



INSTITUTE FOR
ACADEMIC
DEVELOPMENT



THE UNIVERSITY
of EDINBURGH

Learning for Change

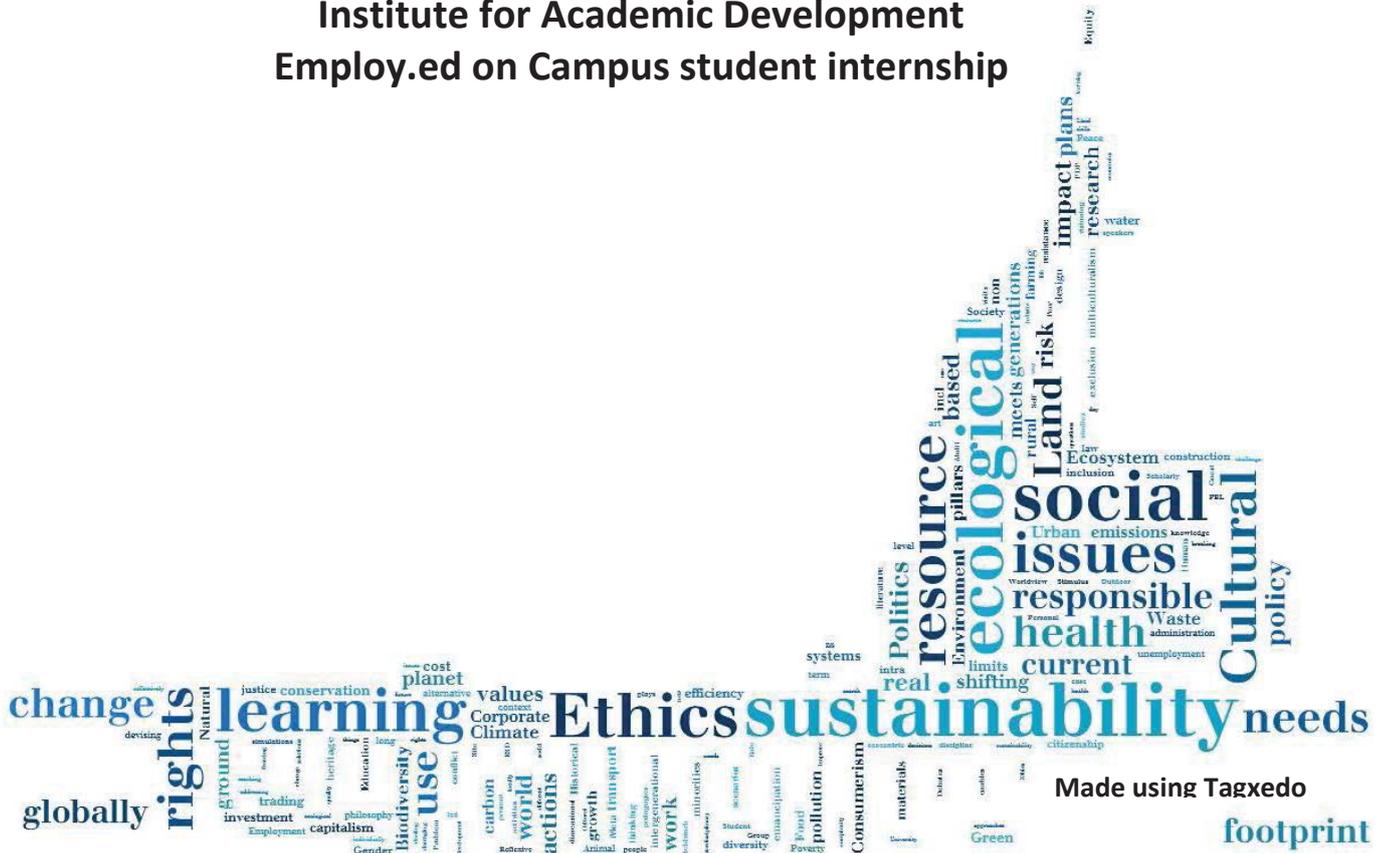
Social Responsibility & Sustainability in Undergraduate Courses at the University of Edinburgh

2012-13

Olga Bloemen, April 2013

Institute for Academic Development

Employ.ed on Campus student internship



Executive Summary

This paper reports on a scoping exercise of the University of Edinburgh's current provision of undergraduate courses that support the University's commitment to Social Responsibility and Sustainability (SRS).

The exercise examined course descriptors to identify where and how SRS is currently embedded in undergrad course curricula in the Colleges of Humanities and Social Sciences (CHSS) and Science and Engineering (CSE). After considering some internal and external drivers for addressing SRS in teaching, this report gives an overview of the key findings and provides recommendations for next steps in enhancing this agenda.

The scoping exercise was a direct response to the student manifesto 'Learning for Change: Students' Visions'. This Manifesto sketches out learning experiences that better equip students for contributing to a more sustainable and socially just future during and after their time at University.¹ It was presented at the Conveners' Forum in 2012, at which a scoping of the provision of courses at the University addressing SRS was suggested.

The scoping exercise was undertaken at the Institute for Academic Development (IAD) as part of a student summer internship program Employ.ed on Campus run by the Careers Service. As a collaboration between the IAD and the Sustainability Office, this project was supervised by Dr Miesbeth Knottenbelt (IAD) with additional guidance from Sustainability Advisor David Somervell and then Assistant Principal Dr Sue Rigby.

The exercise develops ideas on Education for Sustainable Development (ESD) in Higher Education explored by Cotton (2012), Dawe et al. (2005), Sterling (2012), and other authors and builds on similar scopings carried out in the UK at the University of Cardiff, the University of Plymouth, the University of Brighton and the University of Leeds.

Key findings

The scoping exercise identified 505 courses addressing SRS-related content in CHSS and CSE – a quarter of all undergraduate courses offered in the two Colleges in 2012-13. Provision of SRS courses varies greatly per School, ranging from 90 SRS courses in SSPS to one in the School of Mathematics. More than three quarters of the SRS courses are offered at Honours level, with again significant variation between Schools.

The majority of SRS courses engage with various SRS themes at the same time, with two thirds covering two to five SRS themes and 16% covering six themes or more. More than half of the SRS courses engage with social themes, whereas environmental themes are covered in 19% of the courses, crosscutting themes in 13% and economic themes in 11%.

Almost half of the SRS courses take an inter- or multi-disciplinary approach, while more than one third of the courses take a discipline-specific approach. With 17%, holistic courses that combine perspectives from both the social sciences/humanities and science/engineering are relatively rare.

Delivery and assessment of the SRS courses seems a key area for consideration: half of the courses is reported to be delivered using 'conventional' teaching strategies like essays and exams. Almost a quarter includes innovative teaching methods associated with ESD, while only 13% of courses use these pedagogies throughout.

¹ The Manifesto is at: www.oured.ed.ac.uk/wp-content/uploads/2012/03/Learning-for-Change-EdinburghManifesto.pdf

This might partly be due to a lack of relevant data for this scoping exercise, as 14% of the SRS course descriptions did not specify on course delivery. As for specific teaching methods used, real-world case studies, problem-based learning and group work were common in SRS courses, while others like worldview and values research, student-led learning and multi-dimensional assessment were rare or not used. Again, provision varied across Schools and Colleges.

Finally, the scoping exercise identified 38 SRS courses (7%) that allow students to engage with local community projects or businesses.

Key recommendations

The report outlines five proposals to further embed SRS in course curricula at the University:

1. Extending the use of the findings

The findings of the scoping exercise can be turned into a 'SRS profile' for each School, which can serve as a starting point for further work on this agenda at School-level. The findings can also be used to inform students about the SRS courses the University offers, to support them in choosing a degree track that suits their interests and ambitions.

2. Engaging students and staff

Engagement with ESD among students and staff can be encouraged by promoting, sharing and rewarding good practice across Schools, by considering wishes and feedback from students and staff and by encouraging further research into ESD. In addition, embedding elements of 'sustainability literacy' in the University's Graduate Attributes framework would help steer this agenda.

3. Supporting teaching staff

Support for teaching staff could come principally from or via IAD, for example by providing teaching workshops and discipline-specific resources about ESD and by creating networks and mentoring schemes for teaching staff.

4. Tracking progress

The scoping exercise has sought to establish a baseline of the provision of SRS courses in CHSS and CSE at undergraduate level. Progress on this agenda can now be reviewed and reported on a regular basis if desired, by establishing key indicators and by including reference to SRS in course information gathered by the Academic Registry.

5. Taking this research further

Further scoping can be done of courses in the College of Medicine and Veterinary Medicine and of Postgraduate courses in all Colleges. Additional qualitative research can be carried out to examine provision of SRS courses in different degree programs:

- to verify and expand on the data gathered in this scoping exercise
- to identify existing expertise, experience and interest in SRS among teaching staff as well as the need for additional resources and support.

Table of Contents

Executive summary	2
Key findings.....	2
Key recommendations.....	3
1. Background.....	5
The University’s formal commitment.....	6
Students’ request: ‘Learning for Change’ Manifesto	6
External drivers	6
The Green League	7
2. Aims & Methodology	8
Aims	8
Methodology.....	8
<i>Scoping criteria</i>	9
Limitations	11
3. Findings.....	12
Distribution across Colleges & Schools	12
Distribution across levels of study	13
Breadth and focus of SRS content.....	14
Approach.....	16
Delivery & assessment	17
Engagement with local community	19
Summary findings.....	20
4. Recommendations.....	21
1. Extending the use of the findings	21
1.1 <i>SRS profile</i>	21
1.2 <i>Informing students</i>	21
2. Engaging students and staff.....	22
2.1 <i>Starting points</i>	22
2.2 <i>Graduate attributes</i>	23
3. Supporting teaching staff	23
4. Tracking progress	24
5. Taking this research further.....	24
Summary recommendations	25
5. Key contacts	26
6. Sources.....	27
Bibliography.....	27
Online sources & networks	27
Appendix I: SRS themes	29
Appendix II: SRS pedagogies.....	31
Appendix III: Community engagement.....	32
Appendix IV: Graduate Attributes for Global Citizenship.....	33
Appendix V: List of SRS courses.....	34
Appendix VI: Example DRPS course descriptor	47
Appendix VII: Research template	49

Table of Figures

Chart 1: SRS courses by School	13
Chart 2: SRS courses by College	14
Chart 3: Proportion SRS courses by College	14
Chart 4: Distribution SRS courses across levels of study.....	14
Chart 5: Distribution in CSE	15
Chart 6: Distribution in CHSS	15
Chart 7: Distribution by School	15
Chart 8: Number of SRS themes covered in each SRS course.....	15
Chart 9: Type of SRS themes covered	16
Chart 10: Number of courses covering specific SRS themes.....	16
Chart 11: Number and proportion of SRS courses by approach	17
Chart 12: Approaches taken in SRS courses by School	17
Chart 13: Number and proportion of SRS courses per type of delivery	18
Chart 14: Delivery of SRS courses in CHSS & CSE	18
Chart 15: SRS course delivery by School	19
Chart 16: Teaching methods by College.....	20

1. Background

By way of background, this chapter considers the key motivations for the University to enhance engagement with Sustainability and Social Responsibility (SRS) in curricula.

The University's formal commitment

The University Strategic Plan 2012-16 expresses a clear commitment to address teaching as a focus for action on SRS, stating the following strategies under the strategic theme 'Social Responsibility':²

- *Embedding our commitment to social responsibility and sustainability in our curricula, policies, strategies and procedures*
- *Offering every student opportunities to study the broader aspects of current global challenges, social responsibility and sustainability, and to explore in depth how their chosen subjects relate to them.*

Students' request: 'Learning for Change' Manifesto

In 2011, a group of students collectively produced a manifesto with their visions for 21st century learning at the University of Edinburgh, equipping students with the knowledge, attitudes and skills to contribute to a more sustainable and socially just future during and after their time at University.³

The Edinburgh Manifesto was endorsed by the EUSA Student Council Executive, and has received support from both the 2011-12 and 2012-13 Sabbatical officers. The group was also invited to the Conveners' Forum on the 16th of March 2012, during which the attending staff was 'challenged to keep this item in mind throughout committee business' by then Assistant Principal Sue Rigby.⁴ As a next step, the minutes cite:

'...it was suggested that an exercise could be undertaken to look at existing provision [of courses] with a view to flagging where issues of sustainable development are being addressed (...) and also to help provide rationale where it appears that the institution may not be actively addressing other areas.'

External drivers

The University's commitments to embed SRS in course curricula links with Education for Sustainable Development (ESD), or Learning for Sustainability (Lfs), a wider educational agenda which has emerged both in the UK and internationally.⁵ The following definition is taken from the First Annual Report of the UK Government's Sustainable Development Education Panel (1998):⁶

² See: www.ed.ac.uk/schools-departments/governance-strategic-planning/strategic-planning/strategic-plan-2012-16

³ The Manifesto is at: www.oured.ed.ac.uk/wp-content/uploads/2012/03/Learning-for-Change-EdinburghManifesto.pdf

⁴ These minutes were sent to the author in personal correspondence but are not archived online.

⁵ For a critical appraisal of education for sustainable development (ESD) across the United Kingdom, see Martin S, Dillon J, Higgins P, Peters C, Scott W. (2013) 'Divergent Evolution in Education for Sustainable Development Policy in the United Kingdom: Current Status, Best Practice, and Opportunities for the Future.' *Sustainability*. 5(4): 1522-1544.

⁶ The report can be accessed at

<http://webarchive.nationalarchives.gov.uk/20080305115859/http://www.defra.gov.uk/environment/sustainable/educpanel/1998ar/ann4.htm>

ESD enables people to develop the knowledge, values and skills to participate in decisions about the way we do things individually and collectively, both locally and globally that will improve the quality of life now without damaging the planet for the future.

More recently, Martin et al. defined ESD as ‘a process of learning how to make decisions that consider the long-term future of the economy, ecology and equity of all communities’ (2013: 1523). ESD is both a vision and a set of educational practices aimed at equipping students with the understanding and the skills to play a part in solving environmental and socioeconomic challenges on both local and global levels.

