Annexe A: New/Revised Course Content in OBTL+ Format

Course Overview

The sections shown on this interface are based on the templates UG OBTL+ or PG OBTL+
If you are revising/duplicating an existing course and do not see the pre-filled contents you expect in the subsequent sections e.g. Course Aims, Intended Learning Outcomes etc. please refer to Data Transformation Status for more information.

Expected Implementation in Academic Year	
Semester/Trimester/Others (specify approx. Start/End date)	
Course Author * Faculty proposing/revising the course	David Wardle
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Course Title	Advanced Field Placement in Ecology and Society
Course Code	ES3304
Academic Units	0
Contact Hours	175
Research Experience Components	

Course Requisites (if applicable)

Pre-requisites	ES2003 Biosphere ES2303 Introduction to Ecology
Co-requisites	
Pre-requisite to	
Mutually exclusive to	
Replacement course to	
Remarks (if any)	

Course Aims

This course aims to support you in developing the requisite skills to interpret patterns and processes in the field, and perform successful field work. During a field trip in Taiwan, combined with follow-up activities, you will learn to assess the factors that drive the structure and functioning of ecosystems, help frame research questions, conduct field work, process the data and interpret the results, as you would do working in an Environmental Sciences field. As such it will help put principles learned in the classroom into practice. Through this project you will essentially learn the importance of project management including prioritisation, time and resources management and liaising between different people.

Course's Intended Learning Outcomes (ILOs)

Upon the successful completion of this course, you (student) would be able to:

ILO 1	Formulate appropriate research questions and develop and adapt methodology for testing them.
ILO 2	Apply your methodology in the field and collect sufficient data for analysis.
ILO 3	Keep written documentation of field work activity throughout the process.
ILO 4	Interpret data obtained from testing your research questions and identify potential influencing factors on the results and discuss the wider reasons behind their influences.
ILO 5	Communicate these findings both in a written report, and as an oral presentation.
ILO 6	Manage your research judiciously and collaborate in an effective manner with your classmates.

Course Content

The course will involve studying six forest plots with contrasting macroclimate in Taiwan, both along the length of Taiwan (latitudinal gradient) and across a 3000 m change in elevation in the Taroko mountains (elevational gradient). These gradients serve as 'natural experiments' for understanding how macroclimate, and potentially climate change, drive structure and functioning of forest ecosystems. You will design and implement a series of measurements across these plots, and especially along the elevational gradient, to better understand the climatic controls of terrestrial ecosystems. As such, you will conduct field research, collect data, process data and interpret the results, provide a written report and present your findings to the rest of the class.

Reading and References (if applicable)

You will be expected to search for and refer to relevant literature, but as a starting point you will be directed to the following four references: · Mayor, J. R., Sanders, N. J., Classen, A. T., Bardgett, R. D., Clément, J. J., Fajardo, A., Lavorel, S., Sundqvist, M. K., Bahn, M., Chisholm, C., Cieraad, E., Gedalof, Z., Grigulis, K., Kudo, G., Oberski, D. and Wardle, D. A. (2017) Elevation alters ecosystem properties across temperate treelines globally. Nature 542: 91-97. · Sundqvist, M. K., Sanders, N. J. and Wardle, D. A. (2013) Community and ecosystem responses to elevational gradients: processes, mechanisms and insights for global change. Annual Reviews of Ecology, Evolution and Systematics 44: 261-280. · Bond, W.J. (1989) The tortoise and the hare: ecology of angiosperm dominance and gymnosperm persistence. Biological Journal of the Linnean Society 36: 227–249. · Read, Q.D., Moorhead, L. C, Swenson, N.J., Bailey, J. K. and Sanders, N. J. (2014) Convergent effects of elevation on functional leaf traits within and among species. Functional Ecology 28: 37-45

Planned Schedule

Week or Session	Topics or Themes	ILO	Readings	Delivery Mode	Activities

Learning and Teaching Approach

Approach	How does this approach support you in achieving the learning outcomes?
Independent learning	This is an upper level class and therefore you are required to show initiative in your learning process. This supports aspects of all six of the learning outcomes.
Active Learning	You will be in the field where you will be exposed to learning in a range of contrasting forest habitats and ecological settings, from lowland tropical forest to forests at the subalpine tree-line. This supports aspects of all six of the learning outcomes.

Assessment Structure

Assessment Components (includes both continuous and summative assessment)

No.	Component	ILO	Related PLO or Accreditation	Weightage	Team/Individual	Rubrics	Level of Understanding
1	Continuous Assessment (CA): Others([assignments (e.g. term paper, essay)] Research Log notebook)	2,3	4;5;6;7;8	10	Individual		
2	Continuous Assessment (CA): Others([assignments (e.g. term paper, essay)] Final Written Report)	1,4,5,6	1;2;3;4;5;6;7;9;10	65	Individual		
3	Continuous Assessment (CA): Others([assignments (e.g. term paper, essay)] Final oral presentation)	1,4,5,6	1;2;3	25	Team		

Description of Assessment Components (if applicable)

Formative Feedback

You will receive informal feedback throughout the process, and the course coordinators will be with you throughout the entire field course to provide this feedback.

NTU Graduate Attributes/Competency Mapping

This course intends to develop the following graduate attributes and competencies (maximum 5 most relevant)

Attributes/Competency	Level

Course Policy

Policy (Academic Integrity)

Policy (General)

0

Policy (Absenteeism)

0

Policy (Others, if applicable)

You are expected to complete all assigned readings and activities, and take all scheduled assignments by due dates. You are expected to take responsibility to follow up with course notes, assignments and course related announcements you have missed.

You are expected be aware that you are representing ASE and NTU while on field courses, and behave in a way which represents the school and department favourably.

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