

SYLLABUS / FIȘA DISCIPLINEI
1. Information on the study programme / Date despre programul de studii

1.1. Institution / Instituția de învățământ superior	Universitatea de Vest din Timișoara
1.2. Faculty / Facultatea	Matematică și Informatică
1.3. Department / Departamentul	Computer Science (Informatică)
1.4. Study program field	Computer Science (Informatică)
1.5. Study cycle/ Ciclul de studii	BA / Licență
1.6. Study programme / Programul de studii / calificarea*	Computer Science : <i>Database administration / Administrator baze de date - 252101; Computer network administration / Administrator de rețea de calculatoare - 252301; Analyst / Analist - 251201; Research assistant in computer science / Asistent de cercetare în informatică - 214918; Teacher in secondary schools / Profesor în învățământul gimnazial - 233002; Programmer / Programator - 251202; Software systems designers / Proiectant sisteme informatice – 251101</i>

2. Information on the course / Date despre disciplină

2.1. Title of the course / Denumirea disciplinei	Intelligent Systems						
2.2. Teacher in charge of the course / Titularul activităților de curs	Lector. Dr. Gabriel Iuhasz						
2.3. Teacher in charge of the seminar / Titularul activităților de seminar	Lector. Dr. Gabriel Iuhasz						
2.4. Study year / Anul de studii	III	2.5. Semester / Semestrul	2	2.6. Examination type / Tipul de evaluare: E(xam)/C(olloquim)	C	2.7. Course type / Regimul disciplinei: M(andatory)/ E(lective)/ F(acultative)	E

3. Estimated study time (number of hours per semester) /Timpul total estimat (ore pe semestru al activităților didactice)

3.1. Attendance hours per week / Număr de ore pe săptămână	3	out of which din care: 3.2 lecture/ curs	2	3.3. seminar/laborator	1
3.4. Attendance hours per semester / Total ore din planul de învățământ	42	out of which: 3.5 lecture / curs	28	3.6. seminar/laborator	14
Distribution of the allocated amount of time / Distribuția fondului de timp*					hours/ore
Individual study /Studiu după manual, suport de curs, bibliografie și notițe					40
Supplementary documentation at library or using electronic repositories / Documentare suplimentară în bibliotecă, pe platformele electronice de specialitate					20
Preparing for laboratories, homework, reports etc. /Pregătire seminarii/laboratoare, teme, referate, portofolii și eseuri					40
Exams / Examinări					10
Tutoring / Tutorat					10

3.7. Total number of hours of individual study / Total ore studiu individual	120
3.8. Total number of hours per semester / Total ore pe semestru	162
3.9. Number of credits (ECTS) / Număr de credite	6

4. Prerequisites (if it is the case) / Precondiții (acolo unde e cazul)

4.1. curriculum / de curriculum	Artificial Intelligence
4.2. skills / de competențe	Java programming, Python programming

5. Requirements (if it is the case) / Condiții (acolo unde e cazul)

5.1. for the lecture / de desfășurare a cursului	Room with blackboard and video projector
5.2. for the seminar, laboratory / de desfășurare a seminarului/laboratorului	Laboratory with computers (Jade and Jess installed), SPADE for python

6. Acquired skills / Competențe specifice acumulate

Professional skills / Competențe profesionale	<ul style="list-style-type: none"> - Ability to indentificate complex problems solvihg methods - Ability to analyse and design Agent based and simple multi-agent applications - Ability to implement and validate Agent based applications
Transversal skills / Competențe transversale	<ul style="list-style-type: none"> - Cappacity to communicate knowledge about Artificial Intelligence and Agent based modeling - Capcity to apply knowledge in different domains

7. Objectives of the course / Obiectivele disciplinei (reieșind din grila competențelor specifice acumulate)

7.1. General objective / Obiectivul general al disciplinei	<ul style="list-style-type: none"> • Theoretical and experimental approach concerning parallel and distributed computing in Intelligent systems • Study of agent based models and architectures
7.2. Specific objectives / Obiectivele specifice	<ul style="list-style-type: none"> • Developing applications based on agent models

8. Content / Conținuturi*

8.1. Lecture / Curs	Teaching strategies / Metode de predare	Remarks, details / Observații
C1-2. Artificial Intelligence and Agent based modeling	University lecture, conversation, example	Biblio : slides

9. G. Weiss, eds. Multi-Agent Systems. A modern approach to Distributed AI, The MIT Press, 1999.
10. G. F. Luger, W. A. Stubblefield - Artificial intelligence and the design of expert systems, Benjamin/Cummings Pbs., 2005
11. T. Ishida - Parallel, Distributed and Multiagent Production Systems, Springer Verlag, 1994
12. R. Englemore, T. Morgan - Blackboard systems, Addison Wesley, 1988
13. H. Kitano, J. A. Hendler - Massively Parallel Artificial Intelligence,
14. MIT Press, 1994
15. M. Watson - Intelligent Java applications for the Internet and intranets, Morgan Kaufmann, 1997 (sau versiunea in romana, ed. ALL, 1999)
16. M. Wooldridge, N. R. Jennings - Intelligent agents: Theory and practice, Knowledge engineering review, 1995
17. *** IEEE - Intelligent systems
18. *** Autonomous Agents and Multi-Agent Systems, Kluwer Academic Pbs.
19. J. Giarratano, G. Riley - Expert Systems: Principles and Programming, PWS Pbs. Comp., ITP, 4th edition, 2005
20. Ernest Friedman-Hill - Jess in action. Java rule-based systems, Manning Publ. Co., 2003

8.2. Seminar, lab / Seminar, laborator	Teaching/learning strategies / Metode de predare/ învățare	Remarks, details / Observații
Parallel algorithms and architectures for rule based systems Expert systems / MAS developed on: Clips, Jess, FuzzyJess, GBB, BBClips, JADE, OAA, Cougaar etc.	Use of interactive teaching aids through moodle (elearning platform).	
Developing of agent based AI systems	Use of interactive teaching aids through moodle (elearning platform).	
Developing Multi-agent AI systems	Use of interactive teaching aids through moodle (elearning platform).	

Recommended bibliography / Bibliografie		
1.		

9. Correlations between the content of the course and the requirements of the IT field / Coroborarea conținuturilor disciplinei cu așteptările reprezentanților comunității epistemice, asociațiilor profesionale și angajatorilor reprezentativi din domeniul aferent programului

10. Evaluation / Evaluare*

Activity / Tip de activitate	10.1. Evaluation criteria / Criterii de evaluare**	10.2. Evaluation methods / Metode de evaluare***	10.3. Weight in the averaged mark / Pondere din nota finală
10.4. Lecture / Curs	Theoretical and practice knowledge evaluation	Write exam / Project / Report	50%
	Periodic evaluation	Tests, Home work	20%
10.5. Seminar/ lab	Labs and homework evaluation	Computer tests; Home work	30%
10.6. Minimal knowledge for passing / Standard minim de performanță			
<ul style="list-style-type: none"> Course: The capacity to understand basic concepts of agency based systems and the capacity to understand basic principles to implement intelligent agents. Lab.: Middle level Agent based problem solving 			

Date/ Data completării

Signature (lecture) /
Semnătura titularului de curs

Signature (seminar)
Semnătura titularului de seminar

Signature (director of the department)
Semnătura directorului de departament