Universities have engaged with ESD in different ways. Various UK Universities have undertaken scoping exercises of ESD provision, including the University of Cardiff, the University of Plymouth, the University of Brighton and the University of Leeds. In Scotland, the University of Edinburgh is the first University to have started this process with the current scoping exercise.⁷

The Green League

The Green League is a comprehensive and independent league table of UK universities ranked by environmental and ethical performance. It is compiled annually by the UK’s largest student campaigning network, People & Planet. The 2011-12 league table was published in full in The Guardian. In 2012, the University of Edinburgh rose from place 47 to 42 out of the 145 UK Universities assessed.⁸

In terms of education and learning, in 2013 the League will check against the following criteria:⁹

- *Strategic or Corporate Plan commits to promoting Education for Sustainable Development through the curriculum*
- *Environmental policy explicitly mentions promoting Education for Sustainable Development through the curriculum*
- *Teaching and Learning strategy explicitly mentions Education for Sustainable Development in the curriculum*
- *Institution has a mechanism for reviewing and reporting on progress on the integration of education for sustainable development into the curriculum*
- *Institution makes available support or training to help all academic staff integrate education for sustainable development into the curriculum*

These criteria will be further considered in the recommendations of this report. A second non-scoring criterion in the 2013 Green League is:

The Institution has carried out an audit of the sustainability content of its courses.

This paper reports on the scoping exercise that was undertaken at the Institute for Academic Development (IAD) in the summer of 2012.

⁷ The scoping exercise described in this report was preceded by an audit of courses related to the environment undertaken by Dr Tony Clayton and Dr Anna Ashmole between 1994 and 1995 under the remit of the former Environment Teaching & Research Office (ETRO), in collaboration with the former Centre for Human Ecology. The findings of this study are available in paper copy.

⁸ See: <http://www.guardian.co.uk/news/datablog/2012/may/28/university-green-league-greenwich-environment>

⁹ Information on criteria and methodology can be found on <http://peopleandplanet.org/greenleague>

2. Aims & Methodology

This chapter considers the aims, methodology and limitations of the scoping exercise.

Aims

The aims of the scoping exercise are:

1. To flesh out what the aspirations of the Strategic Plan 2012-16 to embed SRS in curricula might mean in practice and to inform further work on this agenda.
2. To identify SRS in undergraduate courses on a course, School and University-level.
3. To initiate discussion about where and how this provision can be enhanced.
4. To establish a baseline against which further developments can be compared.

Methodology

It was decided to base the exercise on the course descriptions of undergraduate courses offered in 2012-13 that can be found in the Degree Regulations and Programs of Study (DRPS) online database.¹⁰ The DRPS is published by Academic Registry and provides information on all the programs of study offered by the UoE. This includes a publicly accessible database with course descriptions of the University's taught courses, which is used by enrolled students to choose their courses and by prospective students to find out more about the University's degree programs.

The course descriptions are updated annually by Schools, which is generally a task undertaken by Course Organisers or School administrators. Guidance is provided by the Academic Registry on the sort of information to be included in these descriptions but flexibility remains to allow Schools to tailor their information. Indeed, the information offered varies in the extent of detail offered. In Appendix VI, an example of a DRPS course description can be found.

To complement the data, Sophie Whitehead's mapping exercise of courses at the University covering fair trade related themes was used, which she undertook as part of her Employ.ed summer internship at the Fair Trade Steering Group. Employ.ed student intern Bethan Smith, studying Business Studies and Accounting at the University, provided more in-depth information about accounting courses with SRS themes.

Lastly, Karen Harris from the Academic Registry provided a useful overview of different teaching methods used in University courses, as listed by course organisers, from which courses that included a fieldwork element could be isolated.

¹⁰ See: <http://www.drps.ed.ac.uk/>

Because of time limits, it was decided not to scope provision in the College of Medicine and Veterinary Medicine (CMVM), as courses within this College are more obviously related to SRS and are in any case tightly regulated by professional bodies.

The described approach was chosen partly because interviewing teaching staff over the summer was impractical. Also, this approach made it possible to scrutinise the more than 2,000 undergraduate courses within a relatively short space of time.

It was decided not to include any fourth year dissertation or final project courses in the exercise. Although these courses might offer students an opportunity to research SRS-related themes or undertake SRS-related projects independently, the extent to which students will choose to tailor their projects this way will partly depend on any previous engagement with SRS in their degree program. As such, these program elements cannot be classified as addressing SRS with any certainty.

Scoping criteria

As a first step it was necessary to articulate what embedding SRS in course curricula could mean in practice. Following the literature on ESD, this study decided to define 'SRS courses' as meeting the following four criteria:

SRS courses:

1. cover one or more themes related to SRS (*content*)
2. approach the SRS themes from a discipline-specific, interdisciplinary or holistic perspective (*approach*)
3. are taught using mostly student-centred and praxis oriented teaching and assessment methods (*delivery and assessment*)
4. allow students to engage with local community projects or businesses (*community engagement*).

Specific indicators were developed for each of these criteria, which are set out below. The information on each SRS course in CHSS and CSE was then collected in Microsoft Excel, see Appendix VII for the research template used.

It was acknowledged that the University offers few courses that meet all four of these criteria. Therefore, all courses that meet criterion 1, i.e. cover one or more SRS-related themes in terms of content, were mapped and further examined for the other three criteria.

1. Content

SRS was taken in a wide sense to encompass social, economic, environmental and crosscutting themes. A list of 38 themes related to SRS was compiled (Appendix I), adapted from the 'Indicative list of 40 sustainability concepts' produced by the Centre of Sustainable Futures at Plymouth University.¹¹, the STAUNCH© 2007 audit tool¹² developed at the University of Cardiff and the 2010 scoping exercise undertaken at the University of Plymouth.¹³ The aim was to develop a comprehensive but non-overlapping list of themes.

Each course descriptor in the DRPS was carefully scrutinised and assessed against this list of themes. From the general course description, the summary of intended learning outcomes, and, if provided, a list of key words, it was inferred whether SRS themes were covered. The identified themes were noted against the course and the number of themes was listed separately to indicate the breadth of the course content.

When a course was reported to cover one or more of the 38 SRS themes, data was then collected on approach, delivery and community engagement.

2. Approach

By 'approach' is meant the extent to which courses span content and theoretical perspectives across disciplines. This criterion was assessed with the understanding that student engagement with SRS is best facilitated in degree programs offering a mix of discipline-specific, interdisciplinary and holistic SRS courses.

3. Delivery and assessment

A list of 20 teaching and assessment methods was picked from the 'Sustainability pedagogies' listed in the Higher Education Academy's Future Fit Framework (Appendix II).¹⁴ When course descriptors mentioned the use of one or more of these student-centred and praxis oriented teaching methods, these were noted.

4. Engagement with local community

When courses allow students to engage with local schools, organisations or businesses as part of their project work or placements, these were flagged up.

¹¹ Adapted from Cotton and Winter, 2010, the list is included in Sterling, S (2012) *The Future Fit Framework – An introductory guide to teaching and learning for sustainability in HE*, The Higher Education Academy.

¹² The Staunch© 2007 audit tool was developed by Rodrigo Lozano at the Centre for Business Relationships, Accountability, Sustainability and Society (BRASS) at Cardiff University and first used to audit courses at Cardiff University in 2007. For an overview of the Staunch© 2007 <http://www.brass.cf.ac.uk/uploads/Staunch.pdf>

¹³ Blake, J., Jones, P., Kagawa, F. (2010) *Sustainability in the University of Plymouth curricula, as perceived by heads of School* Plymouth, Centre for Sustainable Futures

http://uplace.org.uk:8080/dspace/bitstream/handle/10293/1118/Audit_Paper_web_updated_july.pdf?sequence=1

¹⁴ Cotton, D.R.E. and Winter, J. (2010) 'It's not just bits of paper and light bulbs': A review of sustainability pedagogies and their potential for use in Higher Education. In: Jones, P., Selby, D. and Sterling, S. (eds.) *Sustainability Education: Perspectives and Practice Across Higher Education*. London: Earthscan, cited on p.38 Sterling, S. (2012) *The Future Fit Framework – An introductory guide to teaching and learning for sustainability in HE*, Higher Education Academy.

Limitations

It is important to note the limitations of this scoping exercise before discussing the findings.

1. As mentioned before, the course descriptions on the DRPS vary in the extent of information offered. This has affected the findings in the following ways:
 - a) *Content and delivery and assessment*: The findings reflect only the SRS themes and pedagogies that could be inferred from the DRPS course description. As for pedagogies, for 68 out of the 505 courses, more than one out of seven, it was not clear how the course was delivered.
 - b) *Approach*: It was not always clear whether course content was approached from a single or inter-disciplinary perspective.
 - c) *Engagement with the local community*: As for a), it is possible that project components in the course allowing for this kind of engagement were not mentioned in the course description. The findings therefore reflect the minimum number of courses that qualified for this criterion.
2. It was sometimes difficult to assess natural sciences and engineering courses on their SRS content: Course content might not be directly related to environmental or human health while their practical applications are, for example in molecular biology and chemical engineering. Specialist knowledge of the subject areas is required to make a more accurate judgment on this.
3. The course descriptions do not reflect the *quality* of the teaching. The pedagogies mentioned in the descriptor can give an indication of intention only. No conclusion can be drawn on whether these pedagogies were successfully put into practice. For example, when a course description makes mention of student-directed learning, it is not clear to what extent and in what way this was carried out in the course.
4. The findings do not sufficiently capture the opportunities available for individual students at the University to engage with SRS over the course of their *degree program*. For this, it is necessary to consider program structures in terms of core and optional courses and to take account of possible clashing timetables and any pre-requisite course requirements.

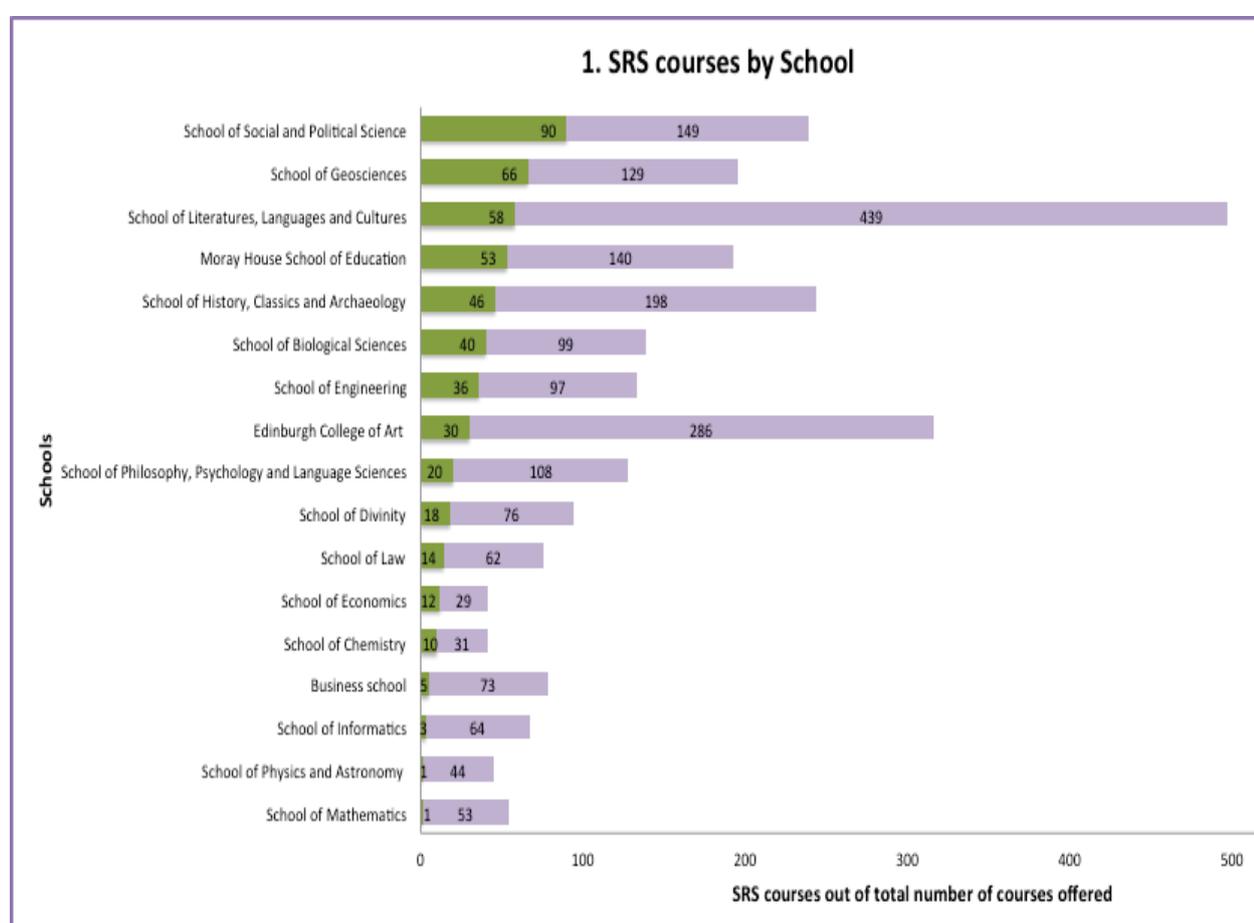
3. Findings

This chapter outlines the main findings of the scoping exercise.

Distribution across Colleges & Schools

This scoping exercise identified 505 courses in CHSS and CSE offered in 2012-13 that cover one or more SRS-related themes: Of approximately 2070 courses on offer (excluding dissertation courses) almost a quarter, 24 per cent, covers SRS content.

