2023-2024

221.4004 – Population Ecology
Semester B

Time: 08:30-10:00, Mondays, Room 223, Multifunctional building

Instructor: Dr. Yuval Itescu, **Email:** yitescu@univ.haifa.ac.il

Office Hours: Upon request via email, Room 240/2 Multifunctional Building

Teaching Assistants & Office Hours:

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Course Level: M.Sc.

Course Type & Format: Lectures and student presentations

Number of Hours/Credits: 2 credit points

Prerequisites: Basic ecology and statistics courses

Course Overview (Short Abstract): Population ecology is a fundamental field within ecology that explores the dynamics, interactions, and characteristics of populations within ecosystems. This course provides a comprehensive overview of the principles, theories, and practical applications of population ecology. Students will delve into the basic concepts of population ecology, including population dynamics, demography, and life-history theory. Furthermore, they will examine the various interactions occurring within and between species, both trophic and non-trophic, and explore the methodologies used in the study of population ecology and the field's practical applications.

Learning Outcomes (What are the skills, abilities, or major concepts students will acquire in this course?) - At the end of the course students will be able to:

1. Demonstrate understanding of fundamental concepts in population ecology
2. Understand population dynamics and their regulation
3. Evaluate the complex interactions occurring within ecosystems and their implications
4. Apply population ecology principles in research
5. Understand how population ecology principles are applied in real-world scenarios

Assessment (Assessment Method and Grade Composition):

Final assignment – written report (55%)
Final Assignment – presentation in class (45%)
Bonus – active participation in discussions (5%)

Week-by-Week Content and Activities:

Week #	Topic	Activity
1	Introduction to population ecology	Lecture
2	Population dynamics	Lecture
3	Population demography and life-history theory	Lecture
4	Intraspecific interactions	Lecture
5	Non-trophic interspecific interactions	Lecture
6	Trophic interspecific interactions	Lecture
7	Population ecology applications in research and practice	Lecture
8-11	Final assignments - examining case studies	Student presentations

Website: Moodle website

Reading List:

1. Vandermeer, J. H., & Goldberg, D. E. (2013). Population ecology: first principles. Princeton University Press.
2. Rockwood, L. L., & Witt, J. W. (2015). Introduction to population ecology. 2nd Ed. John Wiley & Sons.
3. Murray, D. L., & Sandercock, B. K. (2020). Population ecology in practice. John Wiley & Sons.