life, biological chemistry, cell biology, metabolism and human body anatomy and function.
 - **BI 10XX Human Biology: Concepts and Current Issues**
An issues-based course designed for non-science majors that takes a fresh approach to the field of biology. Emphasis is put on basic biological processes, structure and function of organs and organ systems as well as diseases and infections of the human body.
 - **BI 1101 Introduction to Biology II**
An integrated exploration of major principles of biology. Emphasis on diversity of life, development, cell division, molecular biology, genetics, evolution, and ecology. Consideration of issues and applications related to society.
 - **BI 1007 Environmental Ecology**
Fundamentals of the science of ecology, including an introduction to life and the physical environment. Adaptations of organisms and evolution, population structure and regulation, species interactions, community ecology, biodiversity, ecosystems and ecological applications.
- LEVEL 5:
- **ES 32XX Integrated Methods in Environmental Analysis I**
The course aims to cover basic methods and techniques needed in environmental science. Selected natural science methods and their basic principles and techniques are presented, with emphasis on interdisciplinary inquiry. Hands-on experience, laboratory and field work on some of the presented methods and techniques are offered.
- LEVEL 6:
- **ES 4430 Environmental Studies Capstone**
This module is the culmination of the work in Environmental Studies. It is designed to provide students with opportunities to research significant environmental issues from multiple perspectives. It involves a project on an environmental issue/topic of local or national relevance.
 - **ES 4125 Sustainable Food Production: Soil and Environment**
An integrated approach to soil fertility and sustainable food production. The principles of soil formation and self-sustaining soil systems, biodiversity, biologically grown food, irrigation, water management and social values are also

3C. Practical and professional skills

discussed. Focus on crops and livestock management cases, minimizing the severe irreversible soil damages to Mediterranean ecosystems. Sustainable food production and organic farming for the society. Food as a product, food policies.

Learning and Teaching Strategy and Assessment Methods as outlined above in LOs A1, A5b) and A6. An essential element of most of these modules is the lab component or field trip. Most of them include reports on the practical work (lab or field activities) or a lab exam, as a way to assess the ability to interpret practical results.

C3. Acquire the ability to select and apply a range of methods, including spatial techniques, to study and solve environmental problems

C3.

Where it is taught:

These skills are mostly developed in modules through which students learn and apply methods used in environmental analysis such as:

MA 3111 STATISTICS II

GG 3115 GEOGRAPHIC INFORMATION SYSTEMS

ES 32XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS I

ES 43XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS II

ES 4430 ENVIRONMENTAL STUDIES CAPSTONE

LEVEL 5

➤ **ES 32XX Integrated Methods in Environmental Analysis I**

The course aims to cover basic methods and techniques needed in environmental science. Selected natural science methods and their basic principles and techniques are presented, with emphasis on interdisciplinary inquiry. Hands-on experience, laboratory and field work on some of the presented methods and techniques are offered.

➤ **MA 3111: Statistics II**

Confidence interval for one mean, one variance, and one proportion. Hypotheses testing. Parametric tests for one mean and for the difference between two means. Parametric tests for one standard deviation and for the difference between two standard deviations. Parametric tests for one proportion and for the difference between two proportions. Test for independence of two qualitative/categorical variables. One way analysis of variance. Simple and multiple correlation and regression.

➤ **GG 3115: Introduction to Geographic Information Systems**

An introduction to the field of Geographic Information Systems (GIS), its diversified applications and exploration of basic concepts, principles, approaches and techniques of GIS. Topics include applications of geographic information system; spatial data collection; data accuracy and uncertainty; cartographic principles; data visualization; geographic analysis; legal, economic and ethical issues.

LEVEL 6

➤ **ES 43XX Integrated Methods in Environmental Analysis II**

This module aims to cover basic methods and techniques needed in environmental studies and management. It includes the presentation of selected natural scientific and social scientific methods and their basic principles and techniques, in order to provide a sound basis for the interdisciplinary inquiry required in environmental studies. It also

3C. Practical and professional skills

offers hands-on experience on some of the presented methods and techniques, since it involves laboratory work and a small field research project.

➤ **ES 4430 Environmental Studies Capstone**

This module is the culmination of the work in Environmental Studies. It is designed to provide students with opportunities to research significant environmental issues from multiple perspectives. It involves a project on an environmental issue/topic of local or national relevance.

These modules have a practical component (lab, use of specific software, use of social science methods) that prepares students to apply different methods to analyse environmental problems.

Learning and Teaching Strategy and Assessment Methods as outlined above in LOs A5a) and A5b) .

C4.

Where it is taught:

These skills are developed progressively, in all level 5 and level 6 modules with a term project.

LEVEL 5

GG 3115 GEOGRAPHIC INFORMATION SYSTEMS

SO/ES 3002 ENVIRONMENT AND SOCIETY

ES 3216 ENVIRONMENTAL POLICY AND LEGISLATION

ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT

ES 3139 THE ECONOMY AND THE ENVIRONMENT

ES 32XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS I

ES/CH 31XX ENVIRONMENTAL CHEMISTRY

LEVEL 6

ES 43XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS II

ES 4430 ENVIRONMENTAL STUDIES CAPSTONE

ES 4017 ENVIRONMENTAL JUSTICE

Optional Modules:

Five out of the following:

ES 4115 ENERGY AND ENVIRONMENT

ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT

ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES

ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT

ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS

ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS

C4. Acquire the ability to plan, conduct and present an independent project effectively and appropriately with reliance on guidance, to relate investigations to prior work and to reference appropriately.

3C. Practical and professional skills	
	<p>ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION ES 4229 SUSTAINABLE CITIES ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT ES 42XX EDUCATION FOR THE ENVIRONMENT AND SUSTAINABILITY HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY</p> <p><u>Module Description as provided in LOs B3 and B4.</u> <u>Learning and Teaching Strategy and Assessment Methods as outlined above in LOs A2, A5b and A6.</u></p>

3D. Key/transferable skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>Upon completion of the Environmental Studies program, students will be able to:</p> <p>D1. Manage, select and process information from a variety of sources to support findings and hypotheses, develop a critical approach to academic literature and other sources of information and develop the ability to perform research (using simple to more complex research strategies) in different environmental studies fields.</p>	<p>D1. <u>Where it is taught:</u> These skills are attained in level 5 and level 6 modules with a research project. For these projects, students usually do a literature review, critically evaluate information collected and develop their own ideas and solutions to problems.</p> <p>LEVEL 5 GG 3115 GEOGRAPHIC INFORMATION SYSTEMS SO/ES 3002 ENVIRONMENT AND SOCIETY ES 3216 ENVIRONMENTAL POLICY AND LEGISLATION ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT ES 3139 THE ECONOMY AND THE ENVIRONMENT ES 32XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS I</p>

3D. Key/transerable skills	
<p>D2. Develop the ability</p> <p>a) to communicate effectively to a variety of audiences in written, graphical and verbal forms, to engage in debate in a professional manner and</p> <p>b) to produce detailed and coherent project reports.</p>	<p>ES/CH 31XX ENVIRONMENTAL CHEMISTRY LEVEL 6 ES 43XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS II ES 4430 ENVIRONMENTAL STUDIES CAPSTONE ES 4017 ENVIRONMENTAL JUSTICE Optional Modules: Five out of the following: ES 4115 ENERGY AND ENVIRONMENT ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION ES 4229 SUSTAINABLE CITIES ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY</p> <p><u>Module Description as provided in LOs B3 and B4.</u> <u>Learning and Teaching Strategy and Assessment Methods as outlined above in LOs A2, A5b and A6.</u></p> <p>D2. <u>Where it is taught:</u> a) This skill is attained in all modules (in level 4 modules through essay questions and lab reports and in level 5 and through essay questions and written projects that in some cases include a presentation) b) These skills are attained in all level 5 and level 6 modules with a project, as students have to communicate the results of their research in written form and, in many cases, they also make an oral presentation of their work:</p> <p>LEVEL 5 GG 3115 GEOGRAPHIC INFORMATION SYSTEMS SO/ES 3002 ENVIRONMENT AND SOCIETY ES 3216 ENVIRONMENTAL POLICY AND LEGISLATION ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT ES 3139 THE ECONOMY AND THE ENVIRONMENT ES 32XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS I</p>

3D. Key/transferrable skills

D3. Interact effectively within a team/learning group, giving and receiving information and ideas and modifying responses when appropriate.

ES/CH 31XX ENVIRONMENTAL CHEMISTRY
LEVEL 6
ES 43XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS II
ES 4430 ENVIRONMENTAL STUDIES CAPSTONE
ES 4017 ENVIRONMENTAL JUSTICE
Optional Modules:
Five out of the following:
ES 4115 ENERGY AND ENVIRONMENT
ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT
ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES
ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT
ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS
ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS
ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION
ES 4229 SUSTAINABLE CITIES
ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT
HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY

Module Description as provided in LOs B3 and B4.

Learning and Teaching Strategy and Assessment Methods as outlined above in LOs A1, A5b and A6.

D3.

Where it is taught:

These skills are attained in all level 4 natural science modules with laboratory, as lab and field activities involve team work and in some level 5 and level 6 modules where students work in teams in their term projects.

ES 1000 ENVIRONMENTAL SCIENCE: ECOSYSTEMS AND BIODIVERSITY
ES 1010 ENVIRONMENTAL SCIENCE: ENERGY RESOURCES AND POLLUTION
CH 1002 PRINCIPLES OF CHEMISTRY
GG 1000 ENVIRONMENTAL GEOLOGY
Optional Modules:
One of the following:
BI 1000 INTRODUCTION TO BIOLOGY I
BI 10XX HUMAN BIOLOGY: BODY ANATOMY AND CURRENT ISSUES
One of the following:
BI 1101 INTRODUCTION TO BIOLOGY II
BI 1007 ENVIRONMENTAL ECOLOGY

3D. Key/transferable skills	
	<p>offers hands-on experience on some of the presented methods and techniques, since it involves laboratory work and a small field research project.</p> <ul style="list-style-type: none"> ➤ ES 4430 Environmental Studies Capstone This module is the culmination of the work in Environmental Studies. It is designed to provide students with opportunities to research significant environmental issues from multiple perspectives. It involves a project on an environmental issue/topic of local or national relevance. <p><u>Learning and Teaching Strategy and Assessment Methods as outlined above in LOs A5b.</u></p>

4. Programme Structure

Programme Structure - LEVEL 4			
Compulsory modules	Credit points	Optional modules	Credit points
ES 1000 ENVIRONMENTAL SCIENCE: ECOSYSTEMS AND BIODIVERSITY	20	Biology Option 1: BI 1000 INTRODUCTION TO BIOLOGY I	20
ES 1010 ENVIRONMENTAL SCIENCE: ENERGY RESOURCES AND POLLUTION	20	BI 10XX HUMAN BIOLOGY: CONCEPTS AND CURRENT	20
CH 1002 PRINCIPLES OF CHEMISTRY	20	Biology Option 2: BI 1101 INTRODUCTION TO BIOLOGY II	20
GG 1000 ENVIRONMENTAL GEOLOGY	20	BI 1007 ENVIRONMENTAL ECOLOGY	20
SUBTOTAL	80	SUBTOTAL	40
TOTAL	120		

Programme Structure - LEVEL 5			
Compulsory modules	Credit points	Optional modules	Credit points
MA 3111 STATISTICS II	15	BI 3215 ENVIRONMENTAL HEALTH	15
GG 3115 GEOGRAPHIC INFORMATION SYSTEMS	15	ES/CH 32XX ENVIRONMENTAL CHEMISTRY	15
SO/ES 3002 ENVIRONMENT AND SOCIETY	15		
ES 32XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS I	15		
ES 3216 ENVIRONMENTAL POLICY AND LEGISLATION	15	SUBTOTAL	15
ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT	15		
ES 3139 THE ECONOMY AND THE ENVIRONMENT	15		

Programme Structure - LEVEL 5			
Compulsory modules	Credit points	Optional modules	Credit points
SUBTOTAL	105		
TOTAL	120		

Programme Structure - LEVEL 6			
Compulsory modules	Credit points	Optional modules	Credit points
ES 4017 ENVIRONMENTAL JUSTICE	15	Five out of the following: ES 4115 ENERGY AND ENVIRONMENT ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION ES 4229 SUSTAINABLE CITIES ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY SUBTOTAL	15
ES 43XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS II	15		15
ES 4430 ENVIRONMENTAL STUDIES CAPSTONE	15		15
SUBTOTAL	45		15
TOTAL	120		15
			15
			15
			15
			15
			15
		75	

5. Distinctive features of the programme structure

- Where applicable, this section provides details on distinctive features such as:
 - where in the structure above a professional/placement year fits in and how it may affect progression
 - any restrictions regarding the availability of elective modules
- where in the programme structure students must make a choice of pathway/route

N/A

6. Support for students and their learning

Academic Advising

Responsible for coordinating all aspects of the undergraduate advising process, the Academic Advising Office aids students in choosing and completing their academic programs. The advising staff provides academic advice and information to undergraduate students, advising all first-year students, some second-year students, and transfer students; support for academic staff advisors; and resources for all students in need of academic advice. Once students have declared their major they participate in an advising program that uses academic staff as advisors to handle the responsibility of advising on academic and career-related matters.

International students have an additional non-academic international student advisor who assists them in their efforts to adjust to the new culture and supports them in obtaining any student visas and residence permits required by Greek law.

Student success is measured through academic performance and other methods of instructor evaluation. At-risk populations are rigorously supervised by the Academic Advising Office.

Student Orientation

Organized and coordinated by the Office of Student Affairs, the New Student Orientation Program introduces incoming students to the campus, the academic system (dual OU/DEREE degrees), College rules and regulations, and academic and social life. Students receive information on student programs and services such as advising, financial aid, and co-curricular programming. Various sources of information are employed to help the student make a smooth transition to the College environment. Among these are orientation folders containing material on available services, information sessions with administrators and student Orientation Leaders, activity fair, and stands that promote student organizations. A parent orientation session is held as part of the orientation program. The Validation Office and the Registrar offer presentations on the OU award and its academic policies at Student Orientation.

