

Biology of the South Pacific: *Koalas, Kiwis, and Corals*

BIOL(FANR) 3460 (3 credits)

Maymester in Australia and New Zealand

This syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary

Course Instructor, Contact Details and Schedule

Lead Instructors: Dr. Mark Farmer, Professor, Division of Biological Sciences, UGA,
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Program Director: Dr. Michael Tarrant, Meigs Distinguished Teaching Professor, Warnell School of Forestry and Natural Resources, UGA, Tarrant@uga.edu

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This is a field studies course taught overseas; refer to the sample itinerary.

Course Description

This course explores the native flora and fauna of Australia, New Zealand, and/or other islands of the South Pacific. With extensive field trips into forests, coral reefs and other unique habitats, we will explore the biology and natural history of the plants and animals of this region as well as how they interact with one another. We will also examine how the geology, climate, and peoples of the region have shaped the ecology and evolution of the organisms and how changing climatic conditions may affect them in the future. The course will involve a mix of extensive fieldwork, lectures, and independent projects and, because it is offered in conjunction with FANR 4271, *People, Planet and Profit*, students will understand how human societies have been shaped by and affected nature.

Course Prerequisites, Corequisites and Cross-listings

BIOL 1107/L and 1108/L or permission of instructor. This course fulfills the requirements of Biology (BIOL) or Forestry and Natural Resources (FANR) at the undergraduate (3460) level. As always, confirm with your advisor how the course will count in your program of study. When registering, select only FANR 3460 for 3 credits.

Course Objectives and Learning Outcomes

Specific topics covered in this course include:

1. Tropical Rainforest
 - a. What defines a "Rain Forest"?
 - b. What characterizes a tropical forest?
 - c. Why are they important?
 - d. Why is the biodiversity of tropical rain forests higher than that of most terrestrial environments?
 - e. How are nutrients and energy cycled in a rain forest?
 - f. What adaptations have evolved in plants and animals that allow them to succeed in this environment?

- g. How are changing climatic conditions and patterns of land use affecting the rain forests of the South Pacific?
2. Coral Reef
 - a. How are coral reefs formed?
 - b. Why are they important?
 - c. Why is the biodiversity of coral reefs higher than that of most marine environments?
 - d. How are nutrients and energy cycled in a coral reef?
 - e. What adaptations have evolved in plants and animals that allow them to succeed in this environment?
 - f. How are changing climatic conditions and patterns of land use affecting the coral reefs of the South Pacific?
 3. Temperate and Alpine Forests
 - a. What distinguishes a temperate forest from a tropical forest?
 - b. How does the biodiversity of temperate forests compare to that of tropical rain forests?
 - c. What adaptations have evolved in plants and animals that allow them to succeed in this environment?
 - d. How are changing climatic conditions affecting the temperate forests of the South Pacific?
 4. Scrublands and Bush (Outback)
 - a. What distinguishes a scrubland from a forest?
 - b. How does the biodiversity of scrublands compare to that of forests?
 - c. What adaptations have evolved in plants and animals that allow them to succeed in this environment?
 - d. How are changing climatic conditions affecting the dryer regions of the South Pacific?
 5. Biogeography
 - a. How does the geology of a place affect the distribution and evolution of organisms?
 - b. Why are some plants and animals considered to be “living fossils”?
 6. What is meant by the term “Island Biogeography” and how is it applied to Australia, New Zealand, and the islands of the South Pacific?

Graduate and Honors Option Credit

There is no graduate version of this course. If you wish to take the honors version of this course, please be aware of the following project that is required (further direction to be given in person). Students registering for BIOL 3460H will be required to keep a daily journal documenting the observation of the behavior of some animal or animal/plant interaction that they observed that day. Observations must detail the organisms involved, the location and time of day, and interpretation of the animal behavior.

Participation Policy

Punctual attendance at all scheduled program–related activities is required, including group meetings, discussions, field excursions, as well as lectures and any other scheduled activities. Participation in educational field activities (such as hiking, snorkeling, swimming, etc.) is voluntary and at the discretion of the student; however, should you wish not to participate you must inform the instructor and an alternate education non-field activity will be assigned. An excused absence or decision not to participate in one or any of these field activities will not affect your course grade. During the field studies, no student may leave the group without the consent of the faculty supervisor. Unless an absence is approved by one of

the instructors, students will lose 10% of their final grade for each day or part-day they fail to participate. Unexcused absences or chronic late arrival to program activities may be grounds for dismissal from the program.

Academic Honesty

As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code: "*I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others.*" A Culture of Honesty, the University's policy and procedures for handling cases of suspected dishonesty, can be found [here](#). All academic work must meet the standards described in the [University's Culture of Honesty policy](#). Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and this policy should be directed to the instructor.

Required Course Material

1. Tarrant, M.A. (2022). *Sustaining People, Profit and Planet* (6th edition) and *New Zealand Plant Guide* (combo). Austin, TX: Sentia Publishing. Order online [here](#)
2. Collection of readings and course material. Download from UGA e-Learning Commons (www.elc.uga.edu) prior to departure. The files will be available approximately four weeks prior to the start of the program and you should not expect to be able to download the materials easily or cheaply once in country.

You are required to bring a laptop or notebook with Microsoft Word (iPads, kindles, or other similar electronic reading devices are not acceptable for course assignments) and a flash drive. The program accepts no responsibility for lost or stolen items, and we recommend that you consider purchasing insurance for any expensive personal items before bringing them on the course.

Course Requirements

Species Presentations (10%)

Before leaving the U.S. you will each be assigned an organism (plant, animal, fungus, protist, bacterium, or virus) that is common to the South Pacific and that we may encounter during our travels. At some point during the course (beginning with our first location) you will be asked to give a 15 minute presentation on your individual organism. Your presentation should be in PowerPoint and a copy of the presentation will be turned in to the instructor. Your presentation is to be authoritative, that means more than just what is on Wikipedia (although that is a good place to start). Tell us everything you can about it. Where is the organism commonly found? Is it rare or common? What does it eat? What eats it? What is its importance to the ecosystem? Does it depend on other organisms in a unique way? What is its evolutionary history? How does it interact with, or affect humans? If the organism is not native to Australia or New Zealand, why did we include it on the list? What is special about it? What ecological role does it play? Is it dangerous? Cute? Both? You will be required to provide a copy of your presentation and/or notes complete with references used. An example presentation can be found with your class materials. Since internet access will be limited when abroad it is important that you complete the research portion of the assignment **before** leaving the U.S.

Final exam (10%)

This will be traditional exam covering all lecture, field and reading material. The exam will draw heavily from the pre-arrival quizzes and lectures.

Field modules (80%)

The field modules are location-based questions including topics quizzes, 250-word essays, SSIs, research projects, thematic essay and/or digital story. Refer to the eBook Appendix for further details. Due dates as listed on the Course Itinerary.

Policy for Make-up of Assignments

Because of the nature of this course and the tight schedule, assignments are not accepted late without prior approval from the instructor.

Grading Policy

Final grades will be assigned as follows:

A	93 –100 percent
A-	89.5 – 92.9 percent
B+	87 – 89.4 percent
B	83 – 86.9 percent
B-	79.5 – 82.9 percent
C+	77 – 79.4 percent
C	73 – 76.9 percent
C-	69.5 – 72.9 percent
D	59.5 - 69.4 percent
F	below 59.4 percent

Course itinerary

Refer to the sample itineraries available online. Final itineraries will be distributed on arrival in-country or contact the office for the most recent version.

Mental Health and Wellness Resources

If you or someone you know needs assistance, you are encouraged to contact [Student Care and Outreach](#); they will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services. UGA has several resources for a student seeking [mental health services](#) or [crisis support](#). If you need help managing stress anxiety, relationships, etc., please visit [BeWellUGA](#) for a list of FREE workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center. Additional resources can be accessed through the UGA App.

Accommodation Policy

If you anticipate issues related to the format or requirements of this course, please meet with me. I would like us to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with the Disability Resource Center (Voice: 706-542-8719 or TTY: 706- 542-8778 or web: <https://drc.uga.edu/>) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations.

FERPA Notice

The Federal Family Educational Rights and Privacy Act (FERPA) grants students certain information privacy rights. See the [registrar's explanation](#)