

Description

Islands are, and always have been, especially special places for biologists. This is because islands are model systems – replicated and simplified natural experiments – allowing natural scientists to isolate particular factors and processes and to study their effects. The theory of island biogeography is one the earliest and most influential ecological principles in biology. This course introduces graduate students to the basic concepts of island biogeography, factors determining the distribution of species and higher taxa as applied in the special case of islands. The field of island biogeography draws heavily on ecological and evolutionary theory, yet also relies on geology and geography.

Instructor:

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Office hours:

Tuesday & Thursday, 1-3pm

Course hours:

Monday, 9:10-12:10am

Prerequisite:

1. Ecology, 2. Evolutionary Biology, 3. Genetics

Textbooks (available as NTNU library e-books):

A. *“Island Biogeography”* 2nd ed, Robert J. Whittaker & José Maria Fernández-Palacios, 2007.

B. *“Encyclopedia of Islands”* edited by Rosemary G. Gillespie & David A. Clague, 2009.

Grade:

1. In-class discussion (20%)
2. Quiz (50%)
3. Oral presentation (30%) (10 mins presentation on topics from textbook B)

Couse web page:

<http://web.ntnu.edu.tw/~treehopper/index.php?page=courses&lang=en>

Google Meet:

<https://meet.google.com/yfe-iyat-auu>

Schedule

Week	Date	Topics
1	9/05	Introduction <u>Part I: Island as Natural Laboratories</u>
2	9/12	A-1. The natural laboratory paradigm A-2. Island environments (part 1, 2.1-2.2)
3	9/19	A-2. Island environments (part 2, 2-3-2.6)
4	9/26	A-3. The Biogeography of island life: biodiversity hotspots in context <u>Part II: Island Ecology</u>
5	10/03	A-4 Species numbers games: the macroecology of island biotas

6	10/10	Holiday
7	10/17	A-5 Community assembly and dynamics
8	10/24	Midterm exam (Presentation Topic Due)
9	10/31	A-6 Scale and island ecological theory: towards a new synthesis
		<u>Part III: Island Evolution</u>
10	11/07	A-7 Arrival and change
11	11/14	A-8 Speciation and the island condition
12	11/21	A-9 Emergent models of island evolution
		<u>Part IV: Islands and Conservation</u>
13	11/28	A-10 Island theory and conservation
14	12/05	A-11 Anthropogenic losses and threats to island ecosystems
15	12/12	Student Presentation (10 mins)
16	12/19	Final exam