uc3m Universidad Carlos III de Madrid

Vicerrectorado de Estudios Apoyo a la docencia y gestión del grado

COURSE: Quantitative Models and Methods in Management II		
DEGREE: Bachelor in Industrial Technology Engineering	YEAR: 4	TERM: 2

	WEEKLY PLANNING								
	s		TEACHING (mark X)		SPECIAL ROOM	WEEKLY PROGRAMMING FOR STUDENT			
W E E K	E S I O N	DESCRIPTION	L E C T U R E S	S E M I N A R S	FOR SESSION (Computer class room, audio-visual class room)	DESCRIPTION	CLASS HOURS (1,66=50+50 min)	HOMEWORK HOURS (Max. Estim. 6,5h)	
1	1	General course presentation				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	- 6,5	
_	2	Introduction to simulation, general concepts, stochastic variables				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66		
2	3	Model input. Statistical distributions I				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	6,5	
2	4	Model input. Statistical distributions II				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	6,5	
3	5	Parameter estimation. Curve fitting				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	- 6,5	
3	6	Chi square test in practice I			II OMN I AN	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	6,5	

	WEEKLY PLANNING									
	s		TEACHING (mark X)		SPECIAL ROOM	WEEKLY PROGRAMMING FOR STUDENT				
W E E K	E S I O N	DESCRIPTION	L S FOR SESSION E E (Computer C M class room, T I audio-visual U N class room) R A E R S S	DESCRIPTION	CLASS HOURS (1,66=50+50 min)	HOMEWORK HOURS (Max. Estim. 6,5h)				
4		Chi square test in practice II. Random number and random variable generation			Comp. Lab	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	- 6,5		
4	8	Witness programming introductory notions			Comp. Lab	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66			
5	9	Basic model programming in Witness I			Comp. Lab	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	- 6,5		
3	10	Basic model programming in Witness II			Comp. Lab	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66			
6	11	Study of a system. Model programming I			Comp. Lab	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	- 6,5		
8	12	Study of a system. Model programming II			Comp. Lab	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66			
7	13	Study of a system. Model programming III			Comp. Lab	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	- 6,5		
	14	Model verification and validation. Result analysis I				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66			
8	15	Result analysis II				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	6,5		
0	16	Result analysis III. Scenario comparison				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66			

	WEEKLY PLANNING								
	S		TEACHING (mark X)		SPECIAL ROOM	WEEKLY PROGRAMMING FOR STUDENT			
W E E K	E S I O N	DESCRIPTION	L E C T U R E S	S E M I N A R S	FOR SESSION (Computer class room, audio-visual class room)	DESCRIPTION	CLASS HOURS (1,66=50+50 min)	HOMEWORK HOURS (Max. Estim. 6,5h)	
9		Experimentation with Witness and comparison of alternatives. Mid-term Exam (Approximate date)			Comp. Lab	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	6,5	
9	18	Introduction to Heuristic Techniques for Combinatorial Optimization problems.				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	6,5	
10	19	Tree-search algorithms:				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	6,5	
10	20	Breath-first and Depth-first			Comp. Lab	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66		
11	21	Tree-search algorithms:				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	- 6,5	
11	22	Hill-climbing and Best-first				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66		
12	23	Tree-search algorithms:				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	6,5	
12	24	Constraint Programming.				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66		
13	25	Traveling Salesman Problem			Comp. Lab	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	- 6,5	
13	26	Tree-search algorithms:				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66		

S	TEACI (mar			WEEKLY PROGRAMMING FOR S	TUDENT		
S	L		SPECIAL ROOM	WEEKLY PROGRAMMING FOR STUDENT			
S DESCRIPTION I O N	E C T U R E S	S E M I N A R S	FOR SESSION (Computer class room, audio-visual class room)	DESCRIPTION	CLASS HOURS (1,66=50+50 min)	HOMEWORK HOURS (Max. Estim. 6,5h)	
Branch & Bound				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	6,5	
Tree-search algorithms:				Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	0,3	
29 Traveling Salesman Problem with Genetic Algoritms			Comp. Lab	Active class participation. Study of assigned material. Solving the exercises assigned.	1,66	3,25	
Subtotal 1						94	
Total 1 (Hours of class plus student homework)						12	
15 Tutorials, handing in, etc 3,6 -							
Tutorials, handing in, etc					3,6	-	
Assessment					4	10	
Subtotal 2							
Total 2 (Hours of class plus student homework)							
27	Branch & Bound Tree-search algorithms: Traveling Salesman Problem with Genetic Algoritms Tutorials, handing in, etc	Branch & Bound Tree-search algorithms: Traveling Salesman Problem with Genetic Algoritms Tutorials, handing in, etc	Branch & Bound Tree-search algorithms: Traveling Salesman Problem with Genetic Algoritms Tutorials, handing in, etc	Branch & Bound Tree-search algorithms: Traveling Salesman Problem with Genetic Algoritms Comp. Lab	Branch & Bound Active class participation. Study of assigned material. Solving the exercises assigned. Active class participation. Study of assigned material. Solving the exercises assigned. Active class participation. Study of assigned material. Solving the exercises assigned. Comp. Lab Active class participation. Study of assigned material. Solving the exercises assigned. Traveling Salesman Problem with Genetic Algoritms Comp. Lab Total 1 (Hours of class plus student homework) Tutorials, handing in, etc Assessment	Branch & Bound Active class participation. Study of assigned material. Solving the exercises assigned. Tree-search algorithms: Comp. Lab Active class participation. Study of assigned material. Solving the exercises assigned. 1,66 Traveling Salesman Problem with Genetic Algoritms Comp. Lab Active class participation. Study of assigned material. Solving the exercises assigned. Active class participation. Study of assigned material. Solving the exercises assigned. Traveling Salesman Problem with Genetic Algoritms Comp. Lab Total 1 (Hours of class plus student homework) Tutorials, handing in, etc Assessment Subtotal 2	

TOTAL (Maximun 160 horas)