



### The content of the subject:

The aim of the subject is to get acquaintance with some advanced and non-standard methods of analysis (fuzzy logic, neural network, genetics algorithms and theory of chaos) and simulation techniques in economy and finance by the method of explanation of these theories to become familiar with these theories and their use. The obtained knowledge and skills of the subject will enable the graduates the top and advanced access in the processes of analyses and simulation in the national economy and private sector, organizations, firms, companies, banks etc., especially in managerial, but also in business, economical and financial sphere enabling to cover up the international relations and conjunction.

### The aim of the subject:

To provide students with knowledge and understanding of advanced analyses and simulation in business and economy.

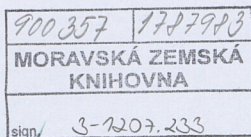
To describe students the theory of fuzzy logic, neural network, genetic algorithm and chaos.

To present the use of the above mentioned methods in business and economy.

To train, equip and develop management skills in using the above mentioned methods in practice for decision making process.

### Content

1	Introduction .....	3
2a	Fuzzy logic .....	5
2b	Fuzzy logic and its application .....	6
3a	Neural network .....	28
3b	Neural network and its use .....	30
4a	Genetics algorithm .....	47
4b	Genetics algorithm and its use .....	49
5	Theory of chaos .....	61
6	Simulation .....	68
7	The branches of application .....	75
	Literature .....	79



Reviewer: Prof. Ing. Karel Rais, CSc, MBA

Language correction: Mgr. Hana Ševečková, MA.