

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	AY2025/26
Semester/Trimester/Others (specify approx. Start/End date)	Semester 1
Course Author * Faculty proposing/revising the course	Asst. Prof. Lam Weng Ngai
Course Author Email	wengngai.lam@ntu.edu.sg
Course Title	The Biodiversity and Natural History of Singapore
Course Code	ES5008
Academic Units	3
Contact Hours	39
Research Experience Components	Not Applicable

Course Requisites (if applicable)

Pre-requisites	NA
Co-requisites	NA
Pre-requisite to	NA
Mutually exclusive to	NA
Replacement course to	NA
Remarks (if any)	

Course Aims

Biodiversity is essential to the ecological processes that support life. Singapore boasts remarkable biodiversity of approximately 40,000 plant and animal species, but many of these are threatened by the rapid urbanization that has taken place over the last century. This course offers a comprehensive introduction to the plant and animal species found naturally in Singapore (biodiversity) and the ecological conditions required for their continued existence (natural history). Through this course, you will: (1) gain a foundational understanding of Singapore's biodiversity, fostering an appreciation and passion for it; (2) develop the skills to be a self-taught naturalist and ambassador for biodiversity; (3) learn to effectively engage in conversations about biodiversity with non-specialist stakeholders in Singapore. By the end of this course, you will be well-equipped to share your knowledge and enthusiasm during nature walks with friends and family, captivating them with your insights into Singapore's unique natural heritage.

Course's Intended Learning Outcomes (ILOs)

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

ILO 1	Identify key species from each of the 16 major plant and animal groups in Singapore and talk about their unique biology and natural history
ILO 2	Describe the different types of habitats found in Singapore, their characteristics, and the plant and animal taxa associated with each
ILO 3	Conduct a guided nature walk for friends and family to any natural area in Singapore
ILO 4	Document biodiversity records and contribute to biodiversity citizen science initiatives
ILO 5	Discuss biodiversity issues with non-specialist stakeholders in Singapore

Course Content

- Introduction to biodiversity, its study, and its importance
- Natural habitat types in Singapore
- Plants and animals found in Singapore, and their habitat associations
- Scientific classification and major divisions within taxa
- 140 species from 16 plant and animal taxa found in Singapore
- How to observe each taxon in the wild in Singapore
- Biodiversity threats and conservation

Reading and References (if applicable)

Yee ATK, Chong KY, Seah WW, Lua HK and Yang S. (2019). Vegetation of Singapore. Flora of Singapore, 1:47-70.

https://www.nparks.gov.sg/-/media/sbg/flora-of-singapore/volume-1-introduction/1.-d-.5_vegetation_lr.pdf

Ananthanarayana S & Ang A (Eds). (2024). The Singapore Terrestrial Conservation Plan.

https://sg-tc-plan.weebly.com/uploads/1/3/1/0/131098178/singapore_terrestrial_conservation_plan.pdf

Jaafar Z, Huang D, Tanzil JTI, Ow YX & Yap N (Eds). (2018). Singapore Blue Plan.

<https://drive.google.com/open?id=1UzlaJb645EFIZpSyAW7P-u0GOFNZ52rN>

Planned Schedule

Week or Session	Topics or Themes	ILO	Readings	Delivery Mode	Activities
1	What is biodiversity and natural history? Biodiversity in Singapore	4, 5		In-person	
2	Taxonomy natural history, and plant/animal identification Terrestrial habitats	2, 4, 5	Yee et al. 2019	In-person	
3	Plants: part 1, Plants: part 2	1, 2, 3, 4, 5	Ananthanarayanan & Ang (2024)	In-person	
4	Plants: part 3 Introduction to assignments Herpetofauna	1, 2, 3, 4, 5	Ananthanarayanan & Ang (2024)	In-person	
5	Mammals Birds	1, 2, 3, 4, 5	Ananthanarayanan & Ang (2024)	In-person	
6	Insects: part 1 Insects: part 2	1, 2, 3, 4, 5	Ananthanarayanan & Ang (2024)	In-person	
7	Arachnids Miscellaneous terrestrial invertebrate taxa	1, 2, 3, 4, 5	Ananthanarayanan & Ang (2024)	In-person	
8	Freshwater habitats Freshwater fish and crustaceans	1, 2, 3, 4, 5	Ananthanarayanan & Ang (2024)	In-person	Assignment 1 due

Week or Session	Topics or Themes	ILO	Readings	Delivery Mode	Activities
9	Intertidal habitats Marine molluscs	1, 2, 3, 4, 5	Jaafar et al. (2018)	In-person	Best video award handed out (Assignment 1)
10	Subtidal habitats Cnidaria and Porifera	1, 2, 3, 4, 5	Jaafar et al. (2018)	In-person	
11	Marine Annelids, Polyclads Echinoderms and Crustaceans	1, 2, 3, 4, 5	Jaafar et al. (2018)	In-person	
12	Marine fish Summary and miscellaneous aquatic taxa	1, 2, 3, 4, 5	Jaafar et al. (2018)	In-person	Assignment 2 due
13	Urban habitats Threats and conservation of Singapore's biodiversity	1, 2, 3, 4, 5	Ananthanarayanan & Ang (2024)	In-person	Best video award handed out (Assignment 2)

Learning and Teaching Approach

Approach	How does this approach support you in achieving the learning outcomes?
Virtual nature guiding	You will be required to produce two 5-min videos of your project group conducting virtual nature guiding to a natural habitat in Singapore. The experience of looking for and sharing about plants and animals in their natural habitat both reinforces classroom learning and allows you to strengthen your skills in communicating biodiversity facts and discuss conservation issues effectively with non-specialist audiences.

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): Assignment(Group assignment)	1, 2, 3, 4, 5		30	Team	Analytic	Extended Abstract
2	Continuous Assessment (CA): Assignment(Group Assignment)	1, 2, 3, 4, 5		30	Team	Analytic	Extended Abstract
3	Continuous Assessment (CA): Final exam(Final Exam (MCQ))	1, 2, 5		40	Individual	Analytic	Multistructural

Description of Assessment Components (if applicable)

Group assignments (2 x 30%)

You will be required to produce two 5-min videos of your project group conducting virtual nature guiding to a natural habitat in Singapore. The video should promote an interest in biodiversity in members of the Singapore public who do not have any background in biology or interest in nature. Videos will be graded on their factual accuracy and degree to which they effectively engage audiences (see Appendix 1: Assessment Criteria for Assignments 1-2 for more information).

Final exam (40%)

Multiple choice questions based on all topics taught in the course.

Formative Feedback

You will receive written feedback from TAs and course coordinator about your assignments.

NTU Graduate Attributes/Competency Mapping

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

Attributes/Competency	Level
Care for Environment	Intermediate
Collaboration	Basic
Curiosity	Advanced
Influence	Basic
Sense Making	Basic

Course Policy

Policy (Academic Integrity)

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values. As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. On the use of technological tools (such as Generative AI tools), different courses / assignments have different intended learning outcomes. Students should refer to the specific assignment instructions on their use and requirements and/or consult your instructors on how you can use these tools to help your learning. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Policy (General)

You are expected to complete all assigned readings, activities, assignments, attend all classes punctually and complete all scheduled assignments by due dates. You are expected to take responsibility to follow up with assignments and course related announcements. You are expected to participate in all project critiques, class discussions and activities.

Policy (Absenteeism)

Absence from class without a valid reason will affect your overall course grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. There will be no make-up opportunities for in-class activities.

Policy (Others, if applicable)

Diversity and inclusion policy

Integrating a diverse set of experiences is important for a more comprehensive understanding of science. It is our goal to create an inclusive and collaborative learning environment that supports a diversity of perspectives and learning experiences, and that honours your identities; including ethnicity, gender, socioeconomic status, sexual orientation, religion or ability.

To help accomplish this:

- If you are neuroatypical or neurodiverse, have dyslexia or ADHD (for example), or have a social anxiety disorder or social phobia;
- If you feel like your performance in the class is being impacted by your experiences outside of class;
- If something was said in class (by anyone, including the instructor) that made you feel uncomfortable;

Please speak to your teaching team, our school pastoral officer, Ms Christina Tee, or a peer or senior (either in-person or via email) about how we can help facilitate your learning experience.

As a participant in course discussions, you should also strive to honour the diversity of your classmates. You can do this by: using preferred pronouns and names; being respectful of others opinions and actively making sure all voices are being heard; and refraining from the use of derogatory or demeaning speech or actions.

All members of the class are expected to adhere to the NTU anti-harassment policy. If you witness something that goes against this or have any other concerns, please speak to your instructors or a faculty member.

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Last Updated By: Natasha Bhatia (Dr)