



**S F S** THE SCHOOL  
FOR FIELD STUDIES

# Rainforest Management Studies in Australia & New Zealand SFS 3540

## Syllabus

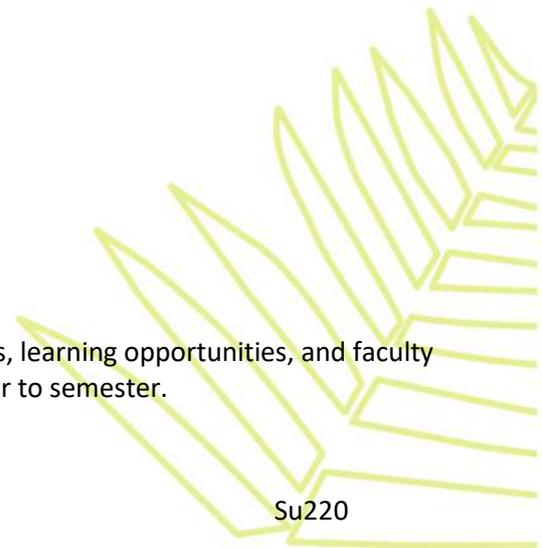
The School for Field Studies (SFS)  
Centre for Rainforest Studies (CRS)  
Queensland, Australia

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.

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## **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 may be present. In other words, the elephants are not always where we want them to be, so be flexible!

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## Course Overview

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### Rainforest Management Studies in Australia and New Zealand:

In this field course students will compare and contrast the ecological, geographical, social, economic and historical factors that have shaped natural resource management in Australia and New Zealand. While Australia and New Zealand share a similar Gondwanan ancestry they differ significantly with respect to indigenous and European settlement patterns, economic development and current as well as historical land-use practices. By comparing and contrasting natural resource management in these two locations, students will gain a detailed understanding of the drivers of species extinctions and current conservation problems including management of endangered and exotic species. In New Zealand, students will discover the unique flora and fauna of Auckland and Northland and develop an understanding of the factors that have resulted in their disjunct populations. In Australia, students will take their New Zealand experiences and examine similarities and differences in history, historical land use patterns and biogeography.

In both countries, field excursions will be conducted that examine the influence of fragmentation on abiotic and biotic attributes of forest communities. Students will also participate in indigenous cultural activities and have an opportunity to understand current and historic indigenous land use practices and challenges in both countries. From these opportunities, students will gain an understanding of both successful and unsuccessful natural resource management policies and practices in Australia and New Zealand, and be able to identify appropriate management techniques with regards to biological systems, national boundaries, and/or social systems.

### Themes

Throughout the course we focus on the meta-question “what are the ecological and/or socio-economic factors that shape the different resource management strategies of each region?” Considering this question in bio-diverse areas of Australia and New Zealand will allow students to develop their own understanding of ‘what works where and why’.

The themes are:

- 1) Biogeography and history of Australian and New Zealand Rainforests
- 2) Human impacts on Australian and New Zealand Rainforests
- 3) Natural resource management in New Zealand and Australia, including ecological restoration

### Learning Objectives

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During this course, students should develop a working knowledge related to:

- 1) *Australian and New Zealand Bio-geographical History.* Students will learn the key similarities and differences between the history of Australian and New Zealand flora and fauna. We will study Gondwanan ancestry, plate tectonics, climate change, geology, and factors that led to distributions of forest communities before human impacts.
- 2) *Indigenous use of Forest Systems.* Demonstrations of the use of forest resources by indigenous communities in Australia and New Zealand will allow students to understand the scale and type of impacts experienced before European settlement and traditional indigenous perception of nature.
- 3) *Impacts on Forests related to European Settlement.* Students will gain an understanding of the underlying causes of forest fragmentation (with respect to changing land-use) by examining patterns of settlement on the Atherton Tablelands (Queensland, Australia) and around Auckland/Northland (New Zealand). Students also gain a detailed understanding of the impacts of habitat loss and fragmentation on forest communities by examining abiotic and biotic attributes of remaining fragmented and contiguous forest communities.

- 4) *Conservation of Fragmented Biological Communities*. Students will compare and contrast key aspects of conserving endangered forest communities and species in New Zealand and Australia such as the management of invasive species, fragmentation, native species' extinctions and habitat restoration.
- 5) *Socio-economics of natural resource management*. The socio-economics component of the course examines the history of rainforest clearing and environmental degradation (e.g. agriculture, farming, and mining). Students will discuss the importance of social and economic factors that shape the use of natural resources. The economic, social, and political incentives and impediments for environmental conservation will also be explored.
- 6) *Economic benefits provided by rainforest ecosystems*. Rainforests provide us with a range of services from recreation through pharmaceutical use to carbon sequestration. The course will look at some of the economic value of these services.

## Assessment

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In Australia, lectures, discussions and field excursions will be based at the Center for Rainforest Studies and around the Atherton Tablelands. In New Zealand, the course will move between locations and field excursions will focus on Auckland and Northland. Classroom lecture topics will include essential background information and field lectures/exercises are used to reinforce key concepts and provide students with on-ground experiences. Student attention at field lectures/exercises will be enhanced by the requirement for them to complete a Field Journal and students' ability to compare and contrast natural resource management/conservation in Australia and New Zealand will be assessed via group presentations.

| Assessment Piece                                 | Value (%)  |
|--|------------|
| Field Journal                                    | 40         |
| Group presentations (meta-question) <sup>¶</sup> | 30         |
| - Peer evaluation                                | 10         |
| Final Quiz                                       | 20         |
| <b>TOTAL</b>                                     | <b>100</b> |

<sup>¶</sup>NB. The group's choice of topic for presentation will be determined following discussion and consultation with faculty.

### **Field Excursions New Zealand:**

#### *Auckland Area:*

We will stay in Auckland city, where more than 25% of New Zealand's population lives. There we will view the harbour, surrounding volcanic cones and visit Auckland's War Memorial Museum, the major regional museum with its excellent Maori culture and natural history displays. We will also visit Tiri-tiri Matangi Island to learn about island fauna sanctuaries, habitat restoration and strategies for volunteer involvement and visitor management and Wenderholm Regional Park to experience coastal forest and learn about the mainland island concept.

#### *Northland:*

Northland (5 days/5 nights): Our trip in Northland will blend an examination of conservation issues with insights into New Zealand's bicultural history and identity. Lodging will occur at three different Maori run facilities, one a traditional marae. The local iwi (tribe) will share their land management experiences with us and introduce us to their rich cultural heritage as we explore their land, Ruapekapeka Pa (an old Maori "fort"), and share meals and experiences. In Waitangi we will visit the Treaty Grounds to learn about the historic signing of the Treaty of Waitangi providing historical context to current natural resource management.

Northland will also give us the opportunity to visit a Bird Recovery Centre to learn about threats to New Zealand's unique bird fauna and ways to mitigate these threats. Two nights will be spent at Waipoua, home of Tane Mahuta and the majestic kauri forests.

#### *Kaipara:*

Kaipara (1.5 days/1 nights): At Glorit on the Kaipara Harbour, we will be visiting two properties, Mataia and CUE Haven, where habitat restoration for kiwi and other fauna is underway. We'll be involved in volunteer habitat restoration work on these properties.

### **Field Excursions Australia:**

#### *Around the Atherton Tablelands (4-5 days, daily return to CRS):*

Students will tour the Tablelands and: i) understand the geological, historical and socio-economic reasons underlying current land-use practices that have led to fragmentation of Wet Tropics rainforests; ii) examine forest remnants on the Tablelands; iii) compare these fragments to more contiguous patches of forest elsewhere (including the CRS property); iv) gain a perspective of the temporal, spatial and logistical requirements for habitat restoration and the potential achievements given appropriate resources.

#### *MY Country and Daintree (3 days/2 nights):*

Students will spend a day with the Mandingalbay Yidinji (MY) Aboriginal tribe who will share their land management/cultural practices. In the Daintree, students will visit the Discovery Centre (information centre) for a self-guided tour and a strategic view of the rainforest canopy. They will learn about the rainforest ecosystems in the Daintree national park.

## Grading Scheme

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|    |                 |    |                |    |                |   |                |
|----|-----------------|----|----------------|----|----------------|---|----------------|
| 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

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Electronic copies of the recommended readings will be available prior to class. It may be important that these be read before class since we may use these papers as a starting point for discussion. Faculty will inform you when this is the case.

Plagiarism – using the ideas and material of others without giving due credit, is cheating and will not be tolerated. A grade of zero will be assigned if anyone is caught cheating or aiding another person to cheat either actively or passively (e.g., allowing someone to copy your work).

Deadlines for written and oral assignments are instated to promote equity among students and to allow faculty ample time to review and return assignments. As such, deadlines are firm and extensions will only be considered under only the most extreme 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 relevant faculty member as soon as possible, and certainly before the assignment is due. Late assignments will incur a penalty proportional to the length of time that they are late. This means an assignment that is one day late when students were given two days to work on it will have 50% of total points removed from the grade awarded for that assignment, and an assignment that is 2 hours late when two full days (16 hrs) were allocated to work on it will have 12.5% of total points removed from the grade.

