

E – Charakteristika studijního předmětu/Subject Specification					
Název studijního předmětu / Subject title	Intelligent Robots				
Typ předmětu / Subject type	Obligatory elective		dopor. ročník / semester/ recommended year / semester	2/4	
Rozsah studijního předmětu / Study load in hours and credits		hod. za týden / weekly load	2/2	Kreditů / Credits	5
Jiný způsob vyjádření rozsahu / Other expression of study load	10 weeks, each 2 hours of lectures and 2 hours of seminary				
Způsob zakončení / Assessment	Examination		Forma výuky / Form of teaching	Lectures and labs	
Další požadavky na studenta / Other demands on students					
Vyučující / Lecturer					
Doc. Ing. Mgr. Václav Záda, CSc.					
Stručná anotace předmětu / Subject annotation					
<p>The subject is focused to the using of method of artificial intelligence in the area of robotics. There will be used the first-order predicate logic for the describing of logical situation which must be solved in cooperation with modern method of computer vision and speaking recognition with using other sensors for control and intelligent decides of robots. This subject uses student knowledge of the subject Robotics, from the previous study, where were defined all necessary notions and which can be therefore omitted. One of main problems is the study of optimal control and problems of obstacle representing in working area and its using in the trajectory planning. There will be studied problems of bio-robotics and humanoid robotics and social manners among mobile robots in this subject.</p>					
Informace ke kombinované nebo distanční formě / Information for students in external form of study					
Rozsah konzultací (soustředění) / Consultations, study meetings	2		hodin za týden / hours per week		
Rozsah a obsahové zaměření individuálních prací studentů a způsob kontroly / Individual student work – type, load, content and way of checking					
Type: theoretical or practical work in laboratory of robotics Load: 14 hours in laboratory Content: six individual thematically oriented works – programming of robots, building of robots with kit using Checking: Progress checking via work reports, complex checking at the end of course					
Studijní literatura a studijní pomůcky / Reading list and study utilities					
Schilling, R. J.: Fundamentals of Robotics. Analysis and Control. Prentice Hall, Englew. Cliffts, New Jersey, 1990. Zehnula, K.: Čidla robotů. SNTL, Praha, 1990. Abidi M. A.,Gondzales R. C.: Data Fusion in Robotics and Machine Vision. Academic Press, Harcourt Brace Janovich Publ., Boston, 1992. Haralick, R. M.- Shapiro, L. G.: Computer and Robot Vision. Volume I.(II).Addison Wesley, Reading, Ma, 1992 (93). Ayache, N.: Artificial Vision for Mobile Robots. The MIT Press, Cambridge, Massachusetts, USA, 1991. Glorioso R. M., Osorio F. C. Colon : Engineering Intelligent Systems. Digital Press-Digit. Equip. Corp. USA, 1980. Mařík, V. a kol.: Umělá inteligence, 1.-4. díl. Academia, Praha, 1993, 1997, 2000, 2003. Winston, P.: Artificial Intelligence, Addison-Wesley Publ. Co., Reading, Mass., second edition, 1992.					