Course Title	***Graph Theory***
Number of Lectures	*34*
Number of Seminars	*34*
Language of the Course	*English*
Name of the Lecturer, occupation, scientific degree	*Associate Professor Yury Orlovich, PhD in Discrete Mathematics and Mathematical Cybernetics*
Lecturer's personal page	*http://www.bsu.by/ru/main.aspx?guid=87291*
Goals	*To present a coherent introduction to the structural and algorithmic graph theory with an emphasis on the computational complexity of graph problems.*
Prerequisites	*Preliminaries on Discrete Mathematics and Combinatorics. No previous knowledge of Graph Theory is assumed.*
Contents	*An introduction to graphs; Trees and connectivity; Independence, coverings, and domination in graphs; Matchings and factorization; Planar graphs; Eulerian and hamiltonian graphs; Graph colorings; Digraphs.*
Teaching methodology	*Lectures, seminars.*
Recommended literature	*1. J.A. Bondy, U.S.R. Murty, Graph Theory, Springer, Berlin, 2008.* *2. G. Chartrand, L. Lesniak, Graphs and Digraphs, Chapman & Hall/CRC, 2005.* *3. G. Chartrand, O.R. Oellermann, Applied and Algorithmic Graph Theory, McGraw-Hill, 1993.* *4. O.I. Melnikov, R.I. Tyshkevich, V.A. Yemelichev, V.I. Sarvanov, Lectures on Graph Theory, B.I. Wissenschaftsverlag, Mannheim, 1994.* *5. O.I.Melnikov, V.I Sarvanov, R.I. Tyshkevich, V.A. Yemelichev, I.E. Zverovich, Exercises in Graph Theory, Kluwer Academic Publishers, Dordrecht, 1998.* *6. D.B. West, Introduction to Graph Theory, Prentice Hall, 1996.*
Examination methodology	*Written examination (with problems solving).*
Recommended for	*Advanced under-graduate and beginning graduate students in mathematics and computer science.*