Minor Specification

Title of minor: Sustainability

This specification provides a concise summary of the main features of the minor 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.

Awarding Institution	University of Southampton
Teaching Institution	University of Southampton
Name of minor	Sustainability
FHEQ level of final award	As for the Major programme
QAA Subject Benchmark or other external reference	No subject benchmark exists for sustainability. There will be a QAA/HEA Education for Sustainable Development (ESD) enhancement document published in mid-2014 which this minor will align against.
Faculty that owns the minor	FEE
Minor Leader	Simon Kemp
Date specification was written	20/01/2014

Overview of Minor

1 Brief outline of the minor

The Sustainability minor allows students to take a range of interdisciplinary modules that address the social, economic and environmental challenges of our age. Aligned to our interdisciplinary programme, students can tackle globalisation, ethics, health, economics, law, environmental management and social enterprise, allowing them to apply an interdisciplinary approach to their studies that will appeal to future employers in a sustainable economy.

2 Learning and teaching

The Sustainability minor is closely associated with the Curriculum Innovation programme so students can expect innovative learning and teaching techniques to be applied across the modules, as befitting such a complex and challenging area as sustainability.
Examples of the teaching techniques employed in this minor programme include class lectures, recorded keynote lectures, discussion sessions, role-playing, practicals, and field-work. The teaching techniques applied across the minor are those which are deemed as most suitable for the successful achievement of the learning outcomes of the modules

3 Assessment

The sustainability minor modules are assessed in a variety of ways through a mixture of coursework and unseen examination. As befitting the concept of curriculum innovation the coursework is varied and can consist of a mixture of the following depending on the modules selected:

- essays and reports
- 'academic journal style' papers
- individual oral presentations
- group conference presentations
- practical exercises
- websites production
- research posters
- film production

The Sustainability minor programme also includes unseen written examinations where this is deemed to be the most appropriate method of assessing the knowledge and understanding of students in a particular subject area.

All students receive feedback on assessed work, thus facilitating their development and learning. Individuals who have specific learning differences, such as dyslexia, are able to access additional support in completing their work through the usual university services. Personal tutors will be able to guide students to the appropriate support, and the sustainability minor lead will also be to guide students to the correct services in the event of a personal tutor not being available.

Educational Aims of the Minor

The University of Southampton has a commitment to excellence and innovation in learning and teaching. The Sustainability Minor contains modules from across many of the faculties of the University, and we are committed to providing students with opportunities to enjoy an exciting, challenging and stimulating learning experience.
As befitting a world class university, the module content and teaching as part of the sustainability minor are research led and closely associated with the interdisciplinary work of the University's Strategic Research Groups (USRGs) such as Sustainability Science, Complexity, Energy, Population Health, as well as Faculty led research groups such as the Centre for Environmental Sciences, Politics & International Relations, Sustainable Waste Management, Global Environmental Change and Earth Observation amongst others.
The Sustainability Minor programme provides students with a carefully constructed programme of study that will address the core components of sustainability whilst allowing students to apply their Major disciplinary lens to this growing field of expertise. Students are encouraged to be creative, adaptive, and challenging whilst employing an interdisciplinary approach to their formal and informal learning.
The primary educational aim of the Sustainability Minor is to assist students to become skilled, employable and sustainability literate graduates who are capable of contributing to a green and sustainable economy. We aim to achieve this aim through the following objectives:

1. to enable students to apply the principles of sustainability within the context of their own major discipline, area of study or profession
2. to enable students to critically assess and analyse sustainability issues within the context of their own major discipline, area of study or profession
3. to enable students to explain complex sustainability issues in clear terms and communicate about them effectively and succinctly, both orally and in writing
4. to enable students from an arts and humanities to engage with scientific and numerical data, and those from the science to develop an understanding of social impact and considerations from a non-scientific perspective
5. to enhance student employability in a range of careers relevant to the broad field of sustainability
6. to support students in working in interdisciplinary teams to explore complex issues
7. to enable students to demonstrate transferable skills which will be useful to future employers (e.g. team work, presentation, information technology, negotiation) via a combination of group work and individual activities
8. to provide students with the knowledge and skills for further study at a higher level
9. to broaden the knowledge base of students through the study of a selected profile of sustainability modules that are of relevance to their Major area of study

