

Study Programme: MSc Biology		
Course Unit Title: Palynology		
Course Unit Code: MBIO20		
Name of Lecturer(s): Ass. Prof. Bojana Bokić, PhD; Assoc. Prof. Miloš Ilić, PhD; Predrag Radišić, PhD		
Type and Level of Studies: Master academic studies		
Course Status (compulsory/elective): Elective		
Semester (winter/summer): Summer		
Language of instruction: English		
Mode of course unit delivery (face-to-face/distance learning): Face-to-face		
Number of ECTS Allocated: 7		
Prerequisites: Systematics and phylogeny of higher plants 1, Systematics and phylogeny of higher plants 2, Plant Ecology		
<p>Course Aims:</p> <p>To ensure the students attains comprehensive understanding of pollen morphology, structure, function and development. To introduce the student to the various disciplines of palynology (including the definition of disciplines, methods, previous findings, and application). To develop practical skills in sampling methods, samples analyses, data processing techniques used in palynological research.</p>		
<p>Learning Outcomes:</p> <p>Upon completion of the course, students will be able to independently sample, characterize, and identify pollen. This course provides the foundational knowledge required for enrollment in advanced and specialized courses in the field.</p>		
<p>Syllabus:</p> <p><i>Theory</i></p> <p>Definition of palynology, its historical development, major disciplines, and application. Morphology (structure, polarity, size, shape, apertures, exine surface features, and special characteristics), function, development and ecology of pollen grains. Pollen in taxonomy, zoopalynology, melissopalynology, aeropalynology, paleopalynology. Overview of the results from several palynological disciplines: definitions, historical background, applications, methodologies, and interpretation.</p> <p><i>Practice</i></p> <p>Employment of light microscopy techniques in palynology: examination of samples and pollen as the primary subject, optical sections of the pollen grains, and usage of digital camera. Isolation of the pollen grains from the different flower types, preparation of microscope slides, pollen morphology (structure, polarity, size, shape, apertures, exine surface features, special characteristics, polar and equatorial perspective, and various optical sections). Use of scanning electronic microscopy in palynology: preparation of the samples, observation of the characters and recording the SEM images. Basic methods in palynological disciplines (taxonomy, aeropalynology, entomopalynology, melissopalynology, paleopalynology). Techniques of isolation, preparation of microscope slides, sample analyses, calculating the concentration and representation of pollen.</p>		
<p>Required Reading:</p> <ol style="list-style-type: none"> 1. Hans-Jürgen, B. (2021): Leitfaden der Pollenbestimmung für Mitteleuropa und angrenzende Gebiete. Verlag Dr. Friedrich Pfeil, München. 2. Ricciardelli D'Albore, G. (1997): Textbook of melissopalynology. Apimondia Publishing House, Bucharest. 3. Relevant scientific paper, Pollen Atlases, and available Databases. 		
Weekly Contact Hours:	Lectures: 3	Practical work: 0+5

Teaching Methods:

Individual work, group work, microscopy examination and analyses, laboratory work

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Colloquia	50	written exam	50