VYTAUTAS MAGNUS UNIVERSITY
M C M X X I I

TITLE OF THE COURSE:	Anatomy, Morphology and Systematics of Embriophytes
Course code:	BIO1006
Course group:	C
Faculty:	Natural Sciences
Study program:	Biology and Genetics
Level:	*Bachelor*
Semester:	*Spring*
ECTS credits:	5
Language of instruction	English
Course lecturer/s:	E. Kupcinskiene L. Jociene
***Short course description*:**	Introduction to botany. Reproduction of embriophytes. Diversity of structure of plant cells. Main tissues: meristems, dermatal, mechanical, parenchymic tissues, phloem, xylem, secretory. Organs of plant body: the root, the shoot, the leaf, the flower, the inflorescence, the seed, the fruit. Classification of plants: historical and novadays methodology. An overview of green plant phylogeny. Plant systematic ranks and taxons. Bryophytes. Seedless vascular plants. Seed plants. Gymnosperms. Historical and APG classifications of angiosperms. Plants and environment. Plants and people.
Course content:	1. Introduction to embryophyte biology: history, problems and perspectives. 2. Historical aspects of classification of plant kingdom and nowadays methods. The ranks and taxons in plant classification 3. Plant cell structural properties and distinctive features from the other plants 4. Classification of plant tissues. Meristemic, dermatal tissues 5. Mechanical tissues and parenchyma. External and internal secretory systems 6. Vascular tissue. Xylem. Phloem. Stele 7. Pollen internal and external structure. Palinology 8. External and internal structure of the seeds and seedlings. 9. Homologic and analogic organs. Organ metamorphosis. Morphology and anatomy of the roots and the stems. 10. Morphology and anatomy of the leaves. The flower. The inflorescence. 11. Comparative characteristic of land plants. Liverworts. Mosses. Hornworts 12. Lycophytes, euphyllophytes 13. Spermatophytes: comparative characteristic. Gymnosperms:

	structure, classification, representatives. 14. Core dicots, eudicots, their classification and typical representatives 15. Monocots, their classification and typical representatives
Grading and evaluating student work in class and/or at the final exam:	Final examination (50%), mid-term examination (17%), essay (10%), and assessment of laboratory work (23%).
Required reading and additional study material	1. Judd W.S., Campbell C.S., Kellogg E.A., Stevens P.F., Donoghue M.J. Plant Systematics. A Phylogenetic Approach. 2008. 3rd ed., Sinauer Associates 2. Simpson M.G. Plant Systematics. 2010. Academic Press; 2nd ed. 3. Mauseth J.D. Botany: An Introduction to Plant Biology 2008. 4th ed. Jones and Bartlett Publishers 4. Evert R. Esau's Plant Anatomy. 2006. John Wiley and Sons, New York 5. Study materials provided by lecturers
Additional information (if applicable)	