Chart 1. shows both the number and percentage of SRS courses per School:

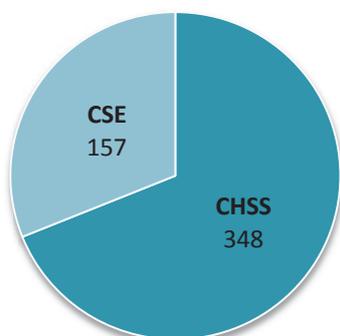


The School of Social and Political Science, with 90 of their 149 undergraduate courses addressing SRS, offers both the largest number and the largest proportion of SRS courses, followed by the School of Geosciences. For the Schools at the bottom of the list in Chart 1. there is scope to make SRS a higher priority in teaching. Within Physics and Mathematics programs for example, engagement with SRS is currently only offered in education placement courses.

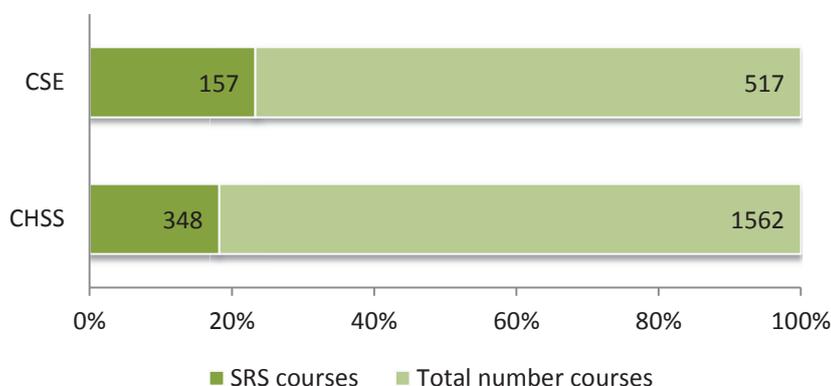
As mentioned, this overview of provision on a School-level does not show the options available to individual students over the course of their degree programs. For example, while the ECA offers 30 SRS courses, the degree program in Design does not include any.

By College, more than two thirds of the SRS courses are offered in CHSS (Chart 2.): Still, more than 30% of the 517 undergraduate courses offered in CSE addresses SRS, compared to 22% of 1562 courses in CHSS (Chart 3.).

2. SRS courses by College

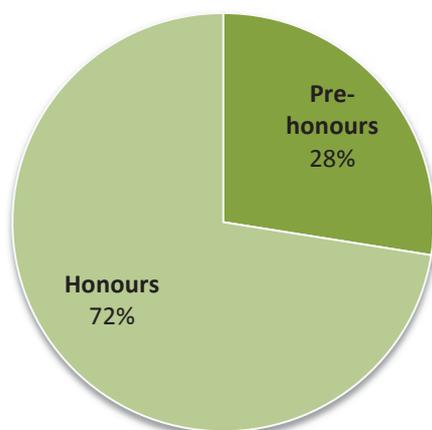


3. Proportion SRS courses by College



Distribution across levels of study

4. Distribution SRS courses across levels of study



Considering the years of study SRS courses are offered is relevant: At Pre-honours level, students in most degree programs can choose at least some optional courses beyond their chosen subject.

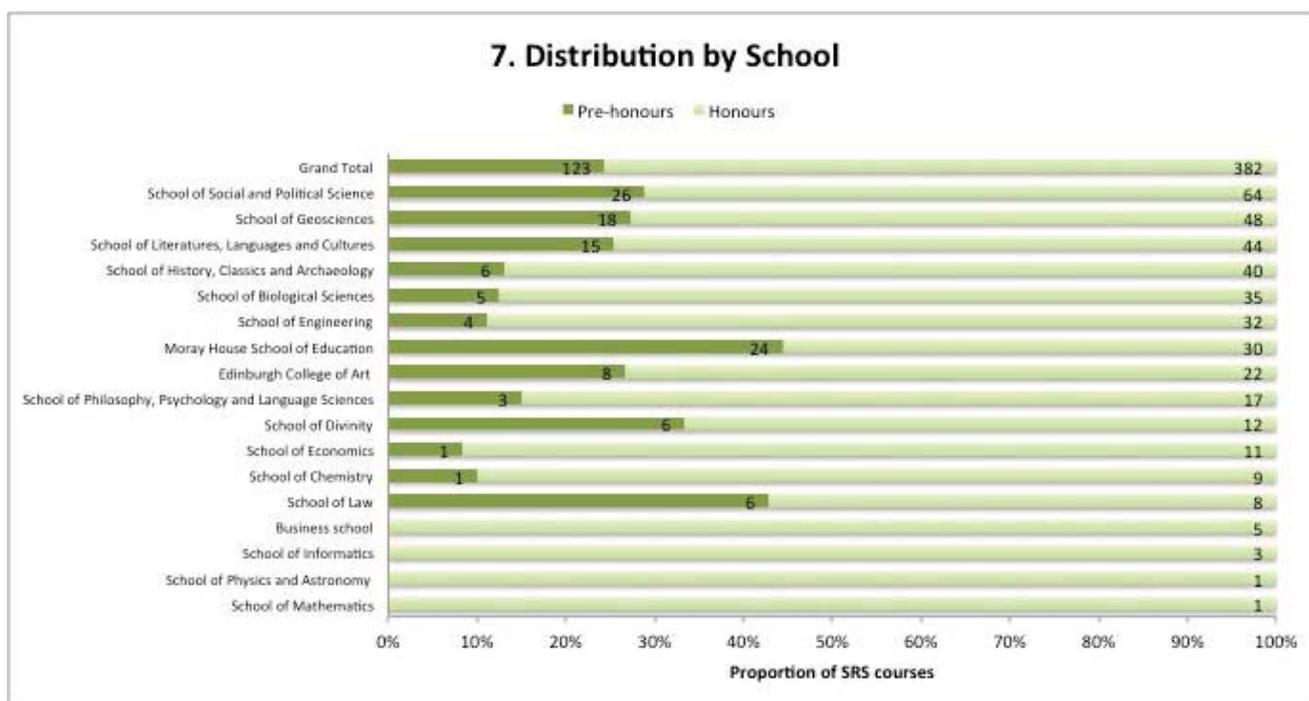
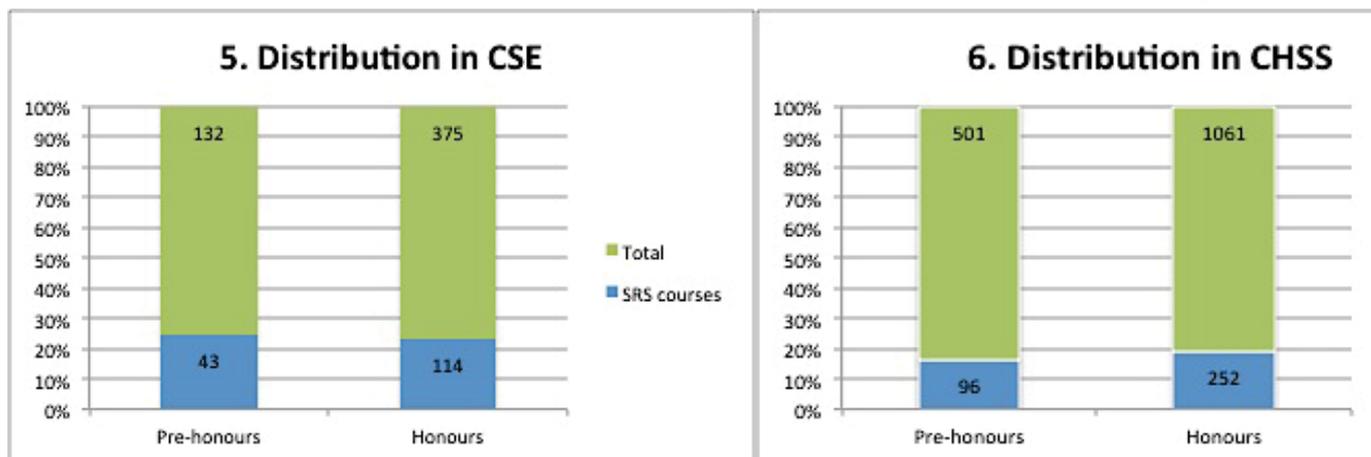
These courses can be first or second year course, picked from across different Schools. Having arrived at Honours level, students are generally offered both mandatory courses and optional ones within their chosen subject and School.

In Chart 4. you can see that almost three quarters of the SRS courses are offered at Honours level. But since students in general have more course options available once

they arrive in Honours, this does not necessarily mean that Honours students engage more with SRS in practice. This depends on provision in their School, the structure of their degree program and the degree of choice allowed within it.

As can be seen in Chart 5. and 6., provision of SRS at Pre- and Honours level is similar in both Colleges. In CSE, at both levels almost a quarter of courses engage with SRS. Within CHSS, this is 15 and 20% of courses respectively.

Chart 7. presents the provision of SRS courses at Pre-honours level and Honours level in the different Schools. In general, as we have seen above, the weight of the SRS courses is at Honours level. In the School of Law and the Moray House School of Education, however, SRS courses are quite evenly distributed over the two levels. Schools like the School of Economics, Chemistry, Biology and Philosophy, Psychology and Language Sciences have a low provision of SRS courses in Pre-honours level, while the Business School and the School of Informatics offer none in Pre-honours.



Breadth and focus of SRS content

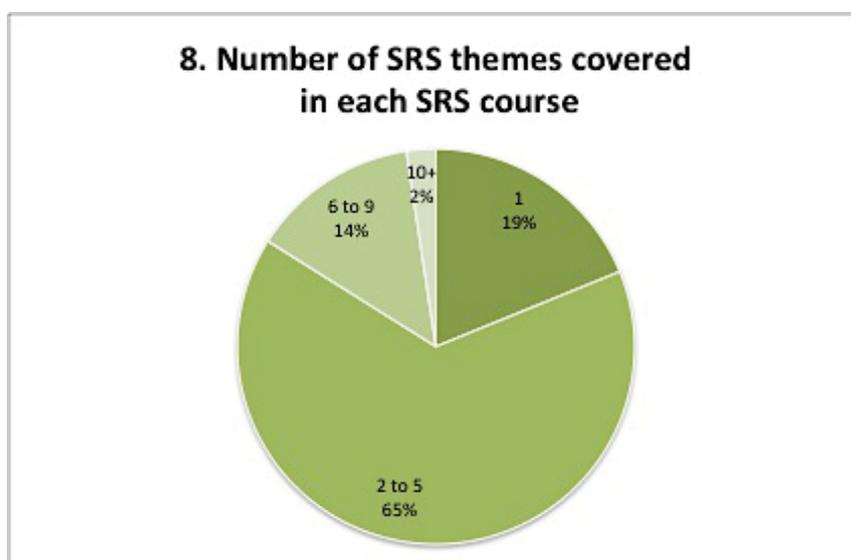


Chart 8. shows that in terms of breadth of SRS themes, almost two thirds of the SRS courses cover two to five different themes. A little less than one fifth of the courses engaged with only one of the themes.

The course that spans the most ground is the Pre-honours course Sustainability, Society and Environment in the School of Geosciences, which covers no less than 18 themes.

Chart 9. shows the percentage of courses that engage with one or more of the social, environmental, economic or crosscutting themes. This graph shows that students have the least opportunity to engage with economic SRS themes.

9. Type of SRS themes covered

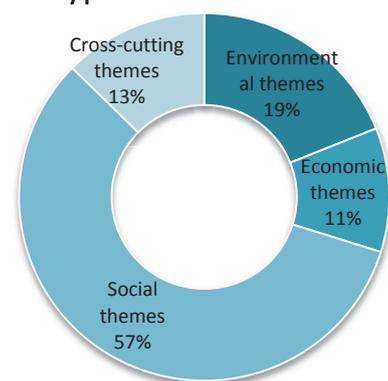
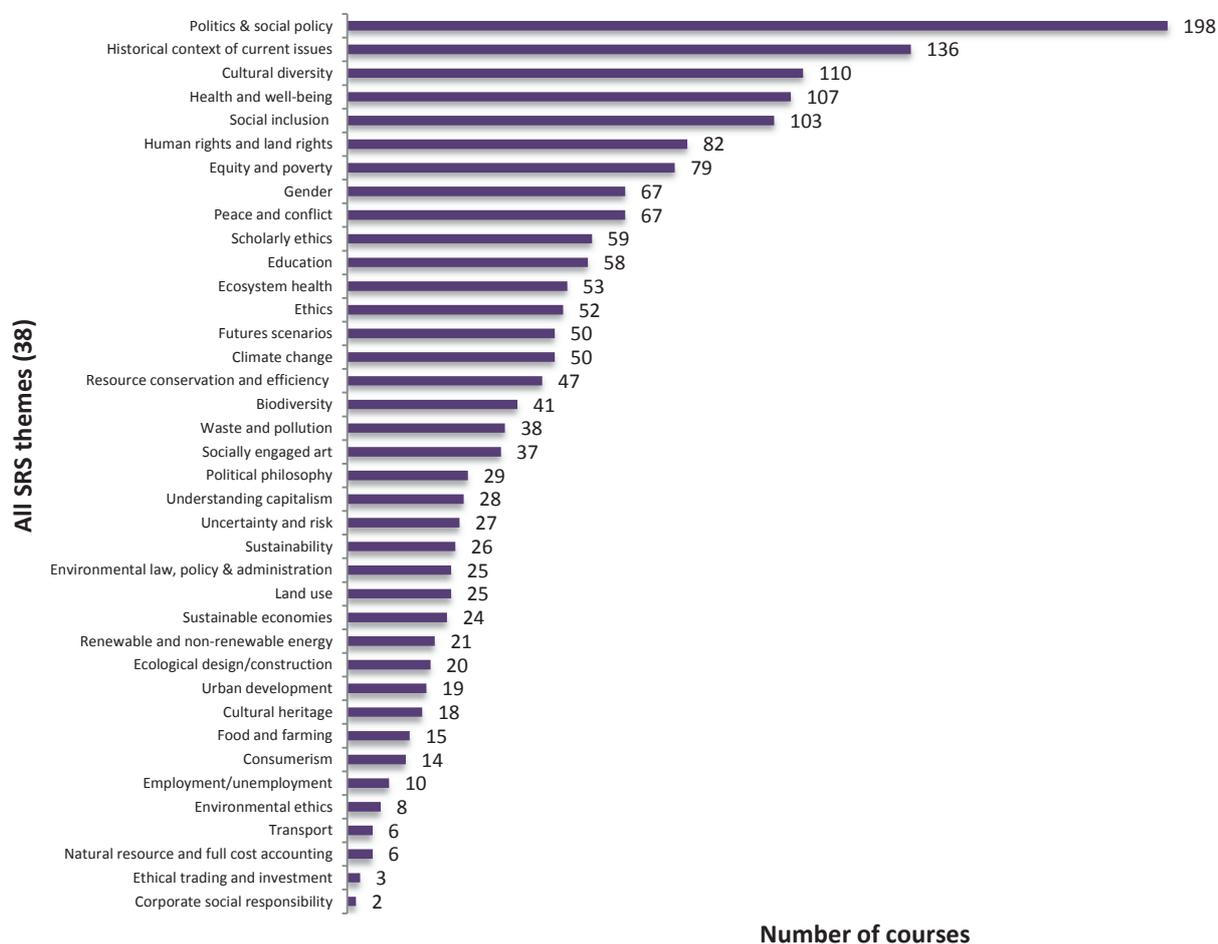


Chart 10. shows the coverage of the 38 SRS themes across SRS courses. Aspects of politics and social policy are most extensively covered, in 198 of the 505 SRS courses.