The **Student Academic Support Services (SASS)** is open daily and offers academic

assistance to all DERE-ACG students through individual learning facilitation sessions and/or workshops. SASS learning facilitators are peers who assist students in improving and strengthening academic study skills.

The **Office of Student Affairs** is dedicated to promoting student development and continually improving the quality of student life. Through extra-curricular activities the College strives to provide students with opportunities parallel to the classroom experience that are consistent with its educational values, such as presentations, lectures, excursions, debates, theatrical plays, blood drives, happenings and events. The students are encouraged to explore personal and professional goals by participating in clubs, societies, organizations and athletic teams. All the student groups have an advisor, or coach, who is knowledgeable in the subject area, monitors their activity, attends their general assemblies and supports the group during the year.

The **Student Association** maintains bridges of communication between the students and the administration. Members of the Student Association participate in academic committees where they contribute their input.

The **Student Success Center** supports students by offering comprehensive, integrated services in the areas of academic advising, OU validation issues, student records, registration, and payments in a one-stop area. The Student Success Center aims to create the optimum conditions so that students can follow the path to academic success. The SSC web page has been set up to reflect the one-stop concept of the Center and includes information from different departments. It may be accessed from the "Quick Links" on the ACG homepage (www.acg.edu) and it allows students to print forms or view the academic calendar, academic policies, final exams schedule, course schedule, graduation instructions, major requirements, frequently asked questions (FAQs), the e-mail directory, and financial aid and international student information.

Disability Status and Provisions

Students are responsible for alerting the Educational Psychologist to a special need, and for providing relevant documentary evidence. The Educational Psychologist suggests actions to be taken to accommodate a student with special needs, having ensured that there has been full consultation with faculty in the department(s) responsible for the assessment of that student. The accommodation is approved by the Committee of Disabilities and Learning Differences. This action must be endorsed by the Chair of the relevant Board of Examiners in the case of the validated award. Information, guidance and support are provided to all disabled students who declare their disabilities. Students with learning difficulties may be eligible for special accommodations, such as extra time for examination completion, and receive support and counseling from the Educational Psychologist on campus.

The **Office of Career Services** offers centralized, comprehensive and coordinated career development, through appointments, sessions and workshops, building relationships and longstanding collaborations between students/alumni and potential employers. In the past three years the Office has expanded the quality of the services offered by acquiring a Career Services Manager tool, Goinglobal, as well as the handling of the international internship positions and the work study positions, transforming it thus into a hub for career-related issues. The Office moved dynamically to the era of social media utilizing Facebook and LinkedIn. The variety of programs and services offered to students and alumni include: counseling sessions about career advising and graduate studies advising; an online test which identifies strengths and personality preferences aiming to assist the students in their selection of a major; Goinglobal, a tool offering job openings abroad; skills workshops about job search and job interview techniques; Career networking events; JobBank offering part-time and full-

time positions; Career Days where the students have the opportunity to have a short interview with a company representative; International Internship program.

7. Criteria for admission

Admission requirements are not major specific. The College has a general admissions policy based on the American system of higher education. Admissions criteria are specified in the College catalogue and are in accordance to the QAA Quality Code Part B: Assuring and enhancing academic quality Chapter B2: Recruitment, Selection and Admission to higher education.

Upon admission, students register for a BA in Combined Studies and may transfer to the OU programme up until completion of Level 4.

In relation to the recruitment strategy, the Admissions Office organizes 5 promotional "Discover DERE Day" recruitment events per academic year, where members of the faculty provide brochures and information about the programme. During that event, faculty and the admissions team are also provided with the opportunity to communicate the aim and educational objectives of School of Business programmes. The Admissions Office also produces print / marketing material for specific programmes with the direct aim to promote them to target audiences through all types and methods of Above the Line and Bellow the Line Advertising. More specifically, the Admissions Office promotes the programme by:

- Participating in Education Fairs and third party events with an Admissions Booth including brochures/banners.
- Coordinating school visits and presentations on the specific programme to all target audiences (school pupils, parents, teachers, principals, career advisers, other public university students with the intention to study in parallel with our Education Institution).
- Organizing focused events across the country to attract candidates from other provinces into the main city campus to study.
- Running direct mailing campaigns (via post and electronic) including Degree Course information.
- Conducting one-on-one info sessions with pupils and parents.

The Admissions Process

To qualify for admission to the academic programs of the College, applicants must demonstrate that they possess the appropriate qualifications to enable them to be successful in the program of their choice. To this end, applicants must meet the following requirements:

The standard minimum entry requirement for the major's programme is the following: 14/20 in the Greek system, an overall average grade of C in the US system, or 24 and above in the International Baccalaureate or the equivalent of any other educational grading system. Applicants whose grades are between 11/20 and 13.99/20 or its equivalent, may be admitted to the College on a provisional basis.

Students admitted on a provisional basis will be required to fulfill the following conditions in order to be allowed to continue on their selected major after the

completion of one academic year after their acceptance to DERE:EE:

- Meet with an assigned advisor at the Academic Advising Office at least twice every month or whenever the advisor thinks it is necessary. The assigned advisor will monitor the student progress very closely and may require that they seek academic help through the Student Academic Support Services.
- The number of courses students will be allowed to register for will be determined by their English language placement (see section “English Language Requirements”). However, in no case will they be allowed to register for a total of more than 2 courses if placed in EAP 1002 or for more than 4 courses if placed in WP 1010. Students with provisional status who are placed in EAP 999, EAP 1000, EAP 1001 must first complete their English for Academic Purpose courses before they begin taking College level courses along with EAP 1002.
- Students who have successfully completed only the EAP sequence during their first academic year will be able to continue.
- Achieve a minimum cumulative average (CI) of at least 2.0 after one academic year.
- After the completion of one academic year on provisional status, students’ performance will be reviewed by the Committee on Academic Standards and Policies (CASP), which will decide on student progression and/or new conditions.
- Students on provisional status are subject to the College probation policy (see section “Academic Probation”).

The following is required for all freshmen applicants:

1. A completed application form.
2. A letter of recommendation from an academic teacher or professor.
3. An official secondary school transcript and an official copy of a secondary diploma, both legally certified.
4. A certified copy of their identity card for Greek citizens or a valid passport for non-Greek citizens.
5. An interview with an admissions counselor.
6. Evidence of proficiency in English.

Evidence of Proficiency in English

All applicants must demonstrate proficiency in the English language either by taking the College’s English Placement Test (EPT) or by submitting any evidence derived from one of the following tests:

Pearson test of Academic English (PTE Academic): 58 or greater
Michigan State University Certificate of Language Proficiency (MSU-CELP)
Michigan Proficiency Certificate
Cambridge Proficiency Certificate
Cambridge Advanced English (CAE) with Grade A only
International Baccalaureate Certificate*
International Baccalaureate Diploma
IELTS: (academic) 6.5 or above
SAT: 450 or above
ACT: 18 or above
TOEFL (paper based): 567 or above
TOEFL (computer based): 227 or above
TOEFL (internet based): 87 or above
GCE higher level English: Grade C or greater
Oxford Online Placement Test: 99 or above

* With grade 4 and above in the English higher-level subject or at least an average of 12 in the higher level subjects.

Applicants presenting a TOEFL score should arrange to have the test results sent directly to the Office of Admissions by the Educational Testing Service (ETS). The College's Institution Code Number is 0925. TOEFL scores are valid for 2 years.

Students may also qualify to take WP 1010 by submitting evidence of fluency based on graduation from an English speaking secondary school or program.

The above listed grades qualify the student for placement directly into WP 1010. Applicants who do not qualify for WP 1010 but who otherwise show academic promise may be admitted conditionally and placed in the English for Academic Purposes Program.

8. Language of study

The language of instruction is English.

9. Information about assessment regulations

The assessment methods for each module are included in the module syllabus and made known to the student through:

- a) the course information packet which is given to all students on the first day of classes and
- b) postings on Blackboard.

The programme uses a variety of summative assessments which directly connect to the Learning Outcomes and measure the mastery of students' knowledge and understanding, cognitive, creative as well as technical and practical skills. Mark schemes are used for each type of summative assessment which comprise a number of criteria for testing the degree to which the students have achieved these outcomes. There are usually two summative assessments per semester/session module: a midterm and a final, each contributing a percentage toward the overall grade in the module. A sample of the assessments is second marked and this sample is reviewed by the External Examiner. Grades are ratified by the Board of Examiners. Several courses also include formative assessments which do not contribute to the mark of the module but provide valuable opportunities for learning and offering feedback to students.

Summative assessments include:

- Individual projects.
- Team projects.
- Research papers.
- In-class examinations.
- In-class presentations.
- Critical review papers.
- Portfolios

Formative assessments include:

- In class presentations.
- In class discussion.
- In class and out of class practice exam tests and quizzes.
- Self-assessments and peer review exercises.
- Lab assignments.
- Summary reports.
- Internet/database searches.

Assessment Procedure (Regulatory Framework)

6.1 Although courses may employ assessment instruments which perform only a diagnostic or formative function, credit for the completion of a course can only be obtained on the basis of one or more summative assessments. A summative assessment provides a measure of the extent to which a student has achieved the intended learning outcomes of a course.

6.2 The assessment of a student's academic performance requires a judgment of the quality of his or her work. In all cases, this assessment must be governed by criteria which are explicit and communicated to students.

6.3 Faculty develop rubrics for the assessment of students, and department head ensures that these rubrics are consistent with the program specification and other documentation approved at validation.

6.4 *Second Marking*

All assessed work submitted for credit in programs leading to Open University validated awards are subject to the policy of second marking. This policy extends to all modes of assessment. In implementing the College's policy on second marking, the following procedure is adopted:

6.4.1 The first marker provides the rubric for the assessment of the course (6.3, above), the grade assigned to each item of assessed work and a brief justification for this grade.

6.4.2 Second markers are selected by the department head from the first marker's department, and s/he should be familiar with the course content. The second marker examines a minimum sample of 25% of completed assessments. In all cases the sample is not lower than five.

6.4.3 The sample of work for second marking is generated automatically by the online grading system. This sample comprises all items that have been assigned an A grade or a grade below C (40%), and a representative selection of the remaining items of assessed work. The sample includes work that will be sent to external examiners (thereby providing them with evidence that second marking has been carried out).

6.4.4 The mark should be agreed between the original instructor and the second marker. In cases where it is not possible to reach agreement, a third internal marker is appointed by the department head or area coordinator. All items of assessment for that course are re-marked if the third marker recommends a significant change in the grade assigned to any item of assessed work. In this event, the entire cohort is subject to the process of re-marking.

6.4.5 The second (or, in the event of a disagreement, the third) marker prepares a brief

report during the marking process to be sent to the external examiner for that course. This report should explain the basis upon which the assessed work was graded and the procedure adopted for the second (and where relevant the third) marking; provide an analysis of the distribution of marks between students and modes of assessment; identify any issues that were encountered in the assessment problems; and make recommendations for the future assessment of the course.

6.4.6 All decisions on grades remain provisional until they have been confirmed at the relevant Board of Examiners.

6.5 *External Examiners*

The University is responsible for the appointment of external examiners. Their role is to ensure that justice is done to the individual student and that the standard of the University's validated awards is maintained.

6.5.1 The specific responsibilities of external examiners include:

- the impartial assessment of students comparing their performance with that of their peers undertaking comparable programs of higher education elsewhere and in the light of subject benchmarks and qualification descriptors;
- approving the form and content of proposed examination papers, coursework, assessment rubrics and other assessments that count towards the award, including the approval of alternative assessments and adjustments made for students with declared disability or special needs;
- advising on any proposed changes to the approved assessment regulations or assessment strategy which will directly affect students currently on the program;
- ensuring that assessment criteria are correctly interpreted and that there is parity of assessment across the cohort;
- moderating the marks awarded by internal examiners;
- meeting students and, where appropriate, conducting *viva voce* examinations;
- ensuring that the assessments are conducted in accordance with the approved program regulations;
- attending the meetings of the board of examiners at which decisions on recommendations for award are made and ensuring that those recommendations have been reached by means in accordance with the University's requirements and normal practice in UK higher education.
- Enhancement-led reporting to the College including student performance and academic standards, appropriateness of curriculum content/teaching and learning strategies as well as on the effectiveness of the assessments and any lessons to be drawn from them
- reporting to the Open University on the required report proforma and any matters of serious concern arising from the assessments which put at risk the standard of the University's award.

6.5.2 Once the process of second marking has been completed (6.4, above), the summative work completed by a sample of students on each course is sent to the relevant external examiners. This sample will comprise all items that have been assigned an A or F (all work above 70% and below 40%) grade and a representative selection from items receiving intermediate grades.

6.5.2.1 The size of the samples will be agreed with the external examiners, and they will include items that have been second marked (6.4.3, above).

6.5.2.2 Samples of assessed work completed in the Summer Session II and Fall Semester will be available for External Examiners to review on campus in the Fall;

samples of work completed in the Spring Semester and Summer Session I will be available for External Examiners to review on campus in the Summer.

6.5.2.3 Any amendments to the marks of the sample as a result of external moderation must be applied to the rest of the cohort.

6.5.2.4 The Validation Office will receive the external examiners' reports and forward them for consideration by Boards of Examiners, Program Committees, and the Registrar's Office. The Open University also receives copies of response to External Examiners reports.

6.6 *Boards of Examiners*

Boards of Examiners carry full responsibility for the assessment of students in accordance with the College's regulations and for recommending the conferment of an Open University award to students who have fulfilled the objectives of the approved program of study and achieved the standard required for the award.

6.6.1 A Board is established for each program or cluster of programs that leads to Open University awards. The responsibilities of a Board of Examiners are to:

- approve (or establish arrangements for the approval of) assessment tasks, examination papers and project titles both for the initial assessment of students and any subsequent reassessments;
- ensure that assessment tasks, examination papers and project titles are moderated by appropriate external examiners; confirm the grades assigned to students majoring in the relevant discipline or clusters of disciplines in accordance with the College's regulations;
- recommend the conferment of awards to students who have fulfilled the objectives of an approved program of study and achieved the standard required for the award;
- review the progress of students, ensuring that they achieve the required learning outcomes and taking into account the recommendations of the Committee of Academic Standards and Policies on students with mitigating circumstances;
- determine the form of assessment that should be offered to those students who have failed or have been unable to take the assessment for acceptable reasons;
- receive and approve recommendations from the Committee on Disability and Learning Differences for the assessment of students with special requirements; monitor the forms and conduct of assessment and patterns of student achievement on the programs for which it is responsible;
- act in accordance with the outcome of any appeals made through the Appeals Procedure.

6.6.2 The membership of Boards of Examiners shall comprise a representative for each course contributing to the program(s) for which it is responsible, the external examiner(s), and the relevant department head(s) or area coordinator(s). The chairs of Boards (who will normally be department heads or area coordinators with responsibility for programs other than those which fall within the remit of the Board) will be appointed by the Academic Council. Students are not members of Boards of Examiners.

6.6.3 External examiners must be present at meetings of the Board of Examiners which have been convened for the purpose of assessing students for an award or recommending the conferment of an award upon a student (6.6.1 (c) and (d) in the Board's terms of reference). All decisions on grades remain provisional until they have been ratified at a meeting of the Board attended by the relevant external examiner(s).

More information on Assessment, Progression and Awards is provided under section 7 in the Regulatory Framework (APPENDIX).

10. Methods for evaluating and improving the quality and standards of teaching and learning.

Programmes use the following direct and indirect methods for evaluating and improving the quality of teaching:

- On line Course Evaluation for each module (through *CourseEval*). This is submitted anonymously by students in all modules. The completed evaluation forms are processed by the Registrar's office. Following submission of grades, results are sent electronically to the Provost, the Deans, the Department Heads/Programme Coordinators and the course instructor. They are also available to the President and the VP of Human Resources. Results are taken into consideration both in terms of improving teaching but also evaluating faculty.
- Senior Exit Survey: completed by all graduating students.
- Module Leader Reports where feedback from the course evaluations is also considered.
- At the end of each academic year faculty members and instructors submit a Faculty Activity Report (FAR) to their respective academic Dean. In the FAR faculty summarize their teaching and professional activities for the academic year as well as define their goals and aspirations for the next academic year. The FAR also includes a self-evaluation section.
- Feedback from meetings between External Examiners and students.
- Departmental meetings with the student Academic Society.
- Representation of Academic Societies through their presidents in the Programme Committees. Student concerns are discussed and feedback is communicated back to the students by the relevant Society presidents.
- Student advising.
- Students may always express concerns to the Department Heads, Deans, the Provost or the President either individually or through the Student Association.

The College places high value on effective pedagogical practices in the classroom by:

- Providing its faculty with the resources to improve the quality of instruction such as computers, smart classrooms, and electronic and print library resources, and training in new instructional technologies such as Blackboard.
- Supporting workshops, seminars, guest speakers, and retreats on best practices in teaching.
- Supporting faculty in the organization and hosting of international conferences at ACG
- Supporting faculty on visiting teaching fellowships.

The College is an institutional member of the **Faculty Resource Network (FRN)** at New York University. Established in 1984, the Network is an award-winning, nationally recognized faculty development initiative involving over 16,000 faculty members who teach more than 200,000 undergraduate students at a broad cross section of colleges and universities across the United States.

DEREE-ACG is also a member of the **Global Liberal Arts Alliance (GLAA)**, an international, multilateral partnership of American style liberal arts institutions with the goal of supporting excellence in liberal arts education on a transnational basis. The Great Lakes Colleges Association, based in Ann Arbor, Michigan, coordinates the activities and projects of the Alliance and was instrumental in its formation. There are

presently 27 institutions representing 15 nations in the Alliance membership. GLAA's purpose is to exchange knowledge, expertise and experience among institutions committed to education in the tradition of the liberal arts and sciences.

DEREE-ACG's **Teaching and Learning Center (TLC)** focuses on academic staff development. The goals of the TLC are to promote best practice (both US and UK) in pedagogy by

- Offering programs which engage faculty in continuous improvement of Teaching.
- Supporting faculty in professional development in teaching.
- Promoting the value of teaching inside and outside the University Community.
- Encouraging faculty to explore new teaching methods and technologies.

Throughout the academic year the TLC organizes frequent training sessions on pedagogy and encourages faculty to explore developments in teaching technologies and adopt learner-centered practices. Through a dedicated Blackboard container full of material related to classroom needs, which is made available to all DEREЕ instructors, TLC facilitates faculty efforts to keep up with best practices in pedagogy.

Annexe 1: Curriculum map

Annexe 2: Environmental Studies Exit Awards

Annexe 3: Notes on completing the OU programme specification template

Annexe 1 - Curriculum map

This table indicates which study units assume responsibility for delivering (shaded) and assessing (●) particular programme learning outcomes.

LEVEL	STUDY MODULE	PROGRAMME OUTCOMES																			
		A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	C1	C2	C3	C4	D1	D2	D3	D4	D5
4	Required																				
4	ES 1000 ENVIRONMENTAL SCIENCE: ECOSYSTEMS AND BIODIVERSITY	●	●		●				●				●	●				●	●	●	
4	ES 1010 ENVIRONMENTAL SCIENCE: ENERGY RESOURCES AND POLLUTION	●	●		●				●				●	●				●	●	●	
4	CH 1002 PRINCIPLES OF CHEMISTRY	●							●				●	●				●	●	●	
4	GG 1000 ENVIRONMENTAL GEOLOGY	●							●				●	●				●	●	●	
	Optional Module (one of the following)																				
4	BI 1000 INTRODUCTION TO BIOLOGY I OR	●							●				●	●				●	●	●	
4	BI 10XX HUMAN BIOLOGY: BODY ANATOMY AND CURRENT ISSUES	●							●				●	●				●	●	●	
	Optional Module (one of the following)																				
4	BI 1101 INTRODUCTION TO BIOLOGY II OR	●							●				●	●				●	●	●	
4	BI 1007 ENVIRONMENTAL ECOLOGY	●							●				●	●				●	●	●	

LEVEL	STUDY MODULE	PROGRAMME OUTCOMES																			
		A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	C1	C2	C3	C4	D1	D2	D3	D4	D5
5	Required																				
5	SO/ES 3002 ENVIRONMENT AND SOCIETY		●		●			●	●	●	●					●	●	●		●	
5	MA 3111 STATISTICS II					●			●						●			●		●	
5	GG 3115 GEOGRAPHIC INFORMATION SYSTEMS					●			●	●	●				●	●		●		●	
5	ES 32XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS I					●		●					●	●	●	●	●	●		●	
5	ES 3216 ENVIRONMENTAL POLICY AND LEGISLATION		●	●	●				●	●	●					●	●	●		●	
5	ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT		●	●	●			●	●	●	●					●	●	●		●	
5	ES 3139 THE ECONOMY AND THE ENVIRONMENT		●	●	●				●	●	●					●	●	●		●	
5	Optional																				
5	BI 3215 ENVIRONMENTAL HEALTH		●	●					●									●		●	
5	ES/CH 32XX ENVIRONMENTAL CHEMISTRY	●		●					●	●	●					●		●		●	

LEVEL	STUDY MODULE	PROGRAMME OUTCOMES																			
		A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	C1	C2	C3	C4	D1	D2	D3	D4	D5
6	Required																				
6	ES 4017 ENVIRONMENTAL JUSTICE		●	●	●			●	●	●	●	●				●	●	●		●	
6	ES 43XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS II					●		●	●	●	●	●			●	●	●	●		●	●
6	ES 4430 ENVIRONMENTAL STUDIES CAPSTONE					●		●	●	●	●	●	●	●	●	●	●	●		●	●
	Optional (select 5 modules)																				
6	ES 4115 ENERGY AND ENVIRONMENT			●	●		●	●	●	●	●	●				●	●	●		●	
6	ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT			●	●		●	●	●	●	●	●				●	●	●		●	
6	ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES			●	●		●	●	●	●	●	●				●	●	●		●	
6	ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT			●	●		●	●	●	●	●	●	●	●	●	●	●	●		●	
6	ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS			●	●		●	●	●	●	●	●				●	●	●		●	
6	ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT			●	●		●	●	●	●	●	●				●	●	●		●	
6	ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS			●	●		●	●	●	●	●	●				●	●	●		●	
6	ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION			●	●		●	●	●	●	●	●				●	●	●		●	
6	ES 4229 SUSTAINABLE CITIES			●	●		●	●	●	●	●	●				●	●	●		●	
6	ES 32XX EDUCATION FOR THE ENVIRONMENT AND SUSTAINABILITY				●		●	●	●	●	●	●				●	●	●		●	
6	HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY			●	●		●	●	●	●	●	●				●	●	●	●	●	

Annexe 2:

ACG-DEREE ENVIRONMENTAL STUDIES EXIT AWARDS

I. Certificate of Higher Education in Environmental Studies

In accordance with the Framework for Higher Education Qualifications (FHEQ), the holder of a Certificate of Higher Education in Environmental Studies will have a sound knowledge of the basic concepts of Environmental Studies and will have learned how to take different approaches for solving problems. He or she will be able to communicate accurately and will have the qualities needed for employment requiring the exercise of some personal responsibility.

In accordance with FHEQ, Certificates of Higher Education in Environmental Studies are awarded to students who have demonstrated:

- knowledge of the underlying concepts and principles associated with Environmental Studies, and an ability to evaluate and interpret these within the context of that area of study;
- an ability to present, evaluate, and interpret qualitative and quantitative data, to develop lines of argument and make sound judgments in accordance with basic theories and concepts of their subject(s) of study.

Typically, holders of the qualification will be able to:

- evaluate the appropriateness of different approaches to solving problems related to Environmental Studies;
- communicate the results of their study/work accurately and reliably, and with structured and coherent arguments;
- undertake further training and develop new skills within a structured and managed environment;

and will have:

- qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility.

Specifically, holders of the Certificate of Higher Education in Environmental Studies of ACG-DEREE (120 credits or six 20-credit modules) will be able to demonstrate knowledge and understanding of:

- core concepts, principles and tools in natural sciences, of the structure and functioning of natural systems and of their role in supporting life and human activities (all L4 modules: ES 1000, ES 1010, CH 1002, GG 1000, two modules in biology, ES/CH 32XX)
- the social, economic, political, health and ecological implications of human interactions with the environment. (ES 1000, ES 1010)
- the need for an interdisciplinary approach in addressing environmental problems (ES 1000, ES 1010)
- the concepts and dimensions of sustainability and sustainable development (ES 1000, ES 1010)

In addition, they will have the following cognitive, practical/professional and key/transferable skills:

- They will be able to collect, process, interpret and communicate data and information on environmental issues and related topics

- They will be able to describe and record materials in the field and laboratory, to interpret practical results in a logical manner and to use appropriate laboratory and field equipment competently and safely
- They will be able to interact effectively within a team/learning group, giving and receiving information and ideas and modifying responses when appropriate.

These skills are attained through all L4 modules (ES 1000, ES 1010, CH 1002, GG 1000, two modules in biology, ES/CH 32XX)

II. Intermediate level

The intermediate level includes the Diploma of Higher Education in Environmental Studies and the ordinary (non-Honours) degree in Environmental Studies.

In accordance with the Framework for Higher Education Qualifications (FHEQ), holders of qualifications at this level will have developed a sound understanding of the principles in Environmental Studies and will have learned to apply those principles more widely. Through this, they will have learned to evaluate the appropriateness of different approaches to solving problems. They will have the qualities necessary for employment in situations requiring the exercise of personal responsibility and decision-making.

In accordance with FHEQ, non-Honours degrees are awarded to students who have demonstrated:

- knowledge and critical understanding of the well-established principles of Environmental Studies, and of the way in which those principles have developed;
- ability to apply underlying concepts and principles outside the context in which they were first studied, including, where appropriate, the application of those principles in an employment context;
- knowledge of the main methods of enquiry in their subject(s), and ability to evaluate critically the appropriateness of different approaches to solving problems in the field of study;
- an understanding of the limits of their knowledge, and how this influences analyses and interpretations based on that knowledge.

Typically, holders of the qualification will be able to:

- use a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis;
- effectively communicate information, arguments, and analysis, in a variety of forms, to specialist and non-specialist audiences, and deploy key techniques of the discipline effectively;
- undertake further training, develop existing skills, and acquire new competences that will enable them to assume significant responsibility within organisations;

and will have:

- qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and decision-making.

II.a. Diploma of Higher Education in Environmental Studies

Holders of the Diploma of Higher Education in Environmental Studies of ACG-DEREE (240 credits or six 20 credit- and eight 15 credit-modules) will be able to demonstrate detailed knowledge and critical understanding of:

- core concepts, principles and tools in natural sciences, of the structure and functioning of natural systems and of their role in supporting life and human activities (all L4 modules and ES/CH 32XX Environmental Chemistry)
- the role of social sciences in analysing and addressing environmental problems and of the social, economic, political, health and ecological implications of human interactions with the environment (ES 1000, ES 1010, SO/ES 3002, ES 3216, ES 3220, ES 3139, BI 3215, ES 4017)
- human responses to environmental problems such as the development of environmental policy and law and environmental management, as well as of the importance of temporal and spatial scales in considering the environmental impact of human decisions in different environmental studies fields (ES 3216, ES 3220, ES 3139, BI 3215, ES/CH 32XX)
- the concepts and dimensions of sustainability and sustainable development and of some of their applications in addressing environmental issues in an integrated manner (ES 1000, ES 1010, SO/ES 3002, ES 3216, ES 3220, ES 3139)
- basic tools in mathematics and statistics, as well as of quantitative techniques and data processing methods including GIS techniques (ES 32XX Integrated Methods in Environmental Analysis I, GG 3115, MA 3111)

In addition, they will have the following cognitive skills:

- ability to recognize the moral and ethical issues of investigations, appreciate the need for professional codes of conduct and undertake a reasoned moral assessment of actions/persons/business practices (SO/ES 3002, ES 32XX Integrated Methods in Environmental Analysis I, ES 3220)
- ability to collect and analyse data and information on environmental issues using a range of techniques appropriate to the subject (all L4 and L5 modules to some extent)
- ability to critically evaluate the reliability and significance of data and information collected and the evidence provided to support conclusions (all L5 modules with a research project: SO/ES 3002, GG 3115, ES 3216, ES 3220, ES 3139, ES/CH 32XX)
- ability to categorize ideas, data and information, reformat and transform them towards a given purpose and propose solutions (all L5 modules with a research project: SO/ES 3002, GG 3115, ES 3216, ES 3220, ES 3139, ES/CH 32XX, ES 32XX)

the following practical/professional skills:

- ability to describe and record materials in the field and laboratory and to interpret practical results in a logical manner (all L4 modules, as they have a lab component; ES 32XX Integrated Methods in Environmental Analysis I)
- ability to use appropriate laboratory and field equipment competently and safely (all L4 modules, as they have a lab component; ES 32XX Integrated Methods in Environmental Analysis I)

- ability to select and apply a limited range of methods, including spatial techniques, to study and solve environmental problems (ES 32XX Integrated Methods in Environmental Analysis I, GG 3115, MA 3111)
- ability to plan, conduct and present an independent project effectively and appropriately with reliance on guidance, to relate investigations to prior work and to reference appropriately (all L5 modules with a research project: SO/ES 3002, GG 3115, ES 3216, ES 3220, ES 3139, ES/CH 32XX, ES 32XX)

and the following key/transferable skills:

- ability to manage, select and process information from a variety of sources to support findings and hypotheses and develop a critical approach to academic literature and other sources of information (all L5 modules with a research project: SO/ES 3002, GG 3115, ES 3216, ES 3220, ES 3139, ES/CH 32XX, ES 32XX)
- ability to communicate effectively to a variety of audiences in written, graphical and verbal forms, engage in debate in a professional manner and produce detailed and coherent project reports (all L4 and L5 modules)
- ability to interact effectively within a team/learning group, giving and receiving information and ideas and modifying responses when appropriate (all L4 modules, ES 3220)
- ability to acquire, process, interpret and present data using appropriate qualitative and quantitative techniques including use of information technology and the internet, mathematics, statistics and GIS (all L4 and L5 modules to some extent)

II.b. BSc in Environmental Studies

Holders of the ordinary BSc in Environmental Studies of ACG-DEREE (300 credits or six 20 credit- and twelve 15 credit-modules) will be able to demonstrate detailed knowledge and critical understanding of:

- core concepts, principles and tools in natural sciences, of the structure and functioning of natural systems and of their role in supporting life and human activities (all L4 modules and ES/CH 32XX Environmental Chemistry)
- the role of social sciences in analysing and addressing environmental problems and of the social, economic, political, health and ecological implications of human interactions with the environment (ES 1000, ES 1010, SO/ES 3002, ES 3216, ES 3220, ES 3139, BI 3215, ES 4017)
- human responses to environmental problems such as the development of environmental policy and law and environmental management, as well as of the importance of temporal and spatial scales in considering the environmental impact of human decisions in different environmental studies fields (ES 3216, ES 3220, ES 3139, BI 3215, ES/CH 32XX)
- the concepts and dimensions of sustainability and sustainable development and of some of their applications in addressing environmental issues in an integrated manner (ES 1000, ES 1010, SO/ES 3002, ES 3216, ES 3220, ES 3139, most L6 optional modules)

- basic tools in mathematics and statistics, as well as of quantitative techniques and data processing methods including GIS techniques (ES 32XX Integrated Methods in Environmental Analysis I, GG 3115, MA 3111, ES 43XX Integrated Methods in Environmental Analysis II)
- Topics in more specialized fields of environmental studies (such as management and conservation of natural resources, policy and environmental management of corporations) (all L6 optional modules)

In addition, they will have the following cognitive skills:

- ability to recognize the moral and ethical issues of investigations, appreciate the need for professional codes of conduct and undertake a reasoned moral assessment of actions/persons/business practices (SO/ES 3002, ES 32XX Integrated Methods in Environmental Analysis I, ES 3220)
- ability to collect and analyse data and information on environmental issues using a range of techniques appropriate to the subject (all L4 and L5 modules to some extent)
- ability to critically evaluate the reliability and significance of data and information collected and the evidence provided to support conclusions (all L5 modules with a research project: SO/ES 3002, GG 3115, ES 3216, ES 3220, ES 3139, ES/CH 32XX, ES 32XX; all L6 modules)
- ability to categorize ideas, data and information, reformat and transform them towards a given purpose and propose solutions (all L5 modules with a research project: SO/ES 3002, GG 3115, ES 3216, ES 3220, ES 3139, ES/CH 32XX, ES 32XX; all L6 modules)
- ability to identify key elements of environmental problems and apply appropriate knowledge and skills to their solution (all L6 modules)

the following practical/professional skills:

- ability to describe and record materials in the field and laboratory and to interpret practical results in a logical manner (all L4 modules, as they have a lab component; ES 32XX Integrated Methods in Environmental Analysis I)
- ability to use appropriate laboratory and field equipment competently and safely (all L4 modules, as they have a lab component; ES 32XX Integrated Methods in Environmental Analysis I)
- ability to select and apply a limited range of methods, including spatial techniques, to study and solve environmental problems (ES 32XX Integrated Methods in Environmental Analysis I, ES 42XX Integrated Methods in Environmental Analysis II, GG 3115, MA 3111)
- ability to plan, conduct and present an independent project effectively and appropriately with reliance on guidance, to relate investigations to prior work and to reference appropriately (all L5 modules with a research project: SO/ES 3002, GG 3115, ES 3216, ES 3220, ES 3139, ES/CH 32XX, ES 32XX; all L6 modules)

and the following key/transferable skills:

- ability to manage, select and process information from a variety of sources to support findings and hypotheses and develop a critical approach to academic literature and other sources of information (all L5 modules with a research

project: SO/ES 3002, GG 3115, ES 3216, ES 3220, ES 3139, ES/CH 32XX, ES 32XX; all L6 modules)

- ability to communicate effectively to a variety of audiences in written, graphical and verbal forms, engage in debate in a professional manner and produce detailed and coherent project reports (all modules to some extent)
- ability to interact effectively within a team/learning group, giving and receiving information and ideas and modifying responses when appropriate (all L4 modules, ES 3220, ES 4327)
- ability to acquire, process, interpret and present data using appropriate qualitative and quantitative techniques including use of information technology and the internet, mathematics, statistics and GIS (all modules to some extent)
- ability for independent study (ES 43XX Integrated Methods in Environmental Analysis II)

CERTIFICATE OF HIGHER EDUCATION IN ENVIRONMENTAL STUDIES (120 CREDITS)

Compulsory Modules:

ES 1000 ENVIRONMENTAL SCIENCE: ECOSYSTEMS AND BIODIVERSITY (LEVEL 4) – 20 CREDITS

ES 1010 ENVIRONMENTAL SCIENCE: ENERGY RESOURCES AND POLLUTION (LEVEL 4) – 20 CREDITS

CH 1002 PRINCIPLES OF CHEMISTRY (LEVEL 4) – 20 CREDITS

GG 1000 ENVIRONMENTAL GEOLOGY (LEVEL 4) – 20 CREDITS

Optional Modules:

BIOLOGY OPTION 1 (LEVEL 4) – 20 CREDITS

- BI 1000 INTRODUCTION TO BIOLOGY I (LEVEL 4) – 20 CREDITS
- BI 10XX HUMAN BIOLOGY: BODY ANATOMY AND CURRENT ISSUES (LEVEL 4) – 20 CREDITS

BIOLOGY OPTION 2 (LEVEL 4) – 20 CREDITS

- BI 1101 INTRODUCTION TO BIOLOGY II (LEVEL 4) – 20 CREDITS
- BI 1007 ENVIRONMENTAL ECOLOGY (LEVEL 4) – 20 CREDITS

DIPLOMA OF HIGHER EDUCATION IN ENVIRONMENTAL STUDIES (240 CREDITS)

Compulsory Modules:

ES 1000 ENVIRONMENTAL SCIENCE: ECOSYSTEMS AND BIODIVERSITY (LEVEL 4) – 20 CREDITS

ES 1010 ENVIRONMENTAL SCIENCE: ENERGY RESOURCES AND POLLUTION (LEVEL 4) – 20 CREDITS

CH 1002 PRINCIPLES OF CHEMISTRY (LEVEL 4) – 20 CREDITS

GG 1000 ENVIRONMENTAL GEOLOGY (LEVEL 4) – 20 CREDITS

MA 3111 STATISTICS II (LEVEL 5) – 15 CREDITS

GG 3115 GEOGRAPHIC INFORMATION SYSTEMS (LEVEL 5) – 15 CREDITS

SO/ES 3002 ENVIRONMENT AND SOCIETY (LEVEL 5) – 15 CREDITS

ES 4115 ENERGY AND ENVIRONMENT (LEVEL 5) – 15 CREDITS

ES 3216 ENVIRONMENTAL POLICY AND LEGISLATION (LEVEL 5) – 15 CREDITS

ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT (LEVEL 5) – 15 CREDITS

ES 3139 THE ECONOMY AND THE ENVIRONMENT (LEVEL 5) – 15 CREDITS

Optional Modules Level 4:

BIOLOGY OPTION 1 (LEVEL 4) – 20 CREDITS

BIOLOGY OPTION 2 (LEVEL 4) – 20 CREDITS

Optional Modules Level 5:

BI 3215 ENVIRONMENTAL HEALTH (LEVEL 5) – 15 CREDITS

ES/CH 32XX ENVIRONMENTAL CHEMISTRY (LEVEL 5) – 15 CREDITS

BSc in ENVIRONMENTAL STUDIES (300 CREDITS)

Compulsory Modules:

ES 1000 ENVIRONMENTAL SCIENCE: ECOSYSTEMS AND BIODIVERSITY (LEVEL 4) – 20 CREDITS

ES 1010 ENVIRONMENTAL SCIENCE: ENERGY RESOURCES AND POLLUTION (LEVEL 4) – 20 CREDITS

CH 1002 PRINCIPLES OF CHEMISTRY (LEVEL 4) – 20 CREDITS

GG 1000 ENVIRONMENTAL GEOLOGY (LEVEL 4) – 20 CREDITS

MA 3111 STATISTICS II (LEVEL 5) – 15 CREDITS

GG 3115 GEOGRAPHIC INFORMATION SYSTEMS (LEVEL 5) – 15 CREDITS

SO/ES 3002 ENVIRONMENT AND SOCIETY (LEVEL 5) – 15 CREDITS

ES 3216 ENVIRONMENTAL POLICY AND LEGISLATION (LEVEL 5) – 15 CREDITS

ES 3220 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT (LEVEL 5) – 15 CREDITS

ES 3139 THE ECONOMY AND THE ENVIRONMENT (LEVEL 5) – 15 CREDITS

Optional Modules Level 4:

BIOLOGY OPTION 1 (LEVEL 4) – 20 CREDITS

BIOLOGY OPTION 2 (LEVEL 4) – 20 CREDITS

Optional Modules Level 5:

BI 3215 ENVIRONMENTAL HEALTH (LEVEL 5) – 15 CREDITS

ES/CH 32XX ENVIRONMENTAL CHEMISTRY (LEVEL 5) – 15 CREDITS

Modules offered at level 6 (Students are required to take four of the following):

ES 4017 ENVIRONMENTAL JUSTICE

ES 43XX INTEGRATED METHODS IN ENVIRONMENTAL ANALYSIS II

ES 4430 ENVIRONMENTAL STUDIES CAPSTONE

ES 4115 ENERGY AND ENVIRONMENT

ES 4223 WATER RESOURCES: THREATS AND SUSTAINABLE MANAGEMENT

ES 4124 AIR QUALITY AND GLOBAL ATMOSPHERIC CHANGES

ES 4125 SUSTAINABLE FOOD PRODUCTION: SOIL AND ENVIRONMENT

ES 4126 CONSERVATION OF WILDLIFE AND MEDITERRANEAN ECOSYSTEMS

ES 4327 ENVIRONMENTAL MANAGEMENT SYSTEMS

ES 4328 ENVIRONMENTAL POLICIES IN THE EUROPEAN UNION

ES 4229 SUSTAINABLE CITIES

ES 4135 SUSTAINABLE USE OF RESOURCES AND WASTE MANAGEMENT

ES 42XX EDUCATION FOR THE ENVIRONMENT AND SUSTAINABILITY

HT 4021 SUSTAINABLE MANAGEMENT IN TOURISM AND HOSPITALITY

Annexe 3: Notes on completing programme specification templates

1 - This programme specification should be aligned with the learning outcomes detailed in module specifications.

2 – The expectations regarding student achievement and attributes described by the learning outcome in section 3 must be appropriate to the level of the award within the **QAA frameworks for HE qualifications**:

<http://www.qaa.ac.uk/AssuringStandardsAndQuality/Pages/default.aspx>

3 – Learning outcomes must also reflect the detailed statements of graduate attributes set out in **QAA subject benchmark statements** that are relevant to the programme/award: <http://www.qaa.ac.uk/AssuringStandardsAndQuality/subject-guidance/Pages/Subject-benchmark-statements.aspx>

4 – In section 3, the learning and teaching methods deployed should enable the achievement of the full range of intended learning outcomes. Similarly, the choice of assessment methods in section 3 should enable students to demonstrate the achievement of related learning outcomes. Overall, assessment should cover the full range of learning outcomes.

5 - Where the programme contains validated **exit awards** (e.g. CertHE, DipHE, PGDip), learning outcomes must be clearly specified for each award.

6 - For programmes with distinctive study **routes or pathways** the specific rationale and learning outcomes for each route must be provided.

7 – Validated programmes delivered in **languages other than English** must have programme specifications both in English and the language of delivery.