



THE SCHOOL
FOR FIELD STUDIES

Sustainable Food Systems

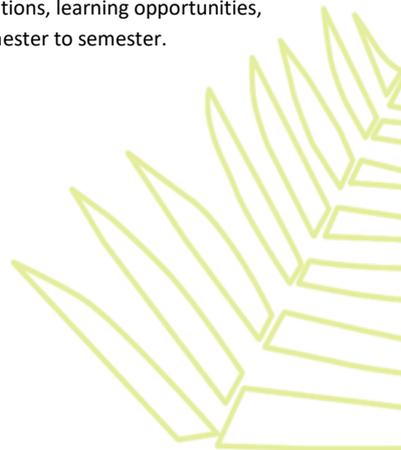
SFS 3263

Syllabus
4 credits

The School for Field Studies (SFS)
Center for Rainforest Studies (CRS)

Queensland, Australia
Bali, Indonesia

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.



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

Demand for agricultural products is expected to increase by an estimated 1.1% per year until 2050 due to drivers such as population growth, increases in per capita consumption, and diet changes. While the widespread use of monocropping systems in industrialized agriculture has managed to sustain food production, trends in global climate change are leading to increasing unpredictable local climates and posing a challenge to farmers worldwide. Moreover, large scale monocropping systems exert a heavy toll on the environment and on local biodiversity.

The Sustainable Food Systems course examines food systems broadly and aims to provide students an experiential learning opportunity while we explore tropical natural, cultural, and agricultural landscapes. The course provides an overview of agroecology, economic botany, and associated cultural, environmental and sustainability issues, and touches broadly on the historical, social-cultural, economic and political factors that shape food systems.

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

- a) How do agricultural practices differ between Australia and Indonesia?
- b) What are the current and emerging challenges facing agricultural production, and what are some sustainable solutions?

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

Learning Objectives

Sustainable Food Systems aims to:

- improve agricultural literacy
- lay a broad foundation for understanding the social context of food systems, using specific examples in Indonesia and from the Australian Wet Tropics
- discuss the impacts of agricultural activities on the landscape
- discuss possible ways of implementing sustainable agriculture in the face of global environmental change
- introduce methods of data collection, analysis, and use of information
- provide a foundation for pursuing related and specialised courses at higher levels of study

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

- recognize important families of economic plants
- explain the economic, socio-cultural, and political incentives and impediments to implementing sustainable food systems
- demonstrate an understanding of the processes involved in establishing sustainable agroforestry systems
- discuss the dilemmas in choosing between agricultural expansion and the environment
- demonstrate the information literacy skills of collecting, analysing, and data reporting

Teaching Methods

This course is interactive in nature where lecturers facilitate student learning and skill development associated with the course content. Classroom lectures include essential background information for field lectures and reinforce key concepts. Lectures and discussions are held both at the Center and in the field. Assessment tasks are varied to account for various learning styles and abilities. The course makes use of guest lecturers and field operators (farmers) with authority in their fields. However, due to the possibility of other commitments, the content and timing of guest lectures may be subject to change.

Technology use: Access to the internet and the student drive is essential in this course.

Workload expectation: This is a 4-credit course. 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 program is mandatory because your actions can significantly affect the experience you and your classmates have while with SFS and our reputation in the community. Therefore, it is important that you are prompt for all activities, bring the necessary equipment for field exercises, and simply get involved.

Assessment

There are five assessment items (tasks) in this course. The evaluation breakdown for the course is as follows:

Assessment	%
Economic Botany Quiz	15
Three-minute Talk	15
Field Exercise (FEX) Report	20
Field Exercise Presentation	25
Reflective Blog Post	10
Pop Quizzes (x2)	5+5
Participation	5
Total Marks	100

Economic Botany Quiz (15%)

Learning the botany of economically important plants is a cornerstone for agricultural literacy and appreciating the crops that feed populations. This quiz will test the knowledge students have gleaned about economic crops during the semester.

Three-minute Talk (15%)

This student-led presentation is individually assessed and aims to provide an opportunity for students to obtain practical experience in public speaking and explore topics and themes that are pertinent to the subject of traditional food systems, sustainable agriculture, and the social component of agricultural production.

Field Exercise Report (20%)

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.

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Students will collect data and submit reports in groups. The assessment will focus on the ability of the students to analyze, clearly present, and intelligently interpret data in a report format.

Field Exercise Presentation (25%)

Students will present the results of their field exercise data collection. A grading rubric will be provided when the assignment is introduced.

Reflective Blog Post (10%)

Students will submit a handwritten reflective blog post, i.e., a collection of personal reflections developed throughout the course with regards to interactions with regenerative farmers & aboriginal rangers. The task will require students to produce short reflections notes at different points within the semester, which should document their learning experience in the course.

Students should make brief notes on each course related activity (classroom/field lecture, excursions etc.) from the beginning of the semester. These notes should form or be drawn from to produce a submitted reflective journal. Students will be required to submit a reflective blog post entry covering an aspect of their studies. Each entry should be at least 600 but no more than 1500 words. More information on this assessment task can be found at the end of this syllabus.

Pop Quizzes (5%, 5%)

Students will be expected to complete two pop quizzes based on materials covered in the course.

Grading Scheme

In this course, grading will be done according to aggregate scores. Scores on different assessment tasks will be added together and then projected on to a 100-point scale (percentage grading). Component scores are going to be weighted before being added to reflect their relative importance in the assessment scheme. The 100-point scale will be divided into segments with grades as shown in the table below.

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

Faculty availability - Lecturers will ordinarily keep regular office hours. Extended meetings should be pre-arranged, and any meeting outside office hours must be arranged at least 24 hours in advance.

Academic honesty and plagiarism - Using the work of another person without clearly stating or acknowledging its source is plagiarism. It includes doing any of the following things in an assignment:

- copying out part(s) of any document, including computer- or internet-based material, without acknowledging the source and by not putting quotation marks around the copied extract;
- summarising someone else's concepts, experimental results or conclusions without acknowledgment, even if you put them in your own words;
- copying out, or taking ideas from another student's work, even if you put the borrowed material in your own words;
- submitting the same or very similar final version of any assignment as a fellow student.

If you are in any doubt whatsoever, please discuss with faculty.

Please ensure that you always:

- state clearly in an appropriate form where [you] found the material on which [you] have based your work”, using a consistent referencing system.
- acknowledge the people whose concepts, experiments, or research results [you] have extracted, developed, or summarised, even if [you] put these ideas into your own words
- avoid excessive [direct quotation] of passages by another author, even where the source is acknowledged.

Note: Any assignment containing plagiarism will receive a failing grade. Extensive plagiarism will result in a mark of zero.

Using the Internet is one aspect of your preparation for assignments that can result in plagiarism. All material accessed from the Internet and used in your assignments must be referenced in the same way as material from books, journal articles or other print media. Plagiarism from Internet-based sources can be detected easily by your marker using web search engines, so it is important to take Internet referencing seriously.

Deadlines - Assessments items 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, and extensions will only be considered under extenuating circumstances. If you believe that you have been prevented from completing your work on time for reasons beyond your control (e.g., illness), make sure that you discuss this with the course coordinators **as soon as possible**, and certainly before the assignments are due. Assignments submitted after the due date and without extension will be penalised at **10% per day late**.

Marking Guides and Feedback - To assist students as much as possible with the assignments, marking guides/rubrics have been created. These guides provide information on the criteria I will use in grading each assignment. In addition to these guides, I will provide individual feedback to students on their assignments. This feedback is intended to help students understand the justification for their grade as well as provide instruction for future improvement. For example, if something has been flagged as an issue in the first assignment, one easy way of improving your grade in subsequent assignments is to avoid repeating the problem. If the feedback you have received is unclear in any way you can consult me for further advice.