Learning Outcomes for the Minor

Knowledge and Understanding

Core modules
Having successfully completed the core modules of the sustainability minor you will be able to demonstrate knowledge and understanding of:

- the interrelationship between the economy, society and environment in the context of sustainability
- the economic, social and environmental consequences of political, professional and personal decision making
- the importance of drawing upon scientific evidence and scholarly research in seeking to understand the natural and physical environment and the impacts that human activities have upon it
- how different academic disciplines can contribute to the goal of sustainable development
- the need for decisions about natural resources to involve judgements not just about economic viability but about risks to future ecological, social or cultural wellbeing.
- the use of historical evidence to demonstrate the consequences of past actions and envision how local and global futures may be shaped
- the actions necessary to contribute to changes that promote sustainability within the scope of your own learning experience and study environment
- ways that sustainability can be achieved in different local and global communities and circumstances
- how global challenges can be understood as a consequence of complex system behaviour
- how we determine the nature and rate of environmental change from a range of different data sources.
- the social impacts of environmental change and the ethical issues involved in adaptation and mitigation

Optional modules
Having successfully completed optional modules of the sustainability minor (dependent upon the range of modules selected), you will be able to demonstrate knowledge and understanding of:

- the underlying complex relationship between poverty and global health within the population development context, including the strategies of the UN Millennium Development Goals and forthcoming Sustainable Development Goals
- the transfer of knowledge and experiences of different cultural perspectives and engagement with sustainability between citizens of different nations
- the key features of a contemporary issue, and identify its underlying ethical or moral components
- one or more ethical approaches in relation to a topic relevant to your studies
- different social enterprise models, ranging from for-profit companies to Community Interest Companies (CICs), and their specific legal and governance structures
- the application of environmental law and policy to a wide spectrum of environmental management issues
- the application of basic environmental management systems techniques to identify activities of environmental impact in business and suggests solutions
- a global perspective of the health care systems
- the advantage and disadvantage of government intervention in different areas of health, including prescription drugs and public health (e.g. tobacco, alcohol or obesity)
- the fundamentals of climate science, including the basis of climate modelling,
- the major implications climate change has for natural and social systems
- demographic issues and trends in developing countries
- the important demographic issues affecting the developing world
- mechanisms through which human populations affect their environment
- the impact of specific demographic processes and characteristics of populations on the environment in a range of social and economic contexts and at different scales
- The human causes and consequences of environmental impacts, and responses to such impacts through techniques such as environmental impact assessment
- the nature of interactions between human activities and landscapes in space and time
- specific examples of the history and functioning of regional socio-ecological systems

Teaching and Learning Methods

The Sustainability minor is closely associated with the Curriculum Innovation programme so students can expect innovative learning and teaching techniques to be applied across the minor programme, as befitting such a complex and challenging area as sustainability.
Lectures are employed as a recognised method for the dissemination of knowledge, with the discussion sessions included in most modules assisting learners in the development of understanding. Lectures will either take place 'live' in class, or through panopto recorded sessions that students watch in advance of taught sessions, and are used as a vehicle for discussions in many modules.
To assist students in the development of further knowledge and understanding, some modules will use social media tools such as twitter to continue debate outside of timetabled sessions. Full use is also made of blackboard and module websites to hold all appropriate module learning and assessment materials.
Discussion seminars and supervision sessions provide a forum in which students can discuss and evaluate key sustainability issues, solutions and consequences of decisions in smaller open environments.
A number of modules include student presentations, from in a fairly informal setting to assessed exercises. All modules contain self-study reading lists and staff work with students to guide them to appropriate sources in addition to the materials uncovered by students themselves. Many modules contain comprehensive learning and guided self-study resources that are available on edshare, module websites, and/or blackboard.

