Study Programme : Biology Professor

Degree level: Bachelor degree

Course Title: Plant Anatomy and Morphology

Professor: dr Jadranka Lukovic, dr Lana Zoric

Required/Elective Course: Recquired Course

Number of ECTS: 8

Prerequisites: -

Course Objective: Getting knowledge about morphological and anatomical structure of plant organs, as well as about plant reproduction

Course Outcome: Knowledge from this field is the basis for other botanical disciplines. Knowledge of morphological and anatomical characteristics of plants gives basis for better understanding of:

- structure and function of plant organs, mutual structural-functional compliance of plant organs and organizm in a whole.
- compliance of plant structure and environmental conditions
- compliance of plant structure and its systematic position
- types of plant reproduction and life cycles

Course Content:

Theoretical part – Histology – tissue classification. Meristematic tissues. Permanent tissues: parenchyma, mechanical, dermal, vascular and secretory tissues. Organography. Anatomical structure of vegetative organs (root, stem, leaf) and their metamorphoses. Anatomical structure of reproductive organs: flower, seed and fruit. Morphological structure of plants. Embryo. Morphology of vegetative organs and their metamorphoses. Types of plant reproduction: asexual and sexual, alternation of generations. Reproduction of angiosperms – flower, inflorescences, pollination, fertilization, formation of seed and fruit, fruit classification. Seed and fruit dispersion.

Practical part – 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. Anatomical structure of sepal, petal, anther and ovary, seed coat and pericarp. Dicot and monocot embryo. 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).

Reading List:

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.

Total hours:				
Lectures: 3	Practicals: 3	Other:	Student research work:	

Methods of instruction: lectures, exercises, consultations

Assessment (maximum number of points 100)

Requirements	**points**	**Final exam**	**points**
Active participation in lectures	-	Oral exam	50
Active participation in practicals	-	Practical exam	20
Colloquia	30		
Pre-exam testing			

Remark: