Course Unit Descriptor

Study Programme : Bachelor of Science in Biology
Course Unit Title: Plant Anatomy and Morphology
Course Unit Code: OB005
Name of Lecturer(s): dr Jadranka Lukovic, dr Lana Zoric
Type and Level of Studies: Bachelor's studies
Course Status (compulsory/elective): compulsory
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: 8
Prerequisites: -
Course Aims: Getting knowledge about morphological and anatomical structure of plant organs, as well as about plant reproduction
Learning Outcomes: Knowledge from this field is the basis for other botanical disciplines. After succesfully finishing pre-exam and exam obligations, students will be able to: - clearly differentiate origin, structure and function of meristematic and permanent tissues - describe structure and function of vegetative and reproductive plant organs - understand mutual structural-functional compliance of plant organs and organizm in a whole - understand relation between plant structure and environmental conditions - understand relation between plant structure and its systematic position - explain types of plant reproduction and life cycles
Syllabus: *Theoretical part* – Embryo. Ontogeny, function and classification of meristematic and permanent tissues (parenchyma, mechanical, dermal, vascular and secretory tissues). Stomata – formation and types. Formation of lateral meristems. Ontogeny of tracheidal and sieve elements. Anatomical structure of vegetative organs (root, stem, leaf) and their metamorphoses. Atypical thickening. Anatomical structure of reproductive organs: flower, seed and fruit. Morphological structure of plants. Morphology of vegetative organs and their metamorphoses. Types of plant reproduction: asexual and sexual, alternation of generations. Life cycle of mosses, ferns and seed plants. Reproduction of angiosperms – flower, inflorescences, pollination, fertilization, formation of seed and fruit, fruit classification. Seed and fruit dispersion. *Practical part* – Embryo. Apical and lateral meristems. Permanent tissues: parenchyma, mechanical, dermal, vascular and secretory tissues. Primary and secondary structure of root and stem. Stem structure: mosses, clubmoss, horsetails, ferns, gymnosperms and angiosperms. Stem structure of aquatic plants. Leaf anatomical structure: ferns, gymnosperms, dicots and monocots. Anatomy of heliomorphic and sciomorphic leaves. Anatomy of xeromorphic and hidromorphic leaves. Anatomical structure of sepal, petal, anther and ovary, seed coat and pericarp. Shoot morphology (stem and leaf). Shoot metamorphoses. Root morphology. Root metamorphoses. Morphology of reproductive organs. Flower (parts, flower formulas and diagrams). Inflorescences (types, classification). Seed and fruit (parts, classification).
Required Reading: Evert, F.R. (2006): Esau´s Plant Anatomy. John Wiley & Sons, Inc., Publication Luković, J., Zorić, L. (2013): Morfologija biljaka. Symbol, Novi Sad. Dickison C. W. (2000): Integrative Plant Anatomy, Harcourt academic press, New York, London. Fahn, A. (1990): Plant Anatomy. Pergamon Press. London.

Weekly teaching load:	**Lectures**: 4	**Practical lectures**: 3
Teaching methods: lectures, practical work, consultations		

Evaluation of knowledge (maximum score 100)			
Pre-exam obligations	Points	**Final exam**	Points
Colloquia	30	Oral exam	50
		Practical exam	20