Assessment methods

Assessment of the knowledge and understanding of students is approached through the minor by a combination of formative assessments to provide ongoing feedback to develop knowledge and understanding, and summative assessments where constructive feedback and quantified marks are provided in accordance with university progression and graduation requirements.

The formative assessments are delivered through feedback from class tasks, discussions, or project progress presentations. The summative assessment leads to the award of marks for student work for progression and graduation purposes. This is applied through a combination of coursework (e.g. posters, journal papers, films, websites, practicals) and unseen written examinations.

Subject Specific Intellectual and Research Skills

Core modules

Having successfully completed the core modules of the sustainability minor you will be able to:

- demonstrate the interrelationship between the economy, society and environment in the context of sustainability and your major area of study
- explore the economic, social and environmental consequences of political, professional and personal decision making
- draw upon scientific evidence and scholarly research to demonstrate the impacts that human activities have upon the natural and physical environment
- demonstrate how your major academic discipline can contribute to the goal of sustainable development
- make decisions about natural resources involving economic viability and the risks to future ecological, social or cultural wellbeing.
- use historical evidence to demonstrate the consequences of past actions and apply this evidence to how local and global futures may be shaped
- apply sustainability within the scope of your own learning experience and study environment
- demonstrate how sustainability can be achieved in different local and global communities and circumstances
- demonstrate how the global challenges of population & migration, food & energy, biodiversity & ecosystem services, financial & information networks, transnational governance & citizenship, climate change interact and affect each other
- determine the nature and rate of environmental change from a range of different data sources.

Optional modules

Having successfully completed optional modules of the sustainability minor (dependent upon the range of modules selected), you will be able to:

- transfer the knowledge and experiences of different cultural perspectives and engagement with sustainability between citizens of different nations
- outline the key features of a contemporary issue, and identify its underlying ethical or moral components
- apply one or more ethical approaches in relation to a topic relevant to your studies
- apply different social enterprise models, ranging from for-profit companies to Community Interest Companies (CICs)
- apply environmental law and policy to a wide spectrum of environmental management issues
- apply basic environmental management systems techniques to identify activities of environmental impact in business and suggests solutions
- analyse the advantage and disadvantage of government intervention in different areas of health
- analyse climate science, including the basis of climate modelling,
- demonstrate the major implications climate change has for natural and social systems
- synthesise demographic issues and trends in developing countries
- anlayse the important demographic issues affecting the developing world
- analyse the impact of specific demographic processes on the environment in a range of social and economic contexts and at different scales
- address human causes and consequences of environmental impacts through techniques such as environmental impact assessment
- analyse specific examples of the history and functioning of regional socio-ecological systems

Teaching and Learning Methods

Subject specific intellectual and research skills require more focused and detailed teaching methods. Discussion seminars and supervision sessions provide a forum in which students can discuss and evaluate key sustainability issues, solutions and consequences of decisions in smaller open environments and in greater depth

Subject specific learning in some modules involves student presentations in formative and assessed conference environments. The research, production and delivery of a presentation is an excellent learning tool for students and requires exploration of knowledge that goes deeper and beyond traditional lectures. Students develop a more sophisticated understanding of a subject area through the process of having to explain concepts and data analysis to an audience, whilst the requirement to rapidly compose balanced and well-informed answers to probing questions leads to even greater understanding at a subject specific level.

An important component of subject specific learning is self-study. All modules contain reading lists and staff work with students to guide them to appropriate sources in addition to the materials uncovered by students themselves. Many modules contain comprehensive learning and guided self-study resources that are available on edshare, module websites, and/or blackboard.

Assessment methods

Assessment of subject specific intellectual and research skills is also approached through a combination of formative assessments to provide ongoing feedback to develop subject-specific knowledge and understanding, and summative assessments where constructive feedback and quantified marks are provided in accordance with university progression and graduation requirements.

