



COURSE: Decisions Analysis in Industrial Engineering		
DEGREE: Bachelor in Industrial Technology Engineering	YEAR: 4	TERM:1

WEEKLY PLANNING									
WEEK	SESSION	DESCRIPTION	GROUPS (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	Indicate YES/NO if the session needs 2 teachers	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS			DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	General course presentation				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	2
1	2	Introduction to decision analysis				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
2	3	Quantitative models for decision-making in industrial engineering				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
2	4	Decision trees				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	

3	5	Decision trees. Sensitivity analysis				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
3	6	Conditional probabilities				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	7
4	7	Conditional probabilities. Exercises of problem resolution				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
4	8	Utility functions				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	6
5	9	Exercises				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
5	10	Analytical utility functions				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	6
6	11	Exercises				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
6	12	Decision trees with continuous distributions				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	6
7	13	Exercises				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
7	14	Mid-term evaluation				NO	Mid-term evaluation. Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	6
8	15	Introduction to game theory. Basic definitions. Types of games				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
8	16	Examples of zero-sum bi-personal games				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	4
9	17	General concepts for zero-sum game resolution				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
9	18	Mixed strategies				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	5

10	19	Non zero-sum games				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	5
10	20	Exercises of problem resolution				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
11	21	Introduction to multicriteria decision making (MCDM). Goal programming				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	5
11	22	Problem formulation. Examples of MCDM problems				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
12	23	Goal programming graphical resolution				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	7
12	24	Exercises of problem resolution				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
13	25	Goal programming hands-on computer session				NO	Hands-on session. Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	7
13	26	Discrete MCDM. Non compensatory methods				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
14	27	Binary relationships between alternatives. Graphs				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	5
14	28	Problem resolution				NO	Active class participation. Study of assigned material. Resolution of assigned exercises.	1,66	
14	29	Partial evaluation				NO	Partial evaluation. Active class participation. Study of assigned material.	1,66	

							Resolution of assigned exercises.		
								48,33	75
								123,33	

15		Tutorials, handing in, etc						7		
16		Assessment						3	21	
17										
18										
								Subtotal 2	3	21
								