Student must participate in all components of the program. Our program is likely to be more intensive than you might be used to at your home institution, and missing even one lecture or field trip can have a large effect on your final grade simply because there is little room to make up for lost time or opportunities. In addition, 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 excursions and simply get involved.

## Course Content

AT = Atherton Tablelands, WT = Wet Tropics, NZ = Auckland/Northland, New Zealand

| <i>Number</i>  | <i>Lecture Title</i>   | <i>Hours</i> |
|----------------|--|--------------|
| EE01           | Course Overview (L)  | 1.0          |
| <b>THEME 1</b> | <b>Biogeography and history of Australian and New Zealand Rainforests</b>  |              |
| EE02           | Introduction to Rainforest in Australia and NZ (L+ FLs) <ul style="list-style-type: none"> <li>- SFS Site walk</li> <li>- Tablelands landscape and land-use tour</li> <li>- Daintree rainforests</li> <li>- Waipoua Forest</li> <li>- Wenderholm Regional Park</li> </ul>  | 7.0          |
| EE03           | Introduction to the Geology and Fauna of Australia and NZ (L+FLs) <ul style="list-style-type: none"> <li>- Tablelands landscape and land-use tour</li> <li>- Auckland War Memorial Museum (natural history and cultural galleries)</li> <li>- Waipoua Forest</li> <li>- Tiritiri-Matangi Island</li> </ul>               | 4.5          |
| EE04           | Maori culture/traditions prior to and after European settlement (FLs) <ul style="list-style-type: none"> <li>- Auckland War Memorial Museum – Maori galleries &amp; natural history galleries</li> <li>- Cultural Performance (Waitangi)</li> <li>- Marae stay</li> <li>- Waitangi &amp; Northland war trails</li> </ul> | 8.0          |
| EE05           | Aboriginal culture/traditions prior to and after European settlement (FLs) <ul style="list-style-type: none"> <li>- Djunbunji Land and Sea Program, Mandingalbay country visit</li> <li>- Tjapukai Cultural Park</li> </ul>  | 8.0          |
| <b>THEME 2</b> | <b>Human Impacts on Australian and New Zealand Rainforests</b>   |              |
| EE06           | Impacts of human settlement on NZ landscapes (L + FLs) <ul style="list-style-type: none"> <li>- Auckland War Memorial Museum – Maori galleries &amp; natural history galleries</li> <li>- Auckland – Northland drive, land-use</li> <li>- Waipoua Kauri Forest</li> </ul>  | 3.5          |
| EE07           | Impacts of human settlement on North Queensland landscapes (L + FLs) <ul style="list-style-type: none"> <li>- Tablelands landscape and land-use tour</li> <li>- Daintree drive, landscapes and land-use</li> <li>- Djunbunji Land and Sea Program, Mandingalbay country visit</li> </ul>                                 | 4.0          |
| EE08           | Threats to the Fauna of New Zealand (L + FLs)  | 4.0          |

|                |   |      |
|----------------|---|------|
|                | <ul style="list-style-type: none"> <li>- Wenderholm Regional Park</li> <li>- Bird Recovery Centre</li> <li>- Waipoua Kauri Forest</li> <li>- Tiritiri-Matangi</li> </ul>            |      |
| EE09           | Threats to the Fauna of Australia (L + FLs) <ul style="list-style-type: none"> <li>- Visits to various fragments on the Tablelands</li> <li>- Daintree</li> </ul>                   | 2.5  |
| <b>THEME 3</b> | <b>Natural resource management in New Zealand and Australia</b>   |      |
| EE10           | Socio-economics in NRM – NZ (L)   | 1.0  |
| EE11           | Socio-economics in NRM – Aus (L)  | 1.0  |
| EE12           | Fauna conservation strategies in NZ (L + FL) <ul style="list-style-type: none"> <li>- Bird Discovery Centre</li> <li>- Tiritiri-Matangi</li> <li>- Wenderholm</li> <li>-</li> </ul> | 3.0  |
| EE13           | Fauna conservation strategies in the WT, Australia (L + FL) <ul style="list-style-type: none"> <li>- Daintree</li> <li>- Peterson Creek Fauna Corridor</li> </ul>                   | 4.0  |
| EE14           | Restoration Ecology and Restoration Practices(L + FL) <ul style="list-style-type: none"> <li>- Mataia Restoration Project</li> <li>- CUE Haven</li> <li>- TREAT/Landcare</li> </ul> | 8.0  |
| EE15           | Wrap up natural resources and conservation management in NZ and Australia (Discussion Session)  | 2.0  |
|                | TOTAL   | 60.5 |

Reading material for each topic provided on the student drive.

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