Greater use is made of formative assessments through subject-specific feedback from class exercises, discussions, seminars, and project progress presentations. The summative assessment remains important in monitoring the level of understanding of subject-specific material and leads to the award of marks for work for progression and graduation purposes. This is again applied through a combination of coursework (e.g. journal papers, practical reports, data analysis) and unseen written examinations.

Transferable and Generic Skills

Having successfully completed this minor you will be able to:

1. engage with scientific and numerical data
2. address social impact and ethical considerations from a non-scientific perspective
3. work in interdisciplinary teams to explore complex issues
4. work in interdisciplinary teams to develop innovative methods of communicating complex and contested information
5. demonstrate transferable skills of use to future employers (e.g. team work, presentation, information technology, negotiation) via a combination of group work and individual activities
6. demonstrate your suitability for employment in a range of careers relevant to the broad area of sustainability
7. produce a researched piece of work in the form of a journal article
8. deliver presentations in a formal academic setting, under replicated conference conditions
9. research scholarly work across a range of disciplines not normally associated with your Major area of study

Teaching and Learning Methods

Generic higher education level skills are embedded throughout the constituent modules of the sustainability minor programme. Written communication skills are enhanced through reports, journal papers, essays, and unseen written examinations. Verbal communication skills are developed through discussions, seminars, group work, formative presentations and summative presentations. Information Technology skills are addressed through module coursework in terms of report production, data analysis, website production, and film development. Interpersonal communication and teamwork skills are addressed through the group presentations, reports, and films.

Assessment methods

Assessment of transferable and generic skills is addressed through formative assessments to provide ongoing feedback to help guide the development of your 'softer skills' that are of increasing importance in the professional world. This will take place through in-class group exercises, discussions, seminars, and project progress presentations.

Assessment of transferable and generic skills is also addressed through summative assessments via a combination of coursework (e.g. assessed presentations, journal papers, practical reports, data analysis) and unseen written examinations.

Structure of Minor

1 Typical content

You are required to pass five modules from the Sustainability Minor programme to qualify for the award of the Sustainability Minor. You are required to pass the three core modules, and two optional modules. You are typically required to take one module in year one, two modules in each of years two and three to qualify for the award of the Sustainability Minor from the modules listed below.

2. Special Features of the programme
None

3. Details of the minor

All students are required to complete the following three core modules in any year of their studies:

- UOSM2005 Living with Environmental Change (Semester 2)
- UOSM2010 Global Challenges (Semester 2)
- UOSM2015 Sustainability in the local and global environment (Semester 1) – only available to second and third year students, not available to first year students

It is recommended that students take either UOSM2005 or UOSM2010 in their first year. Students are then required to select 2 from the following modules:

Semester 1 modules

- UOSM2022 Social Enterprise (recommended)
- UOSM2027 Health Policy and Economics
- LANG2002 Globalisation: Economics, Politics, Culture and Nation State
- GEOG2032 Global Climate Change: science, impacts & policy
- DEMO2010 Population in developing societies
- DEMO3008 Population and the Environment (year 3 only)

Semester 2 modules

- UOSM2009 Ethics in a Complex World
- UOSM2004 Global Health
- UOSM2026 Jekyll and Hyde (from 2014/15, subject to approval)
- DEMO2008 Population and Health
- ENVS2006 Environmental Impact Assessment
- ENVS3013 Environmental Law and Management (year 3 only)
- GEOG3047 Complex socio-ecological systems: past, present and future

The three core modules are clearly defined within the focus and scope of sustainability. All the optional modules cover either broad sustainability, or focus on one of the three pillars of environment, society, and economy whilst also providing an appropriately interdisciplinary approach.

4 Progression Requirements

The programme of which this minor comprises a part follows the University's regulations for Progression, Determination and Classification of Results: Undergraduate and Integrated Masters Programmes as set out in the University Calendar [link]

In order to qualify for the minor, students must pass all the core and selected optional modules that make up the minor. There is no provision for students to be referred in a minor module solely for the purpose of qualifying for the minor.

Revision History

1. 20/02/2014 Simon Kemp, Faculty of Engineering and the Environment
2. CQA textual updates October 2016