Referencing - Correct referencing is vital for ensuring academic honesty in all your assessment pieces. Please note: ***the Harvard system of referencing is the preferred style in this course.***

Course Content

L: Lectures, FL: Field Lectures, FW: Fieldwork, EX: Exams, REV: Review, FLAB: Field Lab;
WS: Workshop, GL: Guest lecture; D: Discussion, GW: Group Work

Code	Titles of Lectures	Type	Time (hrs)	Readings
SFS 01	Course overview Introductory lecture for the course where we outline learning outcomes and expectations. Lecture conducted at the Australian campus.	L	1.5	
SFS 02	Agricultural literacy An introductory lecture to highlight the main tenets of agricultural literacy and sustainable food systems. Lecture conducted at the Australian campus.	L	1	(Smil, 2001). (Sonneborn, 2007). (Tomislav, 2018). (Kadykalo et al., 2019). (Altieri, 2018). (Fróna, 2019).
SFS 03	Atherton Tablelands Excursion Half day tour to obtain an appreciation of the agricultural landscape and local food produce of the Atherton Tablelands	FT	4	(Thompson, 2016).
SFS 04	Introduction to Ethnobotany and Economic Botany (Part 1) Broad introduction to ethnobotany and economic botany. Learn the botany of common tropical food plants. Lectures delivered at the Australian Center and complemented by field excursions to the Cairns Botanic Gardens and markets in Bali.	L, WS	8	(Balick, 2020). (Wickens, 2012).
SFS 05	Economic botany at the Botanic Gardens Visit the Cairns Botanic Gardens to learn about economic botany	FT	4	
SFS 06	Indigenous and traditional food systems Learn about the food systems of indigenous people and early forms of shifting agriculture	L	1	(Settee, 2020).
SFS 07	Social aspects of agriculture and agrotourism Obtain an appreciation of the social aspects of agriculture and the implications of agrotourism, using Bali as a case study	L	1	(Martínez-Torres, 2010). (Yudhari, 2020).
SFS 08	Culture of Bali We will be departing shortly to Bali for 10 days. We will introduce the culture of Bali at the Australian Center and deliver a briefing for the Bali portion of the program.	L	1	

Code	Titles of Lectures	Type	Time (hrs)	Readings
SFS 09	<p>Traditional agriculture and agroforestry in practice (Part 1)</p> <p>In this part of this series, you will visit a coffee agroforest and learn about the way coffee is cultivated in Bali. You will have the option to taste various secondary products produced by these agroforests.</p>	FL/GL	2	(Budiasa, 2014).
SFS 10	<p>Traditional agriculture and agroforestry in practice (Part 2)</p> <p>In this part of this series, you will visit an agrotourism operation (Bali agritours) near Ubud, where our farmer guides will give us demonstrations of how rice is planted in Bali. You will have some hands-on experience in the cultivation process. As part of our time travelling in Bali, you will also examine the World Heritage Subak irrigation system.</p>	FL/GL	5	(Lansing, 1991).
SFS 11	<p>Traditional agriculture and agroforestry in practice (Part 3)</p> <p>In this part of this series, we will visit a specialized vanilla agroforest farm at Yangapi to learn about how vanilla is grown in an agroforestry setting. As part of this trip, we will also examine home gardens in neighbouring plots to learn about traditional and small-scale farming practices in Bali.</p>	FL/GL	5	
SFS 12	<p>Introduction to Permaculture</p> <p>In this field workshop at the Gianyar Regency in Bali, you will learn about how permaculture systems can be established at a community level and aid with disaster preparedness and recovery. When we return from Bali, we will put this instruction into practice through guided projects at the Australia Center.</p>	FL/GL	8	(McKenzie, 2006).
SFS 13	<p>Economic botany and ethnobotany field exercise (FEX)</p> <p>Field exercises will introduce you to collecting data for economic botany, ethnobotany, and agroforestry studies including data collection, analysis, and report writing. These activities will be carried out in a Balinese market before returning to Australia.</p>	FEX	8	

