Course title	***Methodology of experimental research***
Course code	***Biol6008***
Credit points	4
ECTS creditpoints	6
Total Contact Hours	

Course developer (s)
Nataļja Škute Antoņina Žilinska Inese Kokina

Prerequisite knowledge
Biol1038, Current issues in biology I

Course abstract:
Experimental methods of research in biology and the history of the methods development. Pilot studies, the general principles: Randomisation (by accident), replication and pseudoreplication, control. Biological process modeling principles. Laboratory research methods. Research methods for plant cell biology. Research methods in physiology. Ecological experiments methodology.

Compulsory reading:
1.Plant Gene Isolation. Principles and practice. Ed. by G.D. Foster and D.Twell. John Wiley& Sons New York, 1996 425.p 2.Quinn G.P. Keough M.J. Experimental Design and Data Analysis for Biologists. Cambridge University Press; 1st edition 2002 3.Scheiner S.M., Gurevitch J. Design and Analysis of Ecological Experiments. Oxford University Press; 2nd edition, 2001, 432 p. 4.Мортон Д.,Хеллер П. Физиология седечнососудистой системы – Сан-Питербург,2000, стр.256
Further reading:
Klaus Hinkelmann (2012) Design and Analysis of Experiments, Design and Analysis of Experiments (Wiley Series in Probability and Statistics) (Volume 3), Wiley, 624 pages

Periodicals and other sources
Perodika: Acta Biologica Universitatis Daugavpilensis; Oikos; DU abonētās datu bāzes: Cambridge Journals Online; EBSCO; Science Direct; Springer Link