# **Sustainable Development**

### **Modules**

Normally the prerequisite for each of the following Honours modules is entry to the Honours Programme(s) for which they are specified, as well as any additional specific prerequisite(s) given.

General degree students wishing to enter 3000-level modules and non-graduating students wishing to enter 3000-level or 4000 level-modules must consult with the relevant Honours Adviser within the School before making their selection.

# **Sustainable Development (SD) Modules**

| SD3201 Interdisciplinary Research Design and Methodology |                    |                 |              |           |   |  |
|--|--------------------|-----------------|--------------|-----------|---|--|
|  | SCOTCAT Credits:   | 60              | SCQF Level 9 | Semester: | 2 |  |
|  | Planned timetable: | To be arranged. |              |           |   |  |

This module occupies a central place in the new field-based research-orientated SD degree. It prepares students to undertake their independent research dissertation and develops transferable professional skills useful beyond graduation. Students will learn about research design and the collection of original empirical data through engagement with a series of problem-based SD-related issues. Themes covered include, among others, what is "interdisciplinarity"; the relationship between ontology, epistemology, and methodology; ethics of research; basic statistics for sustainable development; and quantitative, qualitative, and physical science research methods. There is opportunity for streaming and choice amongst units covering these themes. Skills and techniques learned are applied during a week-long residential field class where students will design and execute an original empirical research project with a staff mentor. The module concludes with students producing an independent research proposal for their Senior Honours dissertation projects.

| Programme module type:                      | One of SC3201 - SD3204 is compulsory for Sustainable Development   |  |  |
|---|--|--|--|
| Anti-requisite(s):                          | SD3202, SD3203, SD3204   |  |  |
| Learning and teaching methods and delivery: | Weekly contact: 6 hours of lectures, 3 hours of seminars, 3 hours of practicals, 3 hours of tutorials plus separate week of fieldwork  |  |  |
|   | Scheduled learning: 193 hours Guided independent study: 407 hours  |  |  |
| Assessment pattern:                         | As defined by QAA:   |  |  |
|   | Written Examinations = 0%, Practical Examinations = 10%, Coursework = 90%  |  |  |
|   | As used by St Andrews:   |  |  |
|   | Coursework = 100%  |  |  |
|   | Each unit in the module will have different forms of coursework assessments. In addition, students will have to produce a group presentation, based upon the work done during the fieldclass, which will be individually assessed. |  |  |
| Module Co-ordinator:                        | Dr E Ferraro   |  |  |

### SD3202 Research Methods in Sustainable Development

|                    |                 | •            |           |   |
|--------------------|-----------------|--------------|-----------|---|
| SCOTCAT Credits:   | 30              | SCQF Level 9 | Semester: | 2 |
| Planned timetable: | To be arranged. |              |           |   |

This module is the core research design and methods training module preparing students for their Honours dissertation and providing some transferable skills for postgraduate study and professional career development. It is designed to prepare students for undertaking original empirical research by introducing them to the general principles, methodologies, and methods used in the collection and generation of data. It prepares students to undertake their independent research dissertation, and will provide transferable skills useful beyond graduation.

| Programme module type:                      | One of SC3201 - SD3204 is compulsory for Sustainable Development   |   |  |  |  |
|---|--|---|--|--|--|
| Pre-requisite(s):                           | SD2001 and SD2002  |   |  |  |  |
| Anti-requisite(s):                          | SD3201, SD3203, SD3204   |   |  |  |  |
| Learning and teaching methods and delivery: | Weekly contact: 2-hour lecture, 1-hour seminar, 0.5-hour practical, 0.5-hour tutorial plus separate week of fieldwork  |   |  |  |  |
|   | Scheduled learning: 79 hours Guided independent study: 221 hours   |   |  |  |  |
| Assessment pattern:                         | As defined by QAA:   |   |  |  |  |
|   | Written Examinations = 0%, Practica  | al Examinations = 20%, Coursework = 80% |  |  |  |
|   | As used by St Andrews:   |   |  |  |  |
|   | Coursework = 100%  |   |  |  |  |
|   | Each unit in the module will have different forms of coursework assessments. In addition, students will have to produce a group presentation, based upon the work done during the fieldclass, which will be individually assessed. |   |  |  |  |
| Module Co-ordinator:                        | Dr E Ferraro   |   |  |  |  |

# **SD3203 Interdisciplinary Research in Sustainable Development**

| SCOTCAT Credits:   | 50              | SCQF Level 9 | Semester: | 2 |
|--------------------|-----------------|--------------|-----------|---|
| Planned timetable: | To be arranged. |              |           |   |

This is a practical-led training course in research design, data collection and analysis. Students will discuss the philosophy of SD research; the relationship between ontology, epistemology and methodology; and ethics. The module is organised around problem-based exercises; data collection through a variety of methods (interviews; questionnaires; surveys; and the likes). It includes a week-long research-based field class in which students, under the guidance of members of staff, will have the opportunity to design, implement and write up a research project. The module provides essential training for the independent Senior Honours dissertation project.

| Programme module type:                      | One of SC3201 - SD3204 is compulsory for Sustainable Development   |  |  |  |
|---|--|--|--|--|
| Anti-requisite(s):                          | SD3201, SD3202, SD3204   |  |  |  |
| Learning and teaching methods and delivery: | Weekly contact: 4 hours of lectures, 2 hours of seminars, 2 hours of practicals, 1 hour of tutorials plus separate week of fieldwork   |  |  |  |
|   | Scheduled learning: 142 hours Guided independent study: 358 hours  |  |  |  |
| Assessment pattern:                         | As defined by QAA:  Written Examinations = 0%, Practical Examinations = 12%, Coursework = 88%  |  |  |  |
|   | As used by St Andrews:  Coursework = 100%  Each unit in the module will have different forms of coursework assessments.  In addition, students will have to produce a group presentation, based upon the work done during the fieldclass, which will be individually assessed. |  |  |  |
| Module Co-ordinator:                        | Dr E Ferraro   |  |  |  |

# SD3204 Method, Field , Data: Doing Research in Sustainable Development SCOTCAT Credits: 40 SCQF Level 9 Semester: 2 Planned timetable: To be arranged.

This module is a core research design and methods training module. It is organised around a series of problem-based learning units where introductory lectures lead onto the practical implementation of particular methods. The focus is on the collection and generation of data which will lead onto the rigorous analysis of data in Senior Honours. It includes a week-long research-based fieldclass organised around the design and implementation of a specific research project. The module provides fundamental training for the independent Senior Honours dissertation project.

| Programme module type:                      | One of SC3201 - SD3204 is compulse   | One of SC3201 - SD3204 is compulsory for Sustainable Development |  |  |  |
|---|--|--|--|--|--|
| - regramme measure syper                    |  |  |  |  |  |
| Pre-requisite(s):                           | SD2001 and SD2002  |  |  |  |  |
| Anti-requisite(s):                          | SD3201, SD3202, SD3204   |  |  |  |  |
| Learning and teaching methods and delivery: | Weekly contact: 4 hours of lectures, 2 hours of seminars, 2 hours of practicals, 1 hour of tutorials plus separate week of fieldwork   |  |  |  |  |
|   | Scheduled learning: 134 hours Guided independent study: 266 hours  |  |  |  |  |
| Assessment pattern:                         | As defined by QAA:   |  |  |  |  |
|   | Written Examinations = 0%, Practical Examinations = 15%, Coursework = 85%  |  |  |  |  |
|   | As used by St Andrews:   |  |  |  |  |
|   | Coursework = 100%  |  |  |  |  |
|   | Each unit in the module will have different forms of coursework assessments. In addition, students will have to produce a group presentation, based upon the work done during the fieldclass, which will be individually assessed. |  |  |  |  |
| Module Co-ordinator:                        | Dr E Ferraro   |  |  |  |  |

### SD3221 Frontiers in Sustainability Research: Do Good Lives Cost the Earth?

| SCOTCAT Credits:   | 20              | SCQF Level 9 | Semester: | 1 |
|--------------------|-----------------|--------------|-----------|---|
| Planned timetable: | To be arranged. |              |           |   |

Material wealth has arguably created a 'culture of surplus' through which the pursuit of improved personal well-being has involved ever greater consumption of material goods, leaving in its wake a legacy of environmental problems (Ryan and Deci 2001). Yet across the world, people have often reported having long and happy lives ('happy life years'), whilst consuming different levels of resources (Seaford 2011). The security of these resources varies enormously too with potential implications for well-being, and much of this security is changing with increasing global connectivity and shifts from subsistence to monetary economies (Fazey et al., 2011). This module draws on evidence and literature from across several disciplines (for example, geography, psychology, sociology, politics) to explore the relationship between personal well-being and planetary well-being (via environmental behaviour).

| Programme module type: | Optional for Sustainable Development  |                                     |  |  |
|------------------------|---|-------------------------------------|--|--|
| Pre-requisite(s):      | SD2002  |                                     |  |  |
| Learning and teaching  | Weekly contact: 2 lectures, plus occasional seminars and tutorials.                           |                                     |  |  |
| methods and delivery:  | Scheduled learning: 30 hours  | Guided independent study: 170 hours |  |  |
| Assessment pattern:    | As defined by QAA: Written Examinations = 60%, Practical Examinations = 10%, Coursework = 30% |                                     |  |  |
|                        | As used by St Andrews:  Coursework = 40%, 2-hour Written Examination = 60%                    |                                     |  |  |
| Module Co-ordinator:   | Dr L A Reid   |                                     |  |  |

Development.

