THE SCHOOL FOR FIELD STUDIES

Environmental Sustainability and Socioeconomic Values

SFS 3021

Syllabus

4 credits

The School for Field Studies (SFS)
Center for Rainforest Studies
Yungaburra, Queensland, Australia

This syllabus may develop or change over time based on local conditions, learning opportunities, and faculty expertise. Course content may vary from semester to semester.

www.fieldstudies.org

COURSE CONTENT SUBJECT TO CHANGE

Please note that this is a copy of a recent syllabus. A final syllabus will be provided to students on the first day of academic programming.

SFS programs are different from other travel or study abroad programs. Each iteration of a program is unique and often cannot be implemented exactly as planned for a variety of reasons. There are factors which, although monitored closely, are beyond our control. For example:

- Changes in access to or expiration or change in terms of permits to the highly regulated and sensitive environments in which we work;
- Changes in social/political conditions or tenuous weather situations/natural disasters may require changes to sites or plans, often with little notice;
- Some aspects of programs depend on the current faculty team as well as the goodwill and generosity of individuals, communities, and institutions which lend support.

Please be advised that these or other variables may require changes before or during the program. Part of the SFS experience is adapting to changing conditions and overcoming the obstacles that they may present. In other words, this is a field program, and the field can change.

Course Overview

The Environmental Sustainability and Socio-economic Values course explores the contemporary environmental and sustainability issues and touches broadly on the historical, social-cultural, economic and political factors that determine the use of natural resources, with particular emphasis on, but not limited to, the Wet Tropics of Australia. Topics to be covered in this course include environmentalism, sustainable food production and livelihoods, the impact of human activities on terrestrial and marine biomes, conservation conflicts, resource governance and so on. In addition, students will be introduced to social science research methods, while a visit to a local Aboriginal community will help them gain a better understanding of the first Australian's enviro-cultural heritage values.

All lectures and activities in this course are aimed at addressing the following questions:

- What is the impact of human settlement in the Wet Tropics bioregion and the Great Barrier Reef?
- What are the current and emerging threats facing these regions, and what is the justification for various interventions?
- How can the landscapes & seascapes be managed for long-term sustainability?

Throughout the course students will be introduced to and are expected to gain hands-on experience on social research techniques.

Overall, the Environmental Policy and Socio-economic Values course will integrate with the other courses (Tropical Biome Ecology and Climate Change & Wildlife and Conservation Biology), and show how policy questions, which emerge from the integration, can be addressed by the incorporation of economic and social considerations.

Center Research Direction

The Centre for Rainforest Studies' research plan addresses the question: *How can the future of the Wet Tropics in a changing world be ensured?* Staff and students of SFS-CRS investigate this topic by engaging in research under three core components:

1. Understanding ecological and social systems
2. Conflict, vulnerability and change
3. Effective response to change

Through our research, we aim to assist a range of stakeholders and research partners. These include local landholders; non-government conservation organizations conducting rainforest restoration or having a special interest in flora and fauna; several levels of government, particularly local and state government; regional research organizations, including universities and the Commonwealth Scientific and Industrial Research Organization.

We aim to improve stability, sustainability, environmental awareness, and concern for natural resources in the Wet Tropics, in particular on the Atherton Tablelands. Our goal is to strengthen research, technical and practical collaboration between SFS-CRS and other research organizations, governmental agencies and non-governmental organizations to carry out this agenda.

Learning Objectives

Environmental Sustainability and Socioeconomic Values aims to:

- provide a broader social context for conservation issues, using specific examples from the Australian Wet Tropics and Great Barrier Reef to illustrate more general points
- discuss the impacts of various economic activities on the landscape
- discuss possible ways of ensuring sustainable futures in the face of global environmental change
- explore emerging environmental governance issues and legislative frameworks
- introduce concepts and terms used in socio-economic analysis of environmental issues as well as methods of data collection, analysis and use of information
- provide a foundation for specialised environment-related courses at higher levels of study

On completion of this course, students should be able to:

- Explain the array of socio-cultural, economic and political factors that shape resource use
- Explain the economic, socio-cultural, and political incentives and impediments to conservation
- demonstrate an understanding of the interactions between human and ecological systems in the Wet Tropics
- discuss the dilemmas in choosing between economic development and the environment
- express and discuss factors which influence natural resource management planning and decision making
- demonstrate the information literacy skills of collecting, analysing and reporting data

Assessment

Assessment Item	Value (%)
Environmental Impact Assessment	25
Field Exercise (FEX) Report	25
Three Minute Talk	20
Stakeholder Scenario	20
Final Quiz	10
TOTAL	**100**

Environmental Impact Assessment (25%)

The purpose of an Environmental Impact Assessment (EIA) for any project is to obtain environmental clearance. Road networks, water supply and management, energy production, supply and management, communication services, and many such infrastructural projects are all part of development projects. Conducting EIAs is routine for environmental consultants, and the resulting report can be instrumental for informing government or authorities of the impacts of development. This exercise is designed to give students an experience in conducting and writing up an environmental impact assessment.

Field Exercise (FEX) Report (25%)

The field exercise will give students hands-on experience with two basic research techniques: creating and administering survey questionnaires, and the application of qualitative research techniques. Students will be required to collect and analyze survey data and report findings. Although students will collect data in groups, the reports must be individually written. The Assessment will focus on the ability of the student to analyze, clearly present, and intelligently interpret data in a report format.

Three Minute Talk (20%)

This activity is designed for students to explore various contemporary topics in sustainability that goes beyond what is covered in the lectures.

Stakeholder Scenario (20%)

In any kind of development or conservation project, it is important to be able to understand the perspective of stakeholders. This exercise is designed for students (in groups) to role research and present the position of several different stakeholders in a development scenario. The major outcome of this activity is for each stakeholder group to come up with a concrete viewpoint on the development proposal. A grading rubric will be provided when the assignment is introduced.

Final Quiz (10%)

Quiz based on materials covered in the course. In addition to lecture material, the quiz will also test students' understanding and ability to apply the techniques and protocols used in social science research. The quiz will also cover topics related to sustainability and aboriginal issues.

Grading Scheme

A	95.00 - 100.00%	B+	86.00 - 89.99%	C+	76.00 - 79.99%	D	60.00 - 69.99%
A-	90.00 - 94.99%	B	83.00 - 85.99%	C	73.00 - 75.99%	F	0.00 - 59.99%
		B-	80.00 - 82.99%	C-	70.00 - 72.99%		

General Reminders

Honor Code/Plagiarism – SFS places high expectations on their students and we hold students accountable for their behaviors. SFS students are held to the honor code below. SFS has a zero-tolerance policy towards student cheating, plagiarism, data falsification, and any other form of dishonest academic and/or research practice or behavior. Using the ideas or material of others without giving due credit is cheating and will not be tolerated. Any SFS student found to have engaged in or facilitated academic and/or research dishonesty will receive no credit (0%) for that activity.

> *"SFS does not tolerate cheating or plagiarism in any form. While participating in an SFS program, students are expected to refrain from cheating, plagiarism and any other behavior which would result in a student receiving credit for work which they did not accomplish on their own. Students are expected to report any instance of cheating or plagiarism by others."*

Deadlines – Deadlines for written and oral assignments are instated to promote equity among students and to allow faculty ample time to review and return assignments before others are due. As such, deadlines are firm; extensions will only be considered under extreme circumstances. Late assignments will incur a penalty of 10% of your grade for each day you are late. After two days past the deadline, assignments will no longer be accepted. Assignments will be handed back to students after a one-week grading period. Grade corrections for any assessment item should be requested in writing at least 24 hours after assignments are returned. No corrections will be considered afterwards.

Content Statement – Every student comes to SFS with unique life experiences, which contribute to the way various information is processed. Some of the content in this course may be intellectually or

emotionally challenging but has been intentionally selected to achieve certain learning goals and/or showcase the complexity of many modern issues. If you anticipate a challenge engaging with a certain topic or find that you are struggling with certain discussions, we encourage you to talk about it with faculty, friends, family, the HWM, or access available mental health resources.

Participation – Since we offer a program that is likely more intensive than you might be used to at your home institution, missing even one lecture can have a proportionally greater effect on your final grade simply because there is little room to make up for lost time. Participation in all components of the course is mandatory, it is important that you are prompt for all activities, bring the necessary equipment for field exercises and class activities, and simply get involved.