Code	Titles of Lectures	Type	Time (hrs)	Readings
SFS 14	The matter of meat Hunting and fishing are the most ancient means of obtaining protein sources. In modern times, animals are reared on a large scale to meet food demands. Learn about the implications of meat production. We also examine sustainable means of meat production, and alternatives to meat. Lecture delivered at the Australia Center.	L	2	(Serrat, 2017).
SFS 15	Soil Matters Soil health underpins everything in agriculture. Here we give a broad introduction to soil ecology, with relevance to sustainable food systems. Lecture delivered at the Australia Center.	L	1.5	(Masters, 2019).
SFS 16	Making the transition to sustainable food production It is not possible or even desirable to make a quantum leap from conventional to regenerative agriculture. In this lecture, we examine the transitioning process and its importance. Lecture delivered at the Australia Center.	L	1	(Wezel, 2020).
SFS 17	FEX presentation This period is dedicated to presenting the results of your field exercises back at the Australia Center.	GW	4	
SFS 18	Three-minute talk Present your three-minute talks on the research you have done on food sustainability topics. Presentations to be delivered at the Australia Center.	D	2	
	<i>Total contact hrs</i>		60	

Reading List

1. Altieri, M. A. (2018). *Agroecology: the science of sustainable agriculture*. CRC Press.
2. Balick, M. J., & Cox, P. A. (2020). *Plants, people, and culture: the science of ethnobotany*. Garland Science.
3. Budiasa IW (2014). Organic farming as an innovative farming system development model toward sustainable agriculture in Bali. *Asian Journal of Agriculture and Development*, 11(1362-2016-107724), 65-75.
4. Fróna, D., Szenderák, J., & Harangi-Rákos, M. (2019). The challenge of feeding the world. *Sustainability*, 11(20), 5816.
5. Kadykalo, A. N., López-Rodríguez, 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.
6. Lansing JS (1991) *Priests and Programmers: Technology of Power in the Engineered Landscape of Bali*. Princeton University Press.
7. Martínez-Torres, M. E., & Rosset, P. M. (2010). La Vía Campesina: the birth and evolution of a transnational social movement. *The Journal of Peasant Studies*, 37(1), 149-175.
8. Masters, N. 2019. For the love of soil
9. McKenzie L & Lemos E (2006) *A resource book for permaculture*. IDEP Foundation
10. Serrat, O. (2017). The sustainable livelihoods approach. In *Knowledge solutions* (pp. 21-26). Springer, Singapore.
11. Settee, P., & Shukla, S. (Eds.). (2020). *Indigenous food systems: Concepts, cases, and conversations*. Canadian Scholars.
12. Smil, V. (2001). *Feeding the world: A challenge for the twenty-first century*. MIT press.
13. Sonneborn, L. (2007). *The environmental movement: protecting our natural resources*. Infobase Publishing.
14. Thompson, M., Prideaux, B., McShane, C., Dale, A., Turnour, J., & Atkinson, M. (2016). Tourism development in agricultural landscapes: The case of the Atherton Tablelands, Australia. *Landscape Research*, 41(7), 730-743.
15. 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.
16. Wezel, A., Herren, B. G., Kerr, R. B., Barrios, E., Gonçalves, A. L. R., & Sinclair, F. (2020). Agroecological principles and elements and their implications for transitioning to sustainable food systems. A review. *Agronomy for Sustainable Development*, 40(6), 1-13.
17. Wickens, G. E. (2012). *Economic botany: principles and practices*. Springer Science & Business Media.
18. Yudhari, I. D. A. S., et al. (2020). Multidimensional Scaling: Sustainability of Arabika Coffee Agro-Tourism in Kabupaten Bangli Bali. *Journal of Environmental Management & Tourism*, 11(6), 1455-1465.