The economic themes *consumerism, employment/unemployment, transport, natural resource and full cost accounting, corporate social responsibility* and *ethical trading and investment*, are covered in the fewest number of courses and are at the bottom of the list. Engagement with *sustainability* is explicitly flagged up in 26 course descriptors, more than two thirds of which are in CSE. Environmental ethics (the moral questioning of the relationships between humans, animals and the environment), is found in only eight courses.

An interesting difference between the two Colleges is engagement with *scholarly ethics* (which entails exploring the social and environmental impact of a discipline in both research and professional practice): only 16 courses in CSE are reported to include scholarly ethics compared to 43 in CHSS.

10. Number of courses covering specific SRS themes



Approach

In terms of their approach to SRS content, courses were grouped into the following three categories:

1. Discipline-specific approach, for example a course like *Freedom in Political Theory* in SSPS.
2. Inter- or multi-disciplinary approach combining different subject disciplines within either the natural sciences and engineering or humanities and social sciences, for example *Engineering Geology 2* in the School of Engineering.
3. Holistic approach, combining disciplines from across the two Colleges, for example *Marine Science & Policies* in the School of Geosciences.

Chart 11 shows that 35% of the SRS courses take a discipline-specific approach to the subject matter. Almost half of the SRS courses takes an inter- or multi-disciplinary approach and 17% a holistic approach.

11. Number and proportion of SRS courses by approach

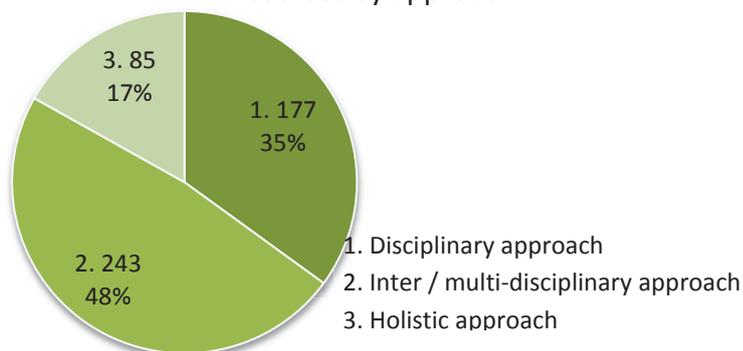
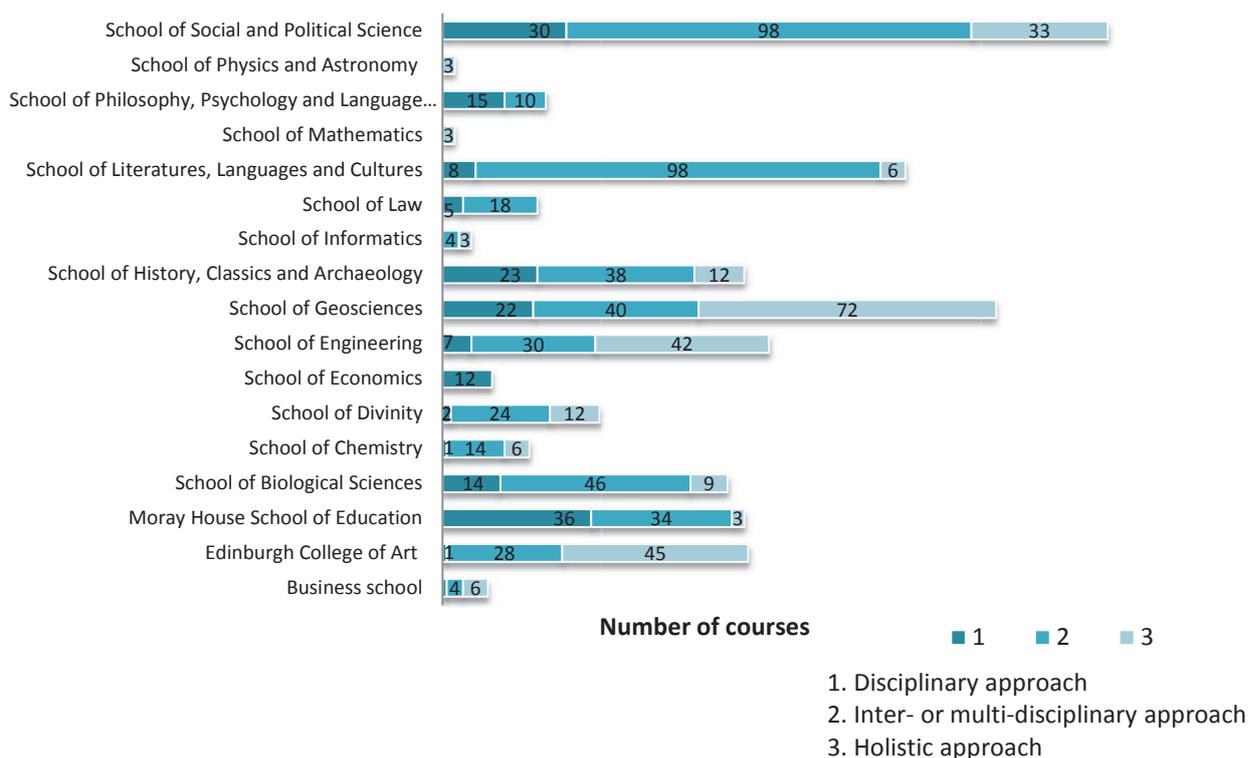


Chart 12. indicates how approaches compare between Schools. It shows that ECA offers the biggest percentage of holistic SRS courses: more than 60%. This is followed by both the School of Geosciences and the School of Engineering, in which content crosses College boundaries in a little more than half of the SRS courses.

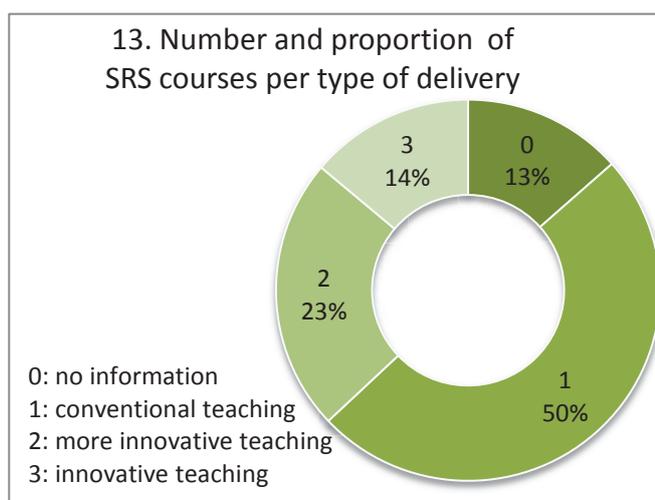
12. Approaches taken in SRS courses by School



Delivery & assessment

The following codes were allocated to each SRS course to express the type of course delivery and assessment methods. A list of SRS pedagogies is provided in Appendix II.

1. Not enough conclusive information available in course descriptor
2. Conventional teaching
 - *Course delivered through lectures and seminars and assessed through essays, individual exercises, presentations and/or exams.*
3. Some innovative teaching
 - *Course includes delivery and assessment methods of category 2., but reported use of one or more SRS pedagogies, eg. 50% exam, 50% project work.*
4. Innovative teaching
 - *Delivered mostly through the use of SRS pedagogies.*



The DRPS course descriptors varied in the amount of detail offered on course delivery. As mentioned earlier, 13% of the SRS courses did not specify which teaching methods were used (category 0).

Chart 13. shows that half of the SRS courses uses conventional teaching methods. Almost a quarter includes some innovative teaching, and one out of seven is delivered using only SRS pedagogies.

Chart 14 compares delivery and assessment methods of SRS courses between the two Colleges. While in CHSS more than 60% of all the SRS courses are conventionally taught, in CSE this is a bit more than 20%.

In CSE, the majority (more than 60% of SRS courses) uses some innovative teaching. The percentage of courses that uses mostly innovative teaching is similar in CHSS and CSE: 14% and 15% respectively.

14. Delivery of SRS courses in CHSS & CSE

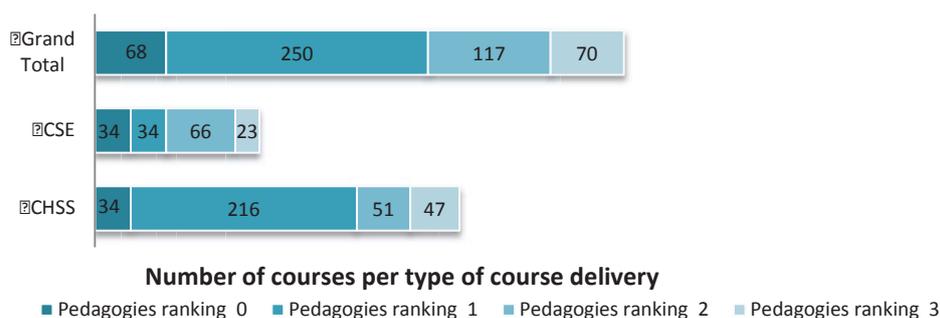
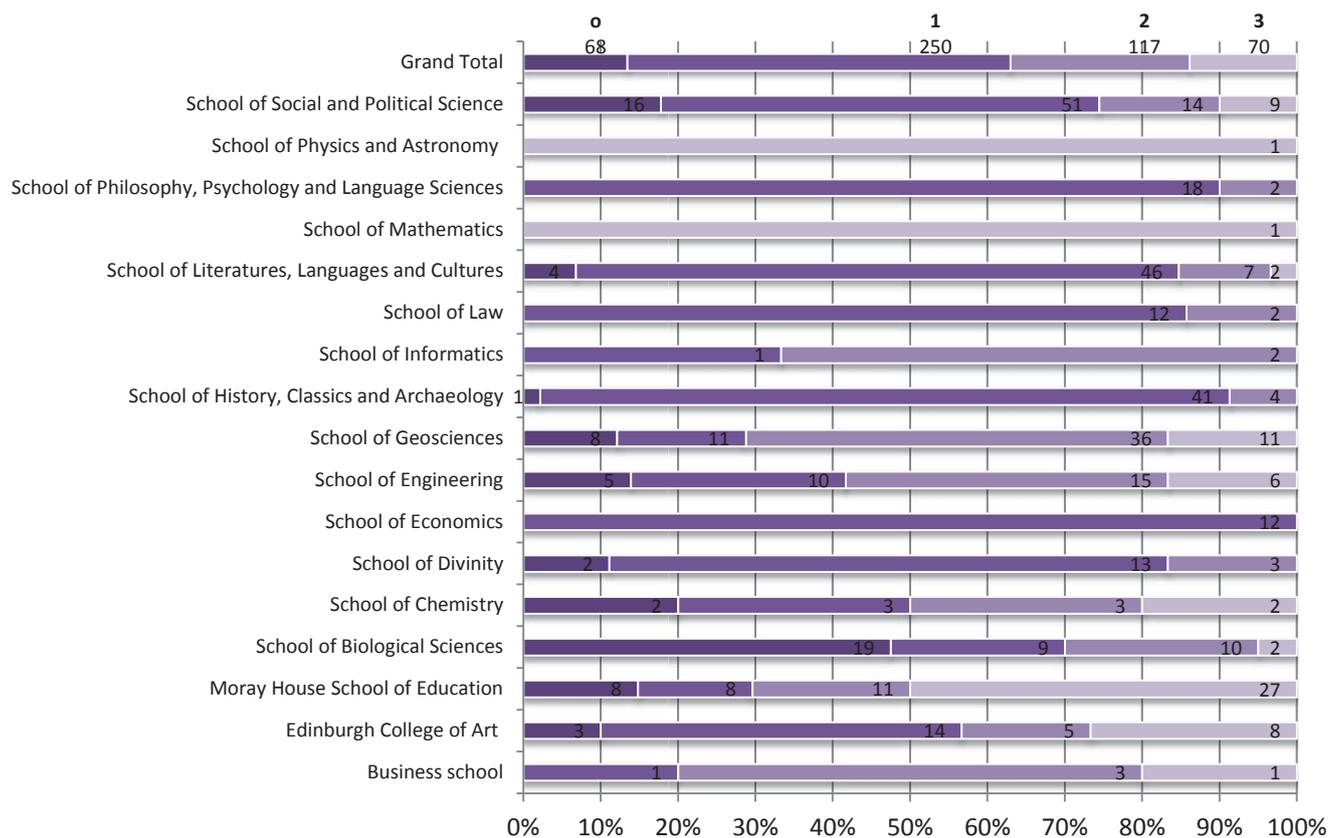


Chart 15. compares the different types of delivery of SRS courses across all Schools. Of the Schools that offer more than 10 SRS courses, Moray House School of Education offers the highest percentage of innovatively taught SRS courses: exactly half of their SRS courses sit in category 3. This is followed by the School of Geosciences and the School of Engineering.

15. SRS course delivery by School



Proportion and number of SRS courses by type of delivery 0-3

Courses that are both innovatively taught (category 3 delivery) and take a holistic approach (category 3 approach) can be seen as inspiring examples of good practice for SRS teaching. Ten SRS courses meet these two criteria:

College	School	Course title	SRS pedagogies used
1. CHSS	Edinburgh College of Art	<i>Park Design and Management</i>	Real-world case studies, PBL, Worldview and values research; group work, site visits
2. CHSS	Edinburgh College of Art	<i>Design: landscape planning and assessment</i>	Real-world case studies, PBL, group work
3. CHSS	Edinburgh College of Art	<i>Design: landscape reclamation</i>	Outdoor learning, PBL, Real-world case studies,
4. CHSS	Moray House School of Education	<i>Global learning: citizenship and sustainability</i>	PBL, worldview and values research, real-world case studies, group work
5. CHSS	Business School	<i>Green and Sustainable Entrepreneurship</i>	Group work, PBL, role-plays and simulations, real-world case-studies
6. CSE	School of Engineering	<i>Environmental Engineering 3</i>	PBL, real-world case studies
7. CSE	School of Engineering	<i>Environmental Engineering Design Project 4</i>	PBL, group work
8. CSE	School of Engineering	<i>Sustainable Energy: Principles and Processes 3</i>	Real-world case studies
9. CSE	School of Geosciences	<i>Earth Surface Processes</i>	PBL, real-world case studies, debates
10. CSE	School of Geosciences	<i>Marine Systems and Policies (UG)</i>	Real-world case studies, group work, peer-assessment

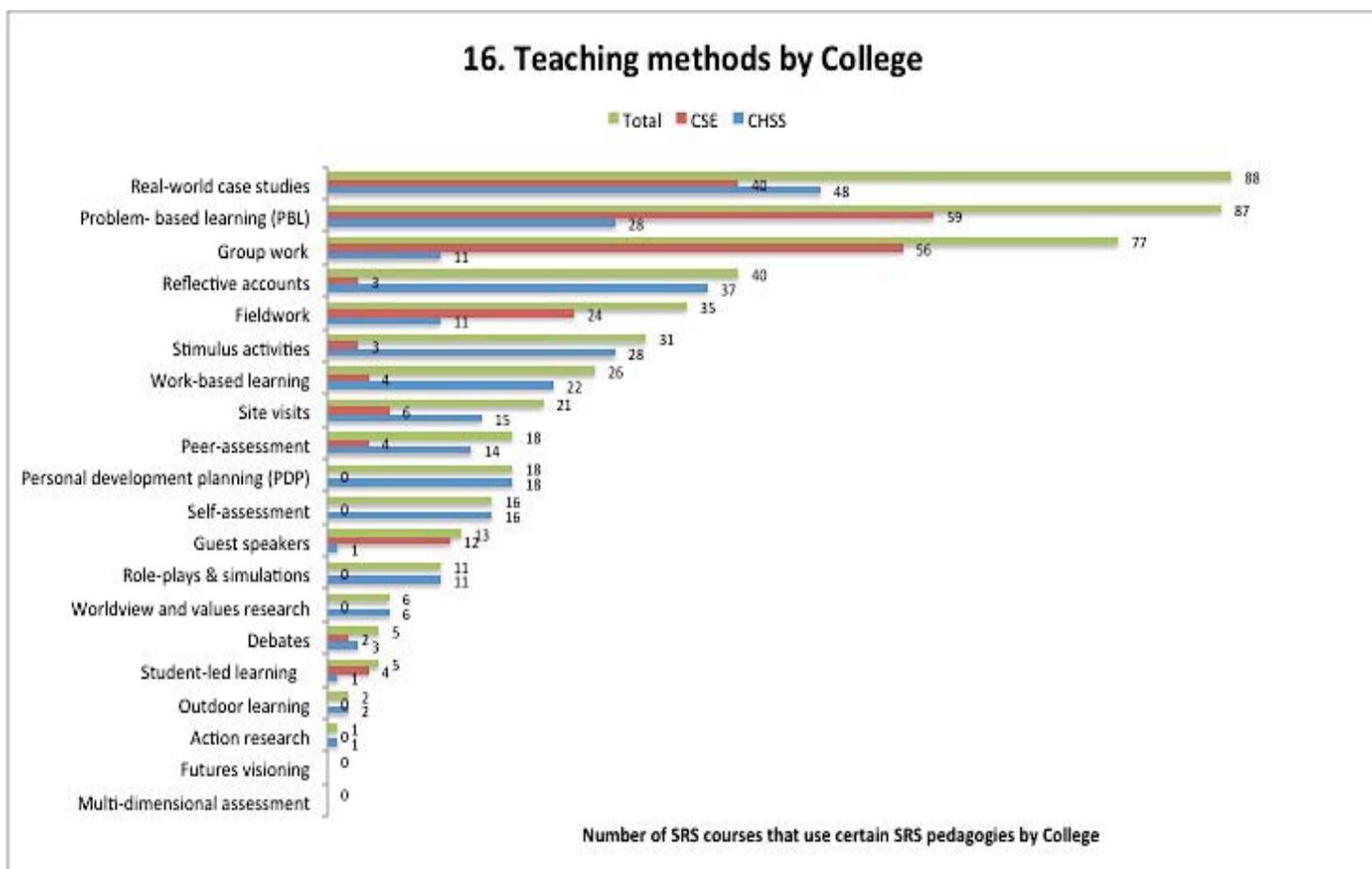


Chart 16 compares the use of different SRS pedagogies between the Colleges. CSE uses *problem-based learning* (PBL) a lot more in SRS courses than CHSS. PBL entails offering a problem-scenario for which students develop solutions as a stimulus for learning. *Group work* is also more common in the CSE, as are contributions by *guest speakers*. On the other hand, SRS courses in CHSS include more *reflective accounts*, *stimulus activities*, *role-plays*, *personal development planning* and *peer- and self-assessment*.

The chart also makes clear that several SRS pedagogies are very uncommon: none of the SRS courses reports to make use of *multidimensional assessment* (assessment that considers not only academic achievements but also participation in and/or social impact of the task). *Worldview and values research* (research projects that require students to explore the worldview and values of different stakeholders), is also not used, neither is *futures visioning* (a collective process through which students envision different possible future scenarios or future solutions to current problems, and plan how to achieve these). *Outdoor learning*, *debates*, *student-led learning* and *action research* (research through active participation in and collaboration with groups outside the University) are rare too.

Engagement with local community

There are 38 SRS courses that allow for engagement in the local community as part of course work. 33 of these are in CHSS (in ECA, Moray House of Education and the School of Social and Political Sciences). The five courses in this category in CSE are education placements. A list of the community engagement courses is included in Appendix III.

Summary findings

To summarise, the scoping exercise identified 505 courses addressing SRS-related content in CHSS and CSE, a quarter of all undergraduate courses offered in the two Colleges in 2012-13. Provision of SRS courses varies greatly per School, ranging from 90 SRS courses in SSPS to one in the School of Mathematics. More than three quarters of the SRS courses are offered at Honours level, with again significant variation between Schools.

The majority of SRS courses engage with various SRS themes at the same time, with two thirds covering two to five SRS themes and 16% covering six themes or more. More than half of the SRS courses engage with social themes, whereas environmental themes are covered in 19% of the courses, crosscutting themes in 13% and economic themes in 11%. Almost half of the SRS courses take an inter- or multi-disciplinary approach, while more than one third of the courses take a discipline-specific approach. With 17%, holistic courses that combine perspectives from both the social sciences/humanities and science/engineering are relatively rare.

Delivery and assessment of the SRS courses seems a key area for consideration: half of the courses is reported to be delivered using 'conventional' teaching strategies like essays and exams. Almost a quarter includes innovative teaching methods associated with ESD, while only 13% of courses uses these pedagogies throughout. This might partly be due to a lack of relevant data for this scoping exercise, as 14% of the SRS course descriptions did not specify on course delivery. As for specific teaching methods used, real-world case studies, problem-based learning and group work were common in SRS courses, while others like worldview and values research, student-led learning and multi-dimensional assessment were rare or not used. Again, provision varied across Schools and Colleges.

Finally, the scoping exercise identified 38 SRS courses (7%) that allow students to engage with local community projects or businesses.

4. Recommendations

Following from the scoping exercise and informal discussions with students and staff across the University during the course of the project, this chapter suggests a number of recommendations for embedding SRS further into course curricula.

These recommendations can be divided in the following categories:

1. **Extending the use of the findings**
2. **Engaging students and staff**
3. **Supporting teaching staff**
4. **Tracking progress**
5. **Taking this research further.**

1. Extending the use of the findings

1.1 SRS profile

The data collected for this scoping exercise can be used to compile a 'SRS profile' for each School that answers the following questions in more depth than the length of this report allowed for:

1. *Does each of degree programs offered contain SRS courses?*
2. *What is the balance of Pre-honours and Honours SRS courses, and core and optional courses?*
3. *What SRS themes are covered in the courses and which themes, relevant to the subject, might deserve more attention?*
4. *What is the balance of the type of SRS themes that are covered (social, economic, environmental and crosscutting themes) and can this be enhanced?*
5. *What is the balance of approaches taken (disciplinary, inter-disciplinary and holistic) and can this be enhanced?*
6. *How are the SRS courses delivered and assessed? Is there scope for introducing more SRS pedagogies?*
7. *Which courses in the School allow for engagement with the local community and can their number be increased?*

Such a profile can function as a starting point for further work in this area at School-level.

1.2 Informing students

It is important to inform students better about the SRS courses the University offers, to support them in choosing a degree track that suits their interests and ambitions.

The current information provision can be improved in different ways:

- a) By making each School's 'SRS profiles' available to current and prospective students on for example School websites.
- b) By providing a list of the SRS courses across Schools, which is updated yearly, on the University website, the IAD website and/or EUSA's website, Personal Tutors can also be

Social Responsibility & Sustainability in Undergraduate Courses at the University of Edinburgh 2012-13 encouraged to share this list with tutees who show interest and to make their tutees more aware of the possibilities for taking courses across Schools and Colleges.

- c) By expanding the recently added SRS section in the DRPS course descriptors with additional criteria taken from this scoping exercise, to help students navigate the DRPS database (see section below on 'tracking progress').
- d) By tagging courses in the DRPS under the different SRS themes, allowing students to look for courses across Schools that engage with the specific themes that are of interest to them. Current EUSA president James McAsh also suggested the possibility of tagging courses on a course review website planned by EUSA.
- e) By tracing specific SRS themes across Schools and setting out 'degree tracks', to give students the opportunity to engage with a specific theme of interest from a variety of perspectives. This would enable students who are for example interested in human rights or climate change to follow a 'degree track' of courses addressing this theme in different Schools across the years. This would make for a more tailored learning experience than current School-specific degree programmes allow for.
- f) By organising an event for students at the beginning of each academic year serving as a gateway to Education for Sustainable Development at the University. Here, for example, teachers can give short taster sessions of their SRS courses and administration staff can be at hand for consultation about degree program structures.

2. Engaging students and staff

2.1 Starting points

In addition to making more information available on the provision of SRS courses, there are many ways in which students and staff can engage more with ESD and collaborate to embed SRS further into curricula. These might be starting points:

- a) Making School's and department's provision and/or delivery of SRS courses a subcategory in the annual EUSA Teaching Awards and/or the Edinburgh Sustainability Awards. This would reward good practice and establish a platform for sharing ideas.
- b) Further promoting and sharing good practice in ESD by compiling a portfolio of case studies of, for example, holistic courses, specific examples of SRS pedagogies and courses allowing for engagement with the local community. These examples can be shared during themed University-wide teaching events, while snippet summaries can be published as monthly highlights in, for example, the sustainability office newsletter, the staff bulletin, Edit, and on the news section of the University website.
- c) Considering students' wishes for ESD and experiences of SRS courses: What knowledge and skills related to SRS would they like to learn? Did they enjoy the SRS courses they were enrolled in? Do they think the course helps them to tackle real-world problems once they graduate? What would they like to see differently? et cetera. Similar questions can be asked to teaching staff engaging with SRS to inform further work on this agenda.
- d) Encouraging teaching-research linkages in terms of SRS-related themes.
- e) Encouraging academic research into ESD both in HE and in specific disciplines by, for example, offering through the Principal's Teaching Award Scheme (PTAS) and/or by organising a seminar series on this agenda through the IAD and / or Moray House School of Education.

2.2 Graduate attributes

Embedding 'sustainability literacy' in the University's Graduate Attributes framework would further the commitment to ESD at an institutional level. Importantly, a non-scoring criterion was added in the 2013 People & Planet Green League of UK Universities (see Chapter 1. 'Background'):

Sustainability literacy is included as a learning outcome or graduate attribute.

The emphasis in ESD is often more on students' attributes, dispositions and competencies rather than merely on content. Research and perspectives on what ESD might offer, have developed under the term 'sustainability literacy' (although not all practitioners favour this term). First coined by the NGO Forum for the Future, sustainability literacy can be described as the set of skills and dispositions conducive to building more sustainable development patterns in work and personal life.¹⁵

Currently, the University's graduate attributes framework contains little reference to sustainability or social responsibility.¹⁶ Only in the last cluster of attributes in the framework, 'personal effectiveness', wider responsibilities are mentioned: the ability to '*understand social, cultural, global and environmental responsibilities and issues*'.

As part of the 'What's the University For?' (WTUF) event series, a collaboration of the University Chaplaincy, IAD, EUSA and others, students and staff considered what they wished as and for UoE students to learn during their time at University. At one of the events in Autumn 2012, eight new graduate attributes were proposed by the author of this report and discussed by around 60 attending students and staff from across the University.

These 'Graduate Attributes for Global Citizenship' can be found in Appendix IV. Following on from this discussion, conversations have started between the WTUF group and the Employability Strategy Group (ESG), who are currently looking to refresh the University's graduate attributes framework.

3. Supporting teaching staff

Support could come principally from or via IAD, for example by:

- a) Providing discipline-specific information or resources about ESD, eg. from the HEA ESD Subject Centres¹⁷ and on SRS pedagogies as identified elsewhere in this report, including case studies from across the University
- b) Running ESD teaching workshops
- c) Setting up mentoring schemes between different teaching staff within and across Schools
- d) Creating a network of teachers and tutors within the University who are interested in leading on this educational agenda.

¹⁵ Sterling, S. (2012) *The Future Fit Framework – An introductory guide to teaching and learning for sustainability in HE*, The Higher Education Academy, p. 21.

¹⁶ The University's Graduate Attributes Framework: www.employability.ed.ac.uk/Graduateattributes.htm

¹⁷ See: http://www.heacademy.ac.uk/resources/detail/sustainability/subject_centre_work

4. Tracking progress

This scoping exercise has sought to establish a baseline of the provision of SRS courses in CHSS and CSE at undergraduate level. Progress on this agenda can now be reviewed and reported on a regular basis if desired. The following recommendations would enable this:

- a) Establishing key indicators of University-wide progress on ESD, eg. total number of SRS courses, number of SRS courses per School, number of SRS courses as core courses in degree programs, number of holistic courses, number of innovatively taught SRS courses, et cetera.

These key indicators or criteria can help to flesh out the visions laid out in the Strategic Plan 2012-2016 to embed SRS further into curricula and inform the annual Strategic Plan Implementation Plans.

- i) Commitments to ESD can also be added to Learning and Teaching strategies of different Schools, where they are not already, including indicators and aims.
- b) Expanding on the recently added SRS section in the DRPS course descriptors by asking course organisers to report on SRS themes, approach, delivery methods and opportunities for community engagement. If data on SRS in curricula is gathered by the Academic Registry, it would be easier to review future progress.
Similarly, questions about engagement with SRS can be included in the templates of Taught Program Reviews and Degree Programme Specifications. Additional support and guidelines can be provided for staff to understand and use the SRS criteria.

5. Taking this research further

To complement this scoping exercise and establish a more complete picture of the University's provision of SRS courses, further scoping can be done of:

- a) Courses in the College of Medicine and Veterinary Medicine
- b) Postgraduate courses

As this scoping exercise was mainly based on course descriptors in the DRPS database, additional qualitative research can be carried out:

- c) Examining how each degree program offered at the University engages with SRS.
- d) Verifying SRS courses and their themes, approaches and delivery methods identified in the DRPS course descriptor with the relevant course organisers

Other Universities have undertaken more wide-ranging scoping exercises of ESD, which might serve as inspiration for further research:

- e) *A questionnaire-based audit.* At the University of Bristol, for example, a questionnaire was sent to course teams in each School.¹⁸ This audit assisted Schools in identifying discipline/course specific strategies and the need for additional resources and support.
- f) *A skills audit.* The University of Wales Trinity Saint David and Swansea Metropolitan University undertook this audit to develop an evidence base of existing expertise, experience and interest in sustainability among staff members.¹⁹

¹⁸ See: <http://www.bristol.ac.uk/environment/esd/>

¹⁹ The audit is relevant to our purposes from Section D: www.eauc.org.uk/sustainability_skills_survey_staff_questionnaire

Summary recommendations

The report outlined various suggestions to further embed SRS in course curricula at the University:

1. Extending the use of the findings

The findings of the scoping exercise can be turned into a 'SRS profile' for each School, which can serve as a starting point for further work on this agenda at School-level. The findings can also be used to inform students about the SRS courses the University offers, to support them in choosing a degree track that suits their interests and ambitions.

2. Engaging students and staff

Engagement with ESD among students and staff can be encouraged by promoting, sharing and rewarding good practice across Schools, by considering wishes and feedback from students and staff and by encouraging further research into ESD. In addition, embedding elements of 'sustainability literacy' in the University's Graduate Attributes framework would help steer this agenda.

3. Supporting teaching staff

Support for teaching staff could come principally from or via IAD, for example by providing teaching workshops and discipline-specific resources about ESD and by creating networks and mentoring schemes for teaching staff.

4. Tracking progress

The scoping exercise has sought to establish a baseline of the provision of SRS courses in CHSS and CSE at undergraduate level. Progress on this agenda can now be reviewed and reported on a regular basis if desired, by establishing key indicators and by including reference to SRS in course information gathered by the Academic Registry.

5. Taking this research further

Further scoping can be done of courses in the College of Medicine and Veterinary Medicine and of Postgraduate courses in all Colleges.

Additional qualitative research can be carried out to examine provision of SRS courses in different degree programs:

- to verify and expand on the data gathered in this scoping exercise;
- to identify existing expertise, experience and interest in SRS among teaching staff as well as the need for additional resources and support.

5. Key contacts

A list of key contacts in the University of Edinburgh leading on ESD:

Olga Bloemen – olga.bloemen@gmail.com

Student MA Social Anthropology, 2013.

Peter Higgins - Pete.Higgins@ed.ac.uk

Professor of Outdoor and Environmental Education and working on the establishment of the United Nations University Regional Centre of Expertise for Education for Sustainable Development for Scotland, now called Learning for Sustainability Scotland: <http://www.rcescotland.wordpress.com/>

Miesbeth Knottenbelt - miesbeth@staffmail.ed.ac.uk

Learning and Teaching team, Institute for Academic Development (IAD). Supervisor for this project and key contact in IAD for ESD. She can provide access to the course data collected as part of this scoping exercise.

Lucy Pratt - lucy.pratt@ed.ac.uk

Special Projects Officer, MA Sustainable Development SSPS.

David Somervell - David.Somervell@ed.ac.uk

Sustainability Advisor, Edinburgh Sustainability: <http://www.ed.ac.uk/about/sustainability/home>

Amy Woodgate - amy.woodgate@ed.ac.uk

Project Officer - DEI Student Experience and working with Peter Higgins on the establishment Learning for Sustainability Scotland.

Sustainability and Environmental Advisory Group (SEAG)

SEAG has among its objectives 'to promote and encourage the delivery of an outstanding educational portfolio as recommended in the Sustainability in the Curriculum report endorsed by Senatus in 2007': <http://www.seag.estates.ed.ac.uk/>

Secretary contact: Angela Lewthwaite (Angela.Lewthwaite@ed.ac.uk).

6. Sources

Bibliography

Cotton, D.R.E. and Winter, J. (2010) 'It's not just bits of paper and light bulbs': A review of sustainability pedagogies and their potential for use in Higher Education.' Jones, P., Selby, D. and Sterling, S. (eds.) *Sustainability Education: Perspectives and Practice Across Higher Education*. London: Earthscan.

Cotton, D.R.E. and Winter, J. (2012) 'Sustainability pedagogies: what do they offer for educational development?' Cotton, D., Sterling S., Neal, V., Winter, J. (eds.) *Putting the 'S' into ED – Education for Sustainable Development in Educational Development, SEDA Special 31*. London: SEDA

Dawe, G., Jucker, R. & Martin, S. (2005) *Sustainable development in higher education: Current practice and future developments*. The Higher Education Academy.

Martin S, Dillon J, Higgins P, Peters C, Scott W. (2013) 'Divergent Evolution in Education for Sustainable Development Policy in the United Kingdom: Current Status, Best Practice, and Opportunities for the Future.' *Sustainability*. 5(4): 1522-1544.

Sterling, S (2012) *The Future Fit Framework – An introductory guide to teaching and learning for sustainability in HE*, The Higher Education Academy.

Online sources & networks

Learning for Sustainability (LfS) Scotland

LfS Scotland is one of the United Nations University Regional Centres of Expertise (RCEs) for Education for Sustainable Development. RCEs are networks of formal, non-formal and informal education organisations, mobilised to deliver ESD to local and regional communities.

<http://www.rcescotland.wordpress.com/>

Higher Education Academy

The HEA provides case studies, publications, projects, events, networks, funding opportunities and HE policy statements on ESD.

<http://www.heacademy.ac.uk/education-for-sustainable-development>

Centre for Sustainable Futures, Plymouth

CSF provides curriculum and pedagogic support at the University of Plymouth and coordinates cross-institutional research related to ESD. It offers many resources, including teaching activities.

<http://www1.plymouth.ac.uk/sustainability/Pages/teachingandlearning.aspx>

Sustainability in Higher Education Developers (SHED)

SHED is the leading community of practice in the UK for ESD in Further and Higher Education. It comprises around 300 staff interested in LfS. You can sign up to the network here:

http://www.heacademy.ac.uk/organisations/detail/esd_shed

ESD Network University of Leeds

'A Guide to developing Education for Sustainable Development across the University of Leeds.'
(2012) http://www.esd.leeds.ac.uk/fileadmin/documents/esd/ESD_guide.pdf

United Nations Economic Commission for Europe (UNECE)

In 2012, the UNECE Expert Group on Competences for ESD produced a report 'Learning for the future: competences for education for sustainable development', which aims to provide a framework for the professional development of educators.

<http://www.unece.org/environmental-policy/areas-of-work/education-for-sustainable-development-esd/education-for-sustainable-development-esdpublicationshtml/education-for-sustainable-development/2012/competences-for-esd/docs.html>

HEFCE

In 2005, HEFCE set out a vision for how universities and colleges could contribute to sustainable development. The document below provides the 2008 revised strategic statement and action plan on LfS following feedback received from the sector.

http://www.hefce.ac.uk/media/hefce1/pubs/hefce/2009/0903/09_03.pdf

Guide to Quality and Education for Sustainability in Higher Education

This resource makes connections between LfS and quality assurance and enhancement in HE. It is based on a HEFCE funded project, *Leading Curriculum Change for Sustainability: Strategic Approaches to Quality Enhancement*, which took place in five universities between 2010 and 2012.

<http://efsandquality.glos.ac.uk/>

Turnaround Leadership for Sustainability in Higher Education

The Australian Government's Office of Learning and Teaching's 2012 report on an international study of turnaround leadership for sustainability in higher education along with two role specific guides on effective approaches for Deans and Heads of Department and program heads and coordinators.

<http://www.olt.gov.au/resources?text=Turnaround+leadership+for+sustainability+in+higher+education>

Appendix I: SRS themes

The list of themes related to Social Responsibility and Sustainability used in the scoping exercise. A short description is added where appropriate.

Environment

1. Ecosystem health
Ecology, system balance
2. Climate change
3. Biodiversity
4. Waste and pollution
Includes emissions issues like acid rain and ozone depletion
5. Land use
Rural development, human use of non-urban land
6. Resource conservation and efficiency
Includes water, energy, materials
7. Urban development
8. Ecological design/construction
9. Food and farming
10. Environmental law, policy & administration

Economy

11. Sustainable economies
Includes carbon and ecological footprint, limits to growth
12. Understanding capitalism
Includes socioeconomic history
13. Equity and poverty
Concerned with the fair distribution of resources, intra- and intergenerational.
14. Natural resource and full cost accounting
15. Renewable and non-renewable energy
16. Transport
17. Ethical trading and investment
Includes fair trade
18. Corporate social responsibility
19. Consumerism
Consumption patterns
20. Employment/unemployment
Includes labour rights, organisation, protest

Society

21. Historical context of current issues

Covers 20th century western and non-western history

22. Politics & social policy

Includes local, national and international decision- and policy-making

23. Political philosophy

24. Peace and conflict

Includes war, popular protest, international security

25. Health and well-being

Includes medicine and healthcare

26. Human rights and land rights

27. Cultural diversity

Includes different religions and cultures

28. Cultural heritage

Includes traditional music, literature

29. Social inclusion

Covers exclusion, minorities, emancipation, immigration and/or multiculturalism in contemporary societies.

30. Gender

Includes gender inequality

31. Education

32. Socially engaged art

Includes political literature, community arts

Crosscutting

33. Sustainability

When explicitly highlighted in course description.

34. Ethics

Includes moral philosophy

35. Environmental ethics

The moral questioning of the relationship between humans, animals and the environment

36. Scholarly ethics

Exploring the social and environmental impact of the discipline, both in research and professional practice.

37. Futures scenarios

Includes longer-term thinking about real-world issues, locally and globally, and finding solutions for future problems

38. Uncertainty and risk

Includes risk assessment, ethical dilemmas of risk

Appendix II: SRS pedagogies

A working definition, as informed by ESD literature by Sterling (2012), Cotton (2010) and others, is added where appropriate.

1. Student-led learning

Students guiding their own learning by choosing and defining learning objectives, facilitated by teaching staff.

2. Real-world case studies

When real-world case studies of local and global challenges are studied, theoretically or as a basis for project work.

3. Problem-based learning (PBL)

Pedagogy that offers a problem for which students develop solutions as the stimulus for learning.

4. Group work

Projects that require collaboration.

5. Debates

Structured discussions in which students represent different sides.

6. Fieldwork

Outdoor activities carried out by staff and students.

7. Site visits

Visits to relevant sites to inform learning.

8. Role-plays & simulations

When students simulate a real-world situation in class.

9. Stimulus activities

The use of different media and/or artefacts in class, like photos, videos, newspapers, or when students are engaged to create their own.

10. Reflective accounts

When students are asked to reflect on their learning experience.

11. Personal development planning (PDP)

Personal development planning (PDP) helps learners reflect upon their own learning and achievements and plan for their personal, educational and career development.²⁰

12. Futures visioning

A collective process through which students envision the futures they would wish for, or future solutions to current problems, and plan how to achieve these.²¹

13. Worldview and values research

Research projects that require students to explore the worldview and values of different stakeholders.

14. Action research

Combining research with active participation in and collaboration with groups outside the University.

15. Outdoor learning

Organised learning in the outdoors.

16. Work-based learning

Learning through work placements.

17. Guest speakers

Engagement with visiting, non-academic speakers.

18. Self-assessment

19. Peer-assessment

20. Multi-dimensional assessment

Assessment that considers not only academic achievements but also participation and/or social impact.

²⁰ Since 2000, QAA is supporting higher education institutions and academics to develop PDP policies and practices. See their guidance section on: <http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/Pages/PDP-publication.aspx>

²¹ A short description of a futures visioning exercise can be found here: <http://www.e-lead.org/resources/resources.asp?ResourceID=19>

Appendix III: Community engagement

College	School	Course
1. CHSS	Edinburgh College of Art	Music in the Community 3
2. CHSS	Edinburgh College of Art	Music in the Community 4
3. CHSS	Moray House School of Education	Childhood Studies 2B: Practice
4. CHSS	Moray House School of Education	Community Education Professional Practice 1
5. CHSS	Moray House School of Education	Placement 1
6. CHSS	Moray House School of Education	Placement 2
7. CHSS	Moray House School of Education	Education, Health, Society and Childhood Practice
8. CHSS	Moray House School of Education	Education and Childhood Practice
9. CHSS	Moray House School of Education	Community Education Professional Practice 2
10. CHSS	Moray House School of Education	Community Education Professional Practice 3
11. CHSS	Moray House School of Education	Education 3: Equity, Inclusion and Diversity - what does this mean for teaching and learning?
12. CHSS	Moray House School of Education	Design and Technology Placement 3
13. CHSS	Moray House School of Education	Design and Technology Placement 4
14. CHSS	Moray House School of Education	Placement 3
15. CHSS	Moray House School of Education	Placement 4
16. CHSS	Moray House School of Education	Secondary Placement 1
17. CHSS	Moray House School of Education	Secondary Placement 2
18. CHSS	Moray House School of Education	Secondary Placement 3
19. CHSS	Moray House School of Education	Teaching in School: Level 2 Middle Primary Placement
20. CHSS	Moray House School of Education	Teaching in School: Level 2 Upper Primary Placement
21. CHSS	Moray House School of Education	Teaching in School: Level 2 Upper Primary Placement
22. CHSS	Moray House School of Education	Teaching in School: Early and First Level Placement
23. CHSS	School of Literatures, Languages and Cultures	Ethnological Fieldwork Methods
24. CHSS	School of Social and Political Science	Political and Cultural Summer Program: Research Project
25. CHSS	School of Social and Political Science	Ethnography: Theory and Practice
26. CHSS	School of Social and Political Science	Social Work in Communities (UG)
27. CHSS	School of Social and Political Science	Social Work with Individuals and Families
28. CHSS	School of Social and Political Science	Understanding Care and Control in Social Work (UG)
29. CHSS	School of Social and Political Science	Professional Practice in Social Work 1 (UG)
30. CHSS	School of Social and Political Science	Professional Practice in Social Work 2 (UG)
31. CHSS	School of Social and Political Science	Political Internship: Research Project (S1)
32. CHSS	School of Social and Political Science	Political Internship: Research Project (S2)
33. CSE	School of Chemistry	Science Education Placement: Chemistry
34. CSE	School of Chemistry	Science Education Placement: Chemistry (40 credits)
35. CSE	School of Engineering	Sustainable Energy Group Design Project 3
36. CSE	School of Mathematics	Mathematical Education
37. CSE	School of Physics and Astronomy	Science Education Placement: Physics

Appendix IV:

Graduate Attributes for Global Citizenship

1. Systems thinking

The ability to see how things are connected, especially environmental, social and economic dimensions.

2. Future orientation

The ability to think into the future, to handle complexity and uncertainty and to create long-term solutions to current problems.

3. Creativity

The ability to combine ideas and to come up with outside-of-the-box approaches to problems.

4. Ethical thinking

The ability to explore ethical questions and make and critically evaluate ethical decisions.

5. Self-reflection

The ability to reflect on yourself and your impact on others.

6. Academic responsibility

The ability to understand how an academic discipline impacts upon the world and to engage with the discipline in a socially responsible and sustainable way.

7. Empathy

The ability for trans-cultural understanding, respect and solidarity.

8. Bridge-building

The ability to collaborate, and bring people together, for a common cause, including the ability to mediate conflicts.

9. Change-making

The ability and willingness to act in accord with one's knowledge and skills to bring about change that supports sustainable development in personal, institutional and other social contexts.

10. Risk / benefit analysis and risk-taking

The ability to analyse circumstances, evaluate potential benefits and risks in taking (or not taking) a course of action, and to be willing to take risks to stimulate positive change.

Appendix V: List of SRS courses

School	Course
Business School	A Global Problem? Climate Change and a Low Carbon World
	Business Ethics
	Green and Sustainable Entrepreneurship
	Management Accounting Applications
Edinburgh College of Art	Managing Across Borders and Cultures
	Architectural History 2b: Culture & the City
	Art After Photography
	Art and Gender 600-1400
	Avant-Gardes and Individuals: Art in France, 1886-1900
	Design: landscape planning and assessment
	Design: landscape planning and ecology
	Design: landscape reclamation
	Ecology and Plant Materials 1
	Elective: Ethnobotany
	Elective: Plant geography
	Electric Dreams and Nuclear Visions: Art and Science in the Twentieth Century
	Europe 1900: Nationalism and Decadence at the Fin-De-Siècle
	Expressionism, Dada, Bauhaus and Beyond
	France, 1850-1900: Visual Culture and Social Change
	Francis Bacon and his Artistic Affinities
	From Jacobitism to Romanticism: The (Re)invention of Scotland in Visual and Material Culture
	Horticulture and Plant Materials 2
	Landscape Engineering
	Modern Art in Shanghai, 1840-1930
	Music in the Community 3
	Music in the Community 4
	Orientalism and Visual Culture
	Park Design and Management
	Reading the Landscape
	Self-Conscious State: Art in Scotland since 1990
	Sexual Politics and the Image
Technology and Environment: Applications	
Technology and Environment: Principles	
The Kodaly Approach to Music Education	
The Renaissance Body	
Women and Religion in the New Testament World 3/4	
Moray House School of Education	Additional Support for Learning: Inclusive Approaches

Adult Education
Arts and Community Action
Childhood Studies 2A: Theory
Childhood Studies 2B: Practice
Childhood Studies 3B: Children, The Family and Integrated Working
Cognitive and Social Child Development in Education
Community Education Methods and Approaches: Developing Dialogue
Community Education Professional Practice 1
Community Education Professional Practice 2
Community Education Professional Practice 3
Community Education: Theory, Policy and politics & social policy
Community Work
Curriculum & Pedagogy 1b: Expressive Arts, Languages and Social Studies
Curriculum and Pedagogy 1a: health & well-being, Mathematics
Curriculum and Pedagogy 1c: Expressive Arts, Languages, Sciences and Technologies
Curriculum and Pedagogy 2a: Expressive Arts and Languages
Curriculum and Pedagogy 2b: Mathematics, Sciences and Technologies
Curriculum and Pedagogy 2c: health & well-being and Religious and Moral and Philosophical Studies
Curriculum and Pedagogy 2d: Expressive Arts, Mathematics and Social Studies
Curriculum and Pedagogy 3a: Languages and Religious and Moral and Philosophical Studies
Curriculum and Pedagogy 3b: Expressive Arts and Mathematics
Curriculum and Pedagogy 3c: health & well-being and Sciences
Design and Technology Placement 3
Design and Technology Placement 4
Education 1B: Teaching, Learning and the Social Context of Education
Education 2: Philosophical and Sociological Perspectives on Curriculum, Assessment, Pedagogy and Social Justice
Education 3: Equity, Inclusion and Diversity - what does this mean for teaching and learning?
Education and Childhood Practice
Education, Health, Society and Childhood Practice
Gender and Primary Education
Global learning: citizenship and sustainability
Health Issues in the Community
Introduction to Community Education
Organising Resistance: Theories, Principles and Practices
Outdoor Learning and Primary Education
Placement 1
Placement 2

Placement 3
Placement 4
Politics, Policy & Professional Identity in Community Education
Secondary Education 2(a)
Secondary Education 2(b)
Secondary Education 3(a)
Secondary Education 3(b)
Secondary Placement 1
Secondary Placement 2
Secondary Placement 3
Sport in Social Context: Contemporary Social Issues in Sport 1B
Teaching in School: Level 2 Middle Primary Placement
Teaching in School: Level 2 Upper Primary Placement
Teaching in School: Early and First Level Placement
Youth Work

School of Biological Sciences

Animal-Plant Interaction
Autoimmune and Allergic Diseases
Biology, Ecology and Environment 1
Biotechnology 3
Biotechnology Industrial Visits and Core Skills
Cell Biology: from fundamental mechanism to human disease
Conservation and Sustainability
Developing Vaccines
Drug Discovery
Enzymology and Biological Production
Evolution and Climate Change
Evolution and Ecology of Plants 3
Evolution in Action 2
Evolutionary and Ecological Genetics 3
Evolutionary Ecology of Hosts and Parasites
Field Zoology 3
Fundamentals of Plant Biology
Fungi and Plant Pathology
Genetics of Host-Parasite Interactions
Genomes and Genomics 3
Immunity to Eukaryotic Parasites
Immunobiology of Malaria
Mammalian Transgenic Technology and Regenerative Medicine
Medical Biology 1
Molecular & Cellular Aspects of HIV Infection
Molecular Biology of Disease
Molecular Ecology

	Novel Approaches
	Origin and Diversity of Life 1
	Parasite Biology 3
	Parasitic Diseases of Public Health Importance
	Plant Biotechnology
	Plant Evolution
	Plant Geography
	Plant Physiology 3
	Plant Science Field Course
	Population and Community Ecology 3
	Stem cells, haematopoiesis and immune therapy
	The Green Planet 2
	The RNA World/Sex Determination
School of Chemistry	Chemical Medicine Level 10
	Chemical Medicine Level 11
	Chemistry 3B
	Environmental Chemistry 2
	Environmental Chemistry Level 10
	Environmental Chemistry Level 11
	Science Education Placement: Chemistry
	Science Education Placement: Chemistry (40 credits)
	Sustainable Chemistry Level 10
	Sustainable Chemistry Level 11
School of Divinity	Christianity in Asia: Past Patterns and Present Processes 3/4
	Ecology, Ethics and Religion
	Ethics & Society
	Evangelism and Empire: Christianity in Africa, 1800 to the present
	Film, Religion & Ethics 3/4
	Global Religions: South Asian, Indigenous and New Traditions
	Hindu Traditions: History, Power and Agency
	History of Christianity as a World Religion 1B
	Indigenous Religions: Sub-Saharan Africa 3/4
	Islam Past and Present: Issues of Gender and Ethics
	Lived Religions: Judaism, Christianity and Islam
	New Indigenous Religious Movements 3/4
	Paradise Lost? Christianity in the Pacific 1668-1999 3/4
	Religion and Nationalism in the Contemporary World
	Religion, Violence and Peace building
	Social Christianity in Britain, Germany and the United States, 1848-1930
	Theology and Spirituality of Reconciliation
	Transforming Conflict
School of Economics	Capital and Growth Theory

School of Engineering

Development Economics
Globalisation, Trade and Development
History of Economic Thought 1
History of Economic Thought 2
Issues in Global Economics
Labour Economics
Monetary Theory and Policy
Natural Resource and Environmental Economics
Policy for Economic Development
Political Economy
Public Economics
Imaging Techniques in Biomedicine 5
Membrane Science & Technology 5
Adsorption 5
Behaviour and Design of Structures 3
Civil Engineering 1
Construction Management 3
Contaminated Land and Groundwater Remediation 5
Energy Systems 4
Engineering Geology 2
Engineering in Medicine 5
Environmental Engineering 3
Environmental Engineering Design Project 4
Environmental Engineering Design Project 5
Environmental Issues in Chemical Engineering 3
Fluid Mechanics (Civil) 3
Foundation Engineering 4
Fundamentals of Mechanical Engineering for Renewable Energy 3
Hydraulic Engineering 4
Infrastructure Management and Sustainability 3
Introduction to Bioelectronics 4
Marine Energy 5
Modern Economic Issues in Industry 5
Power Conversion 4
Power Systems Engineering 5
Process Safety 4
Professional Issues for Engineers 4
Separation Processes 5
Separation Processes for Carbon Capture 5
Soil Mechanics 2
Sustainable Energy Group Design Project 3
Sustainable Energy Technologies 4

School of Geosciences

Sustainable Energy: Principles and Processes 3
Water and Wastewater Systems 3
Water Resources 2
Water Supply and Sanitation in International Development 4
Wind Energy 5
Applied Ecology and Environmental Management
Atmosphere and Environment
Atmospheric Dynamics
Atmospheric Physics
Catchment Water Resources
Conservation Management
Current Issues in Ecology
Development, Religion and Change in Latin America
Divided Cities
Earth Surface Processes
Earth Surface Systems
Ecological and Environmental Analysis
Ecological Measurement
Ecological Science Field Course
Economic and Political Geography
Encountering Cities
Environmental Pollution
Environmental Problems and Issues
Environmental Sensitivity and Change
Eroding Landscapes: Mountains, Hills and Rivers
Field Course in Tropical Marine and Terrestrial Geoscience
Field Ecology
Frontiers in Physical Geography 2
Geography Fieldwork: Foundations (Human)
Geography Fieldwork: Foundations (Physical)
Geography Matters
Geomorphology
Geophysical Techniques for Terrestrial Environmental Applications
Global Environmental Change
Global Environmental Processes
History of Life
Human Geography
Hydrogeology 1: Applied Hydrogeology
Hydrogeology 2: Simulation of Groundwater Flow and Transport
Hydrogeology 3: Field and Modelling Project
Introduction to Three Dimensional Climate Modelling
Land Use and Water Resources

Land Use Policy
Land-Atmosphere Interactions
Landscape Dynamics - techniques and applications
Marine Micropalaeontology
Marine Systems and Policies (UG)
Meteorology: Weather and Climate
Minorities in Multicultural Society
Natural Hazards
Natural Resource Management
Oceanography
People, landscape change and settlement: the last 15,000 years
Physical Geography Fieldwork: Iceland
Physical Geography Fieldwork: Scottish Highlands
Physics of Climate
Political Ecology
Principles of Ecology
Quaternary Environmental Change
Remote Sensing and Global Climate Change
Researching with people: participatory methods and ethnomethodology
Social and Cultural Geography
Soil, Water and Atmospheric Processes
Sustainability, Society and Environment
The Cultures of Cities
The Geography of Health and Healthcare
The Nature of Geographical Knowledge
Topics in Global Environmental Change
Tropical Ecosystems, Climate, and Lost Civilisations
Values and the Environment
Woodland Management

School of History, Classics and Archaeology

Asia and Africa 2a: Societies, Cultures, and Empires, c. 1600-1880

Asia and Africa 2b: Nationalisms, Liberation Movements and the Legacies of Colonialism, c. 1880-Present Day

Black Nationalism in America
Britain and the Second World War
Britain in an Age of Revolutions, 1783-1815
British Economic and Environmental History since 1900
British Politics in the Shadow of War, 1939 to 1945
British Society, 1650 - c.1880 (Social History 1.1)
British Society, the 20th Century (Social History 1.2)
China's Twentieth Century Revolutions
Colonial Wars and Modernizing Missions: Europe's violent Transformations of the non-European World in the 20th Century

Community and Society in Britain, 1560-1640
Contemporary British Conservatism
Cuba since 1895: the Pursuit of Independence
Death, Decay and Reconstruction: Discovering past lifeways through Archaeological Human Remains
Divided City: Berlin since the Third Reich
Energy, environment and security: energy policy in Britain, France and the United States since 1974
Ethnicity, Class and Power in 20th Century Africa
Gandhi and Popular Movements in India 1915-1950
Gender and Sexuality in Early Modern Europe
Human-Animal Relations in Late Medieval and Early Modern Europe (HIST10340)
Immigration and Ethnicity in Modern Britain
Intellectual History from Antiquity to the Renaissance
Intellectual History from Montesquieu to Marx
Introduction to the History of Modern Brazil
Japan: Politics, Culture and Social Change 1868-1952
Leisure and the Rise of Industrial Society in Britain C.1780-1880
Madness and Society in Britain since c.1830
Post-Colonial South Asia
Restoration Spain, 1875-1923
Revolutionary Russia, 1861-1921
Stalin's Russia, 1921-1941
The Armenian Genocide
The History of Latin America since Independence
The Holocaust
The Making of Modern Ireland, c.1798-1940: Politics and Society
The Origins and Diplomacy of the Second World War, 1919-1945
The Origins of the First World War, 1871-1917
The Peculiar Institution: Slavery in the U.S. South, 1789-1860
The Revolutionary Decade? Europe in the 1960s
The Shadow of Versailles: Europe Between the Wars, 1918-1939
The Spanish Civil War
The U.S. Economy since 1918
The United States in the 1960s
The United States in Vietnam: History and Consequences
Tradition and Transformation in the Chinese Economy, , 1842-1949

School of Informatics
Adaptive Learning Environments 1
Computer Animation & Visualisation
Professional Issues

School of Law
European Institutions
European Union Law (Ordinary) A

**School of Literatures,
Languages and Cultures**

Gender and Justice
Human Rights
Intellectual Property
International Law (IR)
International Law A: The Individual and International Law
International Law B: Interstate Conflict and Dispute Settlement
International Law Ordinary
Introduction to the European Union
Justice, Ethics and Law
Labour Law
Law in Context
Public Law and Individual Rights
20th Century Latin American Women's Writing (Ordinary)

American Political Fiction Since 1945
Black American Fiction
Buddhism 4
Chinese History and Thought 4B (modern)
Chinese Thought 4
Christian-Muslim Relations, Yesterday, Today, and Tomorrow
Contemporary Japanese Cinema
Contemporary Russian politics & social policy
Cultural Revivalism
Culture and Society in the Catalan World
Culture and Society in the Portuguese Speaking World
Dislocation & Identity in modern German-Jewish Literature
East Asian Civilization 1
Ethnological Fieldwork Methods
George Orwell and the Politics of Literature
Hinduism 3A
Hinduism 3B
History and the Writer in Latin America (Ordinary)
Indian Religion and Philosophy 2
Islam in Modern Societies
Italian Literature: Texts in Context 2
Japanese-Chinese Relations: History and Contemporary Issues
Jihad in Muslim politics & social policy and Society
Modern China in Literature and Film
Modern Japanese Society
Modern Middle Eastern History A: Domestic Transformation and International Challenges
Modern Middle Eastern History B: Postwar Independence and Conflict
Modernism and Empire

Modernism and the Market
Muslims in Britain: Migration, Faith and Identity
Neo-imperialisms
Politics and Institutions of Contemporary France A
Politics and Policy in Contemporary China
Politics and the Economy of Japan
Poor Things: Capitalism, Reification and 20th Century Literature
Postcolonial Pacific Writing
Postcolonial Poetry
Postcolonial Writing
Representation and Gender
Scotland and Heritage
Scotland and Orality
Scottish Studies 1A: Conceptualising Scotland
Scottish Studies 1B: Creating Scotland
The Development of Social and Political Thought in Modern Japan
The Society of the Spectacle
Thinking Through Japan
Topics in Japanese History
Traditional Drama
Traditional Narrative: Comparisons and History
Traditional Song - Gaelic
Traditional Song - Scots
Twentieth Century French Political Thought (Ordinary)
Utopia 1: Imaginary Journeys from More to Huxley
Utopia II: Suffrage to Cyberpunk
Visualising Scotland
Working Class Representations
Writing the Body Politic

School of Mathematics

**School of Philosophy,
Psychology and Language
Sciences**

Mathematical Education
Advanced Topics in Philosophy of Science

Ancient Ethics
Applied Ethics
Basic Tendencies of Personality
Causes and Consequences of Personality
Critical Social Psychology
Distributive Justice
Feminism
Free Will and Moral Responsibility
Global Englishes
Knowledge and Reality

	Morality, Rationality and Value
	Normative theory
	Philosophical Issues in Evolution
	Philosophy and the Environment
	Philosophy of Science 1
	Political Philosophy
	Sociolinguistics
	The Sociolinguistics of Bilingualism
	Topics in Hellenistic Philosophy
School of Physics and Astronomy	Science Education Placement: Physics
School of Social and Political Science	South Asian Studies 2A
	South Asian Studies 2B
	Africa in World Politics
	Anthropological Theory
	Applications of Economic Analysis
	Approaches to Politics and International Relations
	Armed Force and Society
	Canadian Studies 1A: The Dynamics of a Multicultural State
	Cases in Sustainable Development
	Children's Rights
	Consumption, Exchange, Technology
	Contemporary Feminist Debates
	Culture and Power
	East Central Africa
	Ethnography: Theory and Practice
	Europe and International Migration
	European Social Policy
	Europeanising Education
	Freedom In Political Theory
	Gender and Development
	Genetics, Nature and Society
	Global health and infectious diseases
	Global Justice and Citizenship
	Global Politics of Public Health
	Global Politics Of Sex And Gender
	Globalization
	Governing The Social
	Government and Politics in the United Kingdom (S1)
	Government and Politics in the United Kingdom (S2)
	Happiness: Cross-Cultural Perspectives
	Health Systems Reform and Public Private Partnerships

History of Medicine 1
History of Science 1
Indigenous Peoples of Lowland South America
Indigenous politics & social policy, Culture and Screen in Canada
International Cooperation in Europe and Beyond
International Political Economy
International Security
Introduction to African Politics
Introduction to Politics and International Relations
Kinship: Structure and Process
Labour Market Policy in Europe
Magic, Science and Healing
Nations and nationalism
Political and Cultural Summer Program: Research Project
Political Internship: Research Project (S1)
Political Internship: Research Project (S2)
Political Islam
Politics of the Middle East
Politics of the Welfare State
Professional Practice in Social Work 1 (UG)
Professional Practice in Social Work 2 (UG)
Race And Ethnicity
Science and Society 1A
Science and Society 1b: Nature and Environment
Scotland: Social Structure and Social Change
Scotland: Society and Politics
Scottish Politics (S1)
Scottish Politics (S2)
Scottish Society & Culture (S1)
Scottish Society & Culture (S2)
Social & Political Movements: Theory and Practice
Social and Political Enquiry 2
Social and Political Theory 2
Social Anthropology 1A: An Introduction
Social Anthropology 1B: The Practice of Social Anthropology
Social Anthropology 2: Into the Field
Social Determinants of Health and Public Policy
Social Development
Social Policy and Society
Social Work in Communities (UG)
Social Work with Individuals and Families
Social Work: Making A Difference

Social Work: Policy and Legal Frameworks

Sociology 1A: The Sociological Imagination: Individuals and Society

Sociology 1B: The Sociological Imagination: Private Troubles, Public Problems

Sociology 2: Transformations of Self and Society

Sociology of the Environment and Risk

South Asia: Culture, politics & social policy and the Economy

Sustainable Development 1a: Introducing Sustainable Development

Sustainable Development 2a: Perspectives on Sustainable Development

Technology in Society

Understanding Care and Control in Social Work (UG)

Understanding Indian Politics

US Government

War and Justice

Working with Complexity in Social Work (UG)

Working with Risk, Trust and Complexity (UG)

Working with Self & Others: Skills Theories & Methods (UG)

Youth Culture, Media and Society

Appendix VI: Example DRPS course descriptor



THE UNIVERSITY of EDINBURGH

Degree Regulations & Programs of Study

2012 / 2013

[University Homepage](#)
[DRPS Homepage](#)
[DRPS Search](#)
[DRPS Contact](#)

Undergraduate Course: Sustainability, Society and Environment (ENVI08001)

Course Outline			
School	School of Geosciences	College	College of Science and Engineering
Course type	Standard	Availability	Available to all students
Credit level (Normal year taken)	SCQF Level 8 (Year 1 Undergraduate)	Credits	20
Home subject area	Environmental Courses	Other subject area	None
Course website	None	Taught in Gaelic?	No
Course description	<p>The following topics will be developed to enable students to devise their own set of principles for understanding sustainability issues which should be of value in decision-making in their future careers.</p> <ul style="list-style-type: none"> • This course will first explore the rise of the environmental agenda in the 1960s and in particular the main events which brought it to public and scientific attention. In this context the natural processes which support life on earth will be discussed, together with the requirements for human well-being. • The concepts of 'sustainability' and 'sustainable development' etc will be discussed in the context of the history of the concepts as well as the terms themselves and their contemporary significance. • The commonly cited principles of sustainability (e.g. inter-generational equity, precautionary principle etc) will be explored together with the limitations imposed by physical and natural laws. • The possible responses (scientific, technological, economic, political, social and personal) will be reviewed and their potential to bring about desired change will be discussed. • Through examination of international, national, and local agreements on sustainability, students will critically review the motivations for, and implementation of, such policies. • Approaches to dealing with particular issues encountered in professional life (such as environmental reports, environmental management systems, energy management, recycling, impact on biodiversity) will be considered. • * Opportunities will be provided for course members to review individual ethics and consider the implications of adopting the principles of sustainability to professional practice. 		

Summary of Intended Learning Outcomes

- A broad knowledge of the scope and defining features of Sustainability, Society and Environment. This will enable students to carry out routine lines of enquiry within this field into professional level problems and issues
- An understanding of the historical development of the 'environment' as a contemporary issue and the emergence of the concept of 'sustainability' and 'sustainable development' etc.
-Critical evaluation of the scientific basis for sustainability and the extent to which the application of such principles has provided a context within which sustainability issues can be known and monitored.
- Adoption of a critical reflective stance on international and national agreements relating to sustainability
- Review of the concept of sustainability and relevant policies relating to it in a framework of cultural and intergenerational equity.
- Understanding of the principles which underpin a range of issues which they may experience in their professional life (e.g. environmental reports, environmental management systems, energy management, recycling, impact on biodiversity) and be able to use a range of approaches to formulate evidence-based solutions
- Articulate their own stance on sustainability and explain what the concept means for them in their practice so that with guidance, they are able to deal with associated ethical and professional issues in accordance with current professional practices
- The degree examination and the assessed tutorials will assess a student's ability to convey complex information to a range of audiences

Assessment Information

Three assessed tutorials
1 x 2hr degree exam - made up of a mixture of MC questions (40%) and two essays from separate sections (30% each)

Additional Information

Academic description	Not entered
Syllabus	Not entered
Transferable skills	Not entered
Reading list	Not entered
Study Abroad	Not entered
Study Pattern	Not entered
Keywords	Environment, Sustainability, Development, Ecology, Geography, Society

Contacts

Course organiser	Dr Simon Shackley Tel: (0131 6)50 7862 Email: simon.shackley@ed.ac.uk	Course secretary	Ms Meredith Corey Tel: (0131 6)50 5430 Email: meredith.corey@ed.ac.uk
------------------	---	------------------	---

Appendix VII: Research template

School	Course	Course code	Yr	Semester	Credit	Concepts	No. of concepts covered	Approach	Pedagogies	Ranking pedagogies	Engagement community	Course organiser
Edinburgh School of Architecture & Landscape Architecture	Park Design and Management	ARCH 08013	1/2	1	20	Health and well-being, Biodiversity, Ecological design / construction urban development	4	3	Real-world case studies, problem-based learning, worldview and values research; group work, action research	3	Not clear	Ms Lisa Mackenzie Email: l.mackenzie@ed.ac.uk
School of Divinity	Film, Religion and Ethics 3/4	THET 10028	3/4	2	20	Futures scenarios, climate change, equity and poverty, ethics	4	3	Reflexive accounts, debates, worldview and values research, stimulus activities	2	No	Prof Jolyon Mitchell Tel: 0131 650 8922 Email: Jolyon.Mitchell@ed.ac.uk