4IZ631 INTELIGENTNÍ SYSTÉMY

Course code	4IZ631
Course title in language of instruction	Inteligentní systémy
Course title in Czech	Inteligentní systémy
Course title in English	Intelligent Systems
Mode of completion and number of credits	Exam ECTS (3 credits) One ECTS credit corresponds to 26 hours of workload for an average student.
Type of course	Daily attendance: 2/0 (hours of lectures per week / hours of seminars per week)
Language of instruction	Czech
Level of course and year of study	master continuing: 1
Semester	Sklad FIS – FIS
Name of lecturer	prof. Ing. Petr Berka, CSc. (supervisor)
Prerequisities	none

Aims of the course

Intelligent systems are artificial, computer driven systems designed for solving the problems, whose complexity requires human brainpower. To reach human abilities, these systems combine both knowledge-based and model-based techniques.

The goal of the course is to introduce principles of intelligent systems and
teach students basic approaches used in this field. These approaches are based on problem solving strategies, knowledge representation and reasoning, uncertainty processing, learning and cooperation.

Learning outcomes and competences

Upon successful completion of this course, students will be able to

- explain basic approaches to problem solving using state space

- describe different decision strategies

- explain knowledge representation and reasoning methods

- describe methods for expressing uncertainty

- explain basic principles of machine learning and adaptation

- describe approaches to building agent systems

- assess the usability of intelligent approaches for solving real-world problems

Course contents

Teaching methods and student workload

	Hours of workload
Type of teaching method	**daily attendance**
Participation in lectures	26
Preparation of term paper	22
Preparation for final test	30
Total	**78**

Assessment methods

Requirement type	Weight daily attendance
Active lecture/seminar/workshop/tutorial participation	10 %
Term paper	20 %
Final test	70 %
Total	**100 %**
Special requirements and details: none	

Recommended reading

Type*	Author	Title	Published in	Publisher	Year	ISBN
R	BERKA, P.	Inteligentní systémy	Praha	Oeconomica	2008	978-80-245-1436-9
A	MAŘÍK, V. – ŠTĚPÁNKOVÁ, O. – LAŽANSKÝ, J. A. K.	Umělá inteligence. 1. díl	Praha	Academia	1993	8020004963
A	MAŘÍK, V. – ŠTĚPÁNKOVÁ, O. – LAŽANSKÝ, J.	Umělá inteligence. 2. díl	Praha	Academia	1997	8020005048
A	MAŘÍK, V. – ŠTĚPÁNKOVÁ O., – LAŽANSKÝ, J. A. K.	Umělá inteligence. 3. díl	Praha	Academia	2001	8020004726
A	MAŘÍK, V. – ŠTĚPÁNKOVÁ, O. – LAŽANSKÝ, J. A. K.	Umělá inteligence. 4. díl	Praha	Academia	2003	8020010440
A	MAŘÍK, V. – ŠTĚPÁNKOVÁ, O. – LAŽANSKÝ, J.	Umělá inteligence. (5)	Academia	2007		

* R – required reading, A – additional reading