Additional Information on Assessments

Reflective blog posts/journal explanation notes

In this assessment task, you are expected to submit a reflective journal, i.e. a collection of personal reflections developed during the course. The task requires you to produce short reflections notes at different points within the semester, which should document your learning experience in the course. You should make brief notes on each course related activity (Classroom/field lecture, excursions etc.) right from the beginning of the semester. These notes should be drawn from to produce a submitted reflective journal. You will be required to submit 1 blog post which should be at least **600 words**, but not more than **1500 words**.

The blog post is not akin to a diary, which is basically just an account of what happened in classroom rather than a reflective journal. A reflective action is guided by an ongoing self-appraisal rather than by habit, tradition, or the demands of institutional authority and expectations. It should help you to be reflective about your learning. This means that your entries should not be a purely descriptive account of what you did. Instead, it is an opportunity to communicate your thinking process: how and why you did what you did, and what you now think about what you did. It should provide a 'live picture' of your growing understanding of the subject or experience and help you to identify your strengths, weaknesses and preferences in learning. You should write about both your practical experiences and thoughts about the course materials.

Choose between several topics which will be revealed during the semester. This may include but are not restricted to:

1. What I learned about agroecology and the social issues surrounding the topic
2. Rice cultivation in Bali
3. The Subak system
4. Syntropic agroforestry
5. More topics to be made available during the course

Getting started (Introduction paragraph[s])

- Introduce the topic you chose very succinctly.

Learning from the people (Main body – maybe a few paragraphs)

- What stood out to you regarding what you learn from the regenerative farmers (if you chose Topic 1) or aboriginal folk (if you chose Topic 2)? Describe this briefly.
- Did the exposure to regenerative farmers (Syntropic farm) affect your views on how food can be sustainably produced (If you chose Topic 1)? If yes how? If no, why not?
- Did the exposure to indigenous involvement in environment management (visit to the MY country) affect your views on conservation/land management? (If you chose Topic 2). If yes how? If no, why not?

Synthesizing your reflections (Concluding paragraph[s])

- How might you apply what you have learnt back home (if you were to do farming or land management)?
- Maybe end off with a clear vision of what outcomes you think this might have

Reflective blog post/journal: grading rubric

	A	B	C	D
<i>Critical thinking skills.</i>	Demonstrates excellent skills in reasoning, questioning, investigating, observing, and describing, comparing and connecting, finding complexity, and exploring viewpoints	Demonstrates very good skills in reasoning, questioning, investigating, observing and describing comparing and connecting, finding complexity, and exploring viewpoints	Demonstrates good skills in reasoning, questioning, investigating, observing and describing comparing and connecting, finding complexity, and exploring viewpoints	Demonstrates satisfactory reasoning, questioning, investigating, observing, describing, comparing, and connecting skills, finding, and exploring viewpoints
<i>Reflective thinking skills</i>	Demonstrates a high-level ability to think about an experience and decide to learn from it, and do something different the next time	Demonstrates a well-developed ability to think about an experience and decide to learn from it, and do something different the next time	Demonstrates the ability to think about an experience and decide to learn from it and do something different the next time	Demonstrates a satisfactory ability to think about an experience and decide to learn from it and do something different the next time
<i>Making good judgments when completing course work</i>	Demonstrates a high-level ability to judge what is required to complete tasks at different standards and what content is appropriate and correct.	Demonstrates a well-developed ability to judge what is required to complete tasks at different standards and what content is appropriate and correct.	Demonstrates the ability to judge what is required to complete tasks at different standards and what content is appropriate and correct.	Demonstrates a satisfactory ability to judge what is required to complete tasks at different standards and what content is appropriate and correct.
<i>Structure/grammar/ expression</i>	The reflective notes are very well structured and organized- excellent grammar and expression	The reflective notes are well structured and organized- good grammar and expression	The reflective notes are structured and sequential. Few issues with grammar and/or expression	The notes could have benefited from a better structure, grammar, and expression