

**metod4056 20 – Research Methods in Marine Biology A (2 points,**

2020-2021)

**Semester B**

**Course Schedule: Thursday**

Research in Marine Biology A will aim to familiarize students with some fundamentals of climate change and its effects on marine organisms. In addition, in this part will also be used to identify important scientific questions and objectives and to design the independent research projects for Research Methods in Marine Biology B. Students will be introduced to diverse methodology that will be used in this course. At the end of the semester, we will conduct a field survey and sample collection needed for the different research projects. The students will be expected to design their projects, present it, and write a proposal.

Date	lectures
04/03/2021	Introduction to the course/introduction to climate change in marine environments
11/03/2021	Overview on course organisms/ experimental design
18/03/2021	Define project objectives and design research projects in groups/How to write a research p
22/04/2021	Proposal defense Presentations (15 minute presentation + 15 minutes questions/ group) Each student grades and provides feedback to all groups on presentations
29/04/2021	Introduction to DNA and PCR
06/05/2021	Introduction to RNA
13/05/2021	Introduction to marine sampling methods
20/05/2021	Introduction to Photosynthesis
26-27/5/2021	Field sampling at Sdot Yam
03/06/2021	Introduction to qPCR
10/06/2021	Introduction to chromatography
15-16/6/2021	Backup field sampling: Sdot Yam
20/6/2021	Submission of final written proposal

**Instructors:**

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**Office Hours:**

Tal: With advance coordination Multipurpose building.

Tali: With advance coordination Multipurpose building room #269.

**Teaching Assistants & Office Hours:**

Tal Zvi-Kedem, [tal.zvi.kedem@gmail.com](mailto:tal.zvi.kedem@gmail.com) room hours

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**Course Type: lectures, lab and field work**

**Course Level: M.Sc.**

**Pre-Requisites:**

This course should be taken at the same year as Research methods in Marine Biology B.

**Course Overview:**

In this course we teach advanced research methods in Marine biology and oceanography by guiding the students in field work at the Mediterranean-sea and lab work at the University of Haifa. The students will define a research question and present a research proposal that will include their plan for field sampling (methods and sites) and the subsequent lab work to analyze the samples. They will set up and prepare their sampling equipment and research tools according to their research design. They will then execute their research proposal on site, during a two days field campaign that will include a marine survey and sample collection at the Mediterranean coast,

by scuba diving or on board a research cruise. At the end of the course the student will submit a research proposal

**Topics:**

1. Ecology and ecosystems
2. The effect of environmental changes on marine ecology and biology.
3. Marine Survey techniques.
4. Sample collection on site.

**At the end of the course students will be able to: [Learning Outcomes]**

1. Define a focused research question and hypothesis.
2. Design a research approach to test the hypothesis.
3. Plan and prepare a marine survey and marine sample collection.
4. Execute a marine survey and sample collection successfully.

**Requirements**

100% Attendance

**Grading:**

20% Research proposal: presentation.

20% Research proposal: written.

40% Field work.

20% attendance and participation.

**Website:** [Moodle](#)