Course Content

Type- L: Lecture, **D**: Discussion, **W**: Workshop, **FEX**: Field Exercise, **GL**: Guest Lecture; **FL**: Field Lecture

Code	*Titles of Lectures*	*Time (hrs)*	*Type*	*Readings*
ESS 01	**Course overview** Introductory lecture for the course where we outline learning outcomes and expectations	1.0	L	
ESS 02	**Introduction to Assignments** Further information, resources, and rubrics for course assignments	0.5	L	
ESS 03	**History & socio-economics of the area** This lecture highlights the human impact on the landscape, wildlife and First Nations people of the Wet Tropics and Atherton Tablelands	1.0	L	Gilmore (2005) Valentine and Hill (2008)
ESS 04	**Australian Aboriginal history & culture & Aboriginal terminology** A brief introduction to Australian Aboriginal culture and history	1.0	L	Rumsey (1993) Bradshaw (2011) Hepburn (2015) Larson (2010) Pitts (2004)
ESS 05	**Socio-cultural elements of tropical rainforests case-study - Malanda field trip** Using the township of Malanda as a case study, we will experience first-hand the effects of human land-use on the rainforests of the area, gain an understanding of the Rainforest Aboriginal Ngadjon-Jii people, and learn how changing socio-economics has shifted the focus from utilization of the land to habitat restoration	3.0	FL	Pannell and Johnson (2006)
ESS 06	**Governing local resources & environmental law** Here we give a brief introduction to governance and environmental law, with particular focus on conservation of vegetated areas and World Heritage status of both the Wet Tropics and the Great Barrier Reef. We introduce Terra Nullius and discuss Native Title.	1.0	L	Argent (2011) Bartel et al. (2014) Gerry (2016) Wood (2010)

Code	Titles of Lectures	Time (hrs)	Type	Readings
ESS 07	**Introduction to Environmental Impact Assessments** A brief introduction to Environmental Impact Assessments – how and why they are used and the pros and cons of biodiversity offsets	0.5	L	Glasson and Therivel (2013)
ESS 08	**Introduction to Sustainable development** We explore the fundamentals of sustainable development and environmentalism in this lecture, covering the start of the environmental movement and current global sustainable development issues	1.0	L	Baker (2015) Brundtland (1987) Sonneborn (2007) Tomislav (2018) Kadykalo et al. (2019) Rogers et al. (2012)
ESS 09	**The Daintree Blockade and the battle for Australia's tropical rainforests** We visit the site of the Daintree road protests and discuss the impact they had in shaping the Australian environmental movement and the World Heritage listing of the Wet Tropics rainforests	0.5	FL	Valentine and Hill (2008) McIntyre (2021)
ESS 10	**The impact of human activities on the GBR** Understand how human activities are impacting the Great Barrier Reef. During this trip, you will also conduct an Environmental Impact assessment at the site of a hypothetical proposed development	7.0	FEX	Toby (2002) Day (2017) Giakoumi et al. (2018)
ESS 11	**Intro to Conservation Social Science, Community engagement & social safeguards** A lecture that will help with an understanding of the importance of integrating human dimensions to improve conservation. Learn about the importance of community engagement and how to incorporate social safeguards in biodiversity conservation	1.0	L	Miller et al. (2023) Curtis et al. (2011) Bennett et al. (2017) Jharna et al. (2011) Bottrill, et al. (2008)
ESS 12 FEX	**Stakeholder Analysis and Identification** This field exercise will introduce you to Stakeholder analysis and identification. We will visit a large-scale wind farm, a local town recently embroiled in a controversial development proposal, and learn about the conflicting interests of the Jirrbal Aboriginal people	5.0	FEX	
ESS 14	**Social science survey design, research ethics, consent & data protection** Social research is quite different from biological science research. Here you will learn some of the techniques for collecting sociological/socioeconomic data and how to design a social science survey. You will also be introduced to Research Ethics for social science data collection, handling and storage, including ethics principles, informed consent, privacy and data protection, confidentiality and anonymity	1.0	L	Mack, et al. (2005) Trainor & Graue (2013)

Code	Titles of Lectures	Time (hrs)	Type	Readings
ESS 15	**Sustainability** Introduction to sustainability, discussing weak and strong sustainability, hierarchy, interaction and trade-offs, measurement tools and life cycle analysis	1.0	L	
ESS 16	**Environmentally Sustainable Solutions** We discuss current global sustainability solutions, including an overview of sustainable development and tourism in the Wet Tropics and Great Barrier Reef, focusing on agriculture, reforestation, carbon markets and renewables, fisheries, indigenous land management, cultural tourism and wildlife tourism	1.0	L	Altieri (2018) Serrat (2017)
ESS 17	**Regenerative farm visit** We will explore alternative ways of growing food that are more aligned with nature	3.0	GL; FL; D	Altieri, M. A. (2018)
ESS 18 a	**Conservation Triage** Introducing the concept of conservation triage and ask the question: what is it we are actually trying to conserve? All species? Pristine wilderness? We discuss how we can get the biggest conservation 'bang for our buck' with the limited resources available. We discuss the idea of taking a functional approach to conservation and introduce the concept of functional diversity	0.5	L	Bottrill et al. (2008) Mazel et al. (2017)
ESS 18 b	**Trophy hunting and the conservation argument** Debate the controversial issue of trophy hunting. Can it be a useful tool for garnering income from hunting safaris which can be used to conserve the land and biodiversity?	0.5	D	
ESS 19	**Perceptions & valuing of nature** We discuss the importance of human perception in terms of people's understanding of biodiversity and conservation and their views of wildlife, and how this influences conservation outcomes. We introduce the theory of human exceptionalism and explore what affects peoples' connectedness to nature. We will discuss the idea of wilderness and shifting baselines. We will introduce market mechanisms and economic valuation of nature, including payment for ecosystem services and carbon funding.	1.0	L	Bennett (2016) Buyinza et al. (2007)
ESS 20	**Aboriginal cultural heritage immersive experience** In this 3-day authentic and immersive experience we will travel to Mbabaram country (Watsonville) where you will hear from the Yidinji and Mbabaram Traditional Owners themselves about their cultural traditions and deep connection to the land. You will learn more about Native Title and discover what connection to Country means for today's First Nations people.	10.0	FL; GL	

Code	Titles of Lectures	Time (hrs)	Type	Readings
ESS 22 FE X	**Tolga Bat Hospital learning experience** We will be visiting a bat hospital and learning all about human impacts on bat, before examining how awareness-raising activities alter our perceptions and appreciation of nature.	3.0	GL; FL; FEX	
ESS 23 FE X	**Perceptions of bats survey** We will be designing questionnaires to assess level of knowledge, understanding and overall perceptions of bats before and after awareness-raising activities.	2.0	FEX	
ESS 24	**Making sense of social data and social science writing** Here you will be learning how to interpret and analyse social science data and writing up social data.	1.0	L; W	
ESS 25	**3MTs**	7.0		
ESS 26	**Exam review**	0.5	L	
	Total	54		
	UMN Instructional Hours*	64.8		

**UMN defines* an instructional hour as a 50-minute block. SFS syllabi are written in full 60-minute hours for programming purposes. Therefore 50 full hours = 60 UMN instructional hours (for four credit courses) and 25 full hours = 30 UMN instructional hours (for two credit courses).*

Reading List

1. Altieri, M. A. (2018). Agroecology: the science of sustainable agriculture. CRC Press.
2. Argent, N. (2011). Trouble in paradise? Governing Australia's multifunctional rural landscapes. Australian Geographer, 42 (2), 183-205.
3. Bartel, R., McFarlan, P. and Hearfield, C. (2014). Taking a de-binarised envirosocial approach to reconciling the environment vs economy debate: lessons from climate change litigation for planning in NSW, Australia. TPR, 85 (1) 2014.
4. Bennett, N. J., Roth, R., Klain, S. C., Chan, K., Christie, P., Clark, D. A., ... & Wyborn, C. (2017). Conservation social science: Understanding and integrating human dimensions to improve conservation. biological conservation, 205, 93-108.
5. Bottrill, et al. (2008). Is conservation triage just smart decision making? Trends in Ecology and Evolution 23: 649-654.
6. Boyd, J. and Wainger, L. (2003). Measuring Ecosystem Service Benefits: The Use of Landscape Analysis to Evaluate Environmental Trades and Compensation. Discussion Paper 02-63, Resources for the Future.
7. Bradshaw, C.J.A. (2011). Little left to lose: deforestation and forest degradation in Australia since European colonization. Journal of Plant Ecology. 5(1), 109-120.
8. Buyinza, M., Bukenya, M. and Nabalegwa, M. (2007). Economic valuation of Bujagali Falls Recreational Park, Uganda. Journal of Park and Recreation Administration 25, 12-28.
9. Curtis, S., Geslerb, W., Smitha, G. and Washburn, S. (2011). Approaches to sampling and case selection in qualitative research: examples in the geography of health. Social Science and Medicine, 50:1001-1014.

10. Day, J. C. (2017). Effective Public Participation is Fundamental for Marine Conservation—Lessons from a Large-Scale MPA. Coastal Management, 45(6), 470-486.
11. Diamond, J. (2005). Collapse. How societies choose to fail or survive. Penguin Group.
12. Gerry, B. (2016). Environmental Law in Australia (9th edn), LexisNexis, Butterworths-Australia.
13. Giakoumi, S., McGowan, J., Mills, M., Beger, M., Bustamante, R. H., Charles, A., . . . Possingham, H. P. (2018). Revisiting "Success" and "Failure" of Marine Protected Areas: A Conservation Scientist Perspective. Frontiers in Marine Science, 5.
14. Hepburn, S. (2015). Statutory interpretation and native title extinguishment: Expanding constructional choices. UNSW Law Journal, 38(2).
15. Jharna, M., Srinivas, A. and Subhash, P. (2011). Ethics in human research. Tropical parasitology report. Medknow Publications and Media Pvt. Ltd.
16. Kadykalo, A. N., López-Rodriguez, M. D., Ainscough, J., Droste, N., Ryu, H., Ávila-Flores, G., ... & Harmáčková, Z. V. (2019). Disentangling 'ecosystem services' and 'nature's contributions to people'. Ecosystems and People, 15(1), 269-287.
17. Larson, S. (2010). The socio-economic features of northern Australia.
18. Mack, et al. (2005). Qualitative Research Methods: A data collector's field guide. Family Health International Report.
19. Pitts, M. (2004). A brief look at the storied past of Far North Queensland. Extracts from recognizing race and race relations in Far North Queensland: What public documents, public monuments and people say and don't say: In New Directions in North Australian History. Darwin: Charles Darwin University Press.
20. Rogers, P. P., Jalal, K. F., & Boyd, J. A. (2012). An introduction to sustainable development. Routledge.
21. Rumsey, A. (1993). Aboriginal Australia. Language and culture in Aboriginal Australia, 191-206.
22. Serrat, O. (2017). The sustainable livelihoods approach. In Knowledge solutions (pp. 21-26). Springer, Singapore.
23. Sonneborn, L. (2007). The environmental movement: protecting our natural resources. Infobase Publishing.
24. Toby, K. (2002). Rainforests of the Sea: Home to more than 25 percent of the world's marine life, Coral reefs are among the most fragile and endangered ecosystems on the planet. EBSCO Publishing.
25. Tomislav, K. (2018). The concept of sustainable development: From its beginning to the contemporary issues. Zagreb International Review of Economics & Business, 21(1), 67-94.
26. Trainor, A.A and Graue, E. (2013). Methods in Social & Behavioural Science: A guide for Research and Reviewers. Taylor & Francis, Florence, KY USA.
27. Trotter II, R. T. (2012). Qualitative research sample design and sample size: Resolving and unresolved issues and inferential imperatives. Preventive medicine, 55: 398-400.
28. Vadi, V. (2013). Culture Clash? World heritage and investors' rights in international investment law and arbitration. ICSID Review, 28, (1), 123–143.
29. Wood, M. C. (2010). "You Can't Negotiate with a Beetle": Environmental Law for a New Ecological Age. Natural resources journal, 50, 167-184.