# SD4002 Dissertation in Sustainable Development SCOTCAT Credits: 60 SCQF Level 10 Semester: Whole Year Availability restrictions: Available only to students who intend an Honours Degree in Sustainable

Planned timetable: To be arranged.

This module is largely based upon independent study. Students select a research question in Sustainable Development, mount a research programme to investigate the topic, and write a dissertation on the work. The topic is selected during the second semester of the junior honours year; data can be collected during the following vacation with data analysis and the writing of the dissertation taking place over both semesters of Senior Honours. Each student is supervised by a member of the teaching staff from an appropriate disciplinary area who will ensure that the topic chosen is viable and advise students on data collection and analysis. Students attend 1 seminar every other week; further class sessions can be organised on request by the class; dissertation clinics are organised where students can discuss their dissertation progress with members of staff; individual tutorials are decided between the individual student and their supervisors. The dissertation will normally be based in the disciplinary area of the student's partner subject, but in recognition of the interdisciplinary nature of the field of study of sustainable development and of the SD Programme, the dissertation will itself be interdisciplinary to some extent. The dissertation is a maximum of 15,000 words in length. Students present their findings at a dissertation conference and write an abstract to convey their results to an academic audience.

| Programme module type:                      | Compulsory for Sustainable Development   |  |  |  |  |
|---|--|--|--|--|--|
| Anti-requisite(s):                          | SD4299   |  |  |  |  |
| Learning and teaching methods and delivery: | Weekly contact: 1 introductory lecture and tutorial and then meetings as required with supervisor. |  |  |  |  |
|   | Scheduled learning: 30 hours Guided independent study: 570 hours                                   |  |  |  |  |
| Assessment pattern:                         | As defined by QAA: Written Examinations = 0%, Practical Examinations = 5%, Coursework = 95%        |  |  |  |  |
|   | As used by St Andrews:  Coursework = 100%  |  |  |  |  |
| Module Co-ordinator:                        | Dr D Simatele  |  |  |  |  |

# SD4003 Designing Sustainable Systems: Case Studies in Sustainable Development

| SCOTCAT Credits:   | 30               | SCQF Level 10    | Semester: | 1 |
|--------------------|------------------|------------------|-----------|---|
| Planned timetable: | 10.00 am Tue and | Wed, 1.00 - 4.00 | pm Thu.   |   |

This module builds upon the knowledge and skills students acquired in SD3003. Like SD3003, this interdisciplinary module is taught collaboratively by staff from several Schools. Each of the case studies in this module is taught by staff from more than one academic discipline. Issues covered normally include agriculture and food production, distribution and consumption; sustainable fisheries; mining and sustainable development; and conclude with a detailed analysis of a regional case study to permit analysis of the complexity of sustainable development in practice. Examples from around the world will be used to illustrate theory and field visits will assist students to understand practical aspects of sustainability. Design thinking is used to link theory and practice. Students will draw upon the interdisciplinary skills they acquired in SD3003 but these skills will be enhanced to deal with examples that demand more advanced quantitative and qualitative analysis techniques. These skills will serve students in their research dissertation.

| Programme module type:   | Compulsory for Sustainable Development  |                                     |  |  |
|--|---|-------------------------------------|--|--|
| Pre-requisite(s):  | SD3003  | Anti-requisite(s): SD4001           |  |  |
| Learning and teaching  | Weekly contact: 2 lectures and 1 practical/tutorial and 4 days field class.                   |                                     |  |  |
| methods and delivery:  | Scheduled learning: 55 hours  | Guided independent study: 245 hours |  |  |
| Assessment pattern:  | As defined by QAA:  Written Examinations = 50%, Practical Examinations = 0%, Coursework = 50% |                                     |  |  |
| As used by St Andrews:  Coursework = 50%, 3-hour Examination = 50% |   |                                     |  |  |
| Module Co-ordinator:   | Prof C Hunter   |                                     |  |  |