

FIȘA DISCIPLINEI

Denumirea disciplinei :		ARTIFICIAL INTELLIGENCE IN COMPUTER GAMES			
Codul disciplinei:					
Programul de studii:		Advanced Computer Systems – Master			
Catedra:		Computer Science and Automatic Control			
Facultatea:		"Hermann Oberth" Engineering Faculty			
Universitatea:		„Lucian Blaga” University of Sibiu			
Anul de studiu:	1	Semestrul	2	Tipul de evaluare finală	E
Regimul disciplinei (DI=obligatorie/ DO=opțională/DF=liber aleasă):			DI	Numărul de credite:	10
Categoría formativă a disciplinei (DF=fundamentală.; DI=ingineresci; DS=specialitate; DC=complementară)					DS
Total ore din planul de învățământ	70			Total ore pe semestru:	70
Titularul disciplinei: Prof. Dr. Ing. Daniel VOLOVICI					

Numărul total de ore (pe semestru) din planul de învățământ					
Total ore/ semestru	C	S	L	P	Total
	42		28		70

Obiective:	The goal of this course is studying of the used techniques in projecting and developing of computer games and how to create different elements who compose a computer game: user interface, 2D and 3D objects and artificial intelligence application for games.
Competențe specifice disciplinei	<p>1. Knowledge and understanding:</p> <ul style="list-style-type: none"> • Knowledge and understanding the general principles for the subject • Knowledge and work adequately with notions • Attainment capacity for integrate obtained knowledge from others classes • Identity the main information sources <p>2. Explication and interpretation:</p> <ul style="list-style-type: none"> • Critical analysis form theoretical models, ideas and usually used broach. • Capacity to realized a concrete project and a afferent report • Develop ability of individually research <p>3. Instrumental – aplicative</p> <ul style="list-style-type: none"> • Knowledge and working with usually used tools • Designed and projection at different level of abstraction • Using several strategies, methods, techniques of implementation and evaluating in the developed process.

4. Atitudinale:

- Integration for working into a team at a large projects
- Stimulation moral attitude and fairness in evaluating and auto evaluating.
- Appreciation of work into a team and a work of each member from the team.
- Responsibility vis a vis of team results

Conținutul tematic (descriptori)	Analytical program of the course		
	Nr. crt.	Name	Nr. ore
	1.	Introduction. Games design. Concepts of games. Games clasification.	3
	2.	Games structure	3
	3.	Elements of mathematical theory of games.	3
	4.	Games programming basis.	3
	5.	3D games engines	6
	6.	Artificial intelligence techniques for games programming	6
	7.	Games implementation for Internet	3
	8.	Scenography basics	3
	9.	Commercial programs of games	6
	10.	Game testing and repairing	3
	11.	Case studies: computer chess	1.5
	12.	Case studies: backgammon	1.5
	Analytical program of laboratory and project		
	1.	DirectX	4
	2.	DirectSound Interface	4
	3.	Application programming qith Direct3D	4
	4.	Artificial intelligence algorithms for games programming	4
5.	Hash Tables	4	
6.	Animation	4	
7.	Computer chess	4	

Metode de predare / seminarizare	Lecture, problems, disquisition, drills, debates and conversation
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Stabilirea notei finale (procentaje)	- Final exam	50
	- Activity developed at laboratory	30
	- Activity developed at project	
	- Homework	15
	- other activities (classes presence)	5
	- TOTAL	100%

Final evaluation is made based on final exam that contains maximum 40% theory and 60% resolving from theoretically point of view a given problem.

Requirement for note 5

Knowing based notions form artificial intelligence. Understanding elementary notions from AI theory.

Requirement for note 10

Capacity to reproduce and demonstrate deepens knowledge at discipline level after evaluating.

TOTAL ore studiu individual (pe semestru) = 63

Bibliografia	<p>Minimală obligatorie:</p> <ul style="list-style-type: none"> • David M. Bourg, Glenn Seeman – AI for Game Developers, publisher: O’Reilly, Julz 2004 • Mat Buckland – AI Techniques for Games, publisher: Premier Press, 2002, ISBN: 193184108X • Mike McShaffry – Game Coding Complete, publisher: Paraglyph Press, 2003, ISBN: 1932111751 <p>Complementară:</p> <ul style="list-style-type: none"> • Roger E. Pedersen – Game Design Foundations, publisher: Worlware Publishing, 2003, ISBN: 1556229739 • Tom Miller – Beginning 3D Game Programming, publisher: Sams Publishing, 2004 • Peter Walsh – Advanced 3D Game Programming with DirectX 9.0: publisher: Worldware Publishing, 2003, ISBN: 1556229682
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List of didactical material used in teaching process:

- Computer networks
- internet
- access at bibliography

	Grad didactic, titlul, prenume, numele	Semnătura
Discipline titular	Prof. Dr. Ing. Daniel VOLOVICI	