

Dating Methods for Quaternary and environmental research
Lecturer: Revital Bookman

The course is intended for Earth Science, Maritime Civilization, Geography and Archeology graduate students and undergraduate 3rd year. The course will present the concept of time and dating and its use to study changes in time. We will start with an overview on the geological timetable, dating materials, and different dating approaches. We will explore the methods used for dating in terrestrial, lacustrine and marine environments, explain the basic concepts of relative dating in the field and using archeological artifacts and move to radioactivity and radiometric dating. Emphasis will be given on Quaternary dating methods as Radiocarbon, OSL, and U-series. We will also explore the use of $\delta^{18}\text{O}$ wiggle matching, dendrochronology, tephrochronology, paleomagnetism, and varve records, and discuss the use Lead-210 dating and nuclear experiments and disasters as chronological markers for environmental reconstructions. The students will be required to discuss case studies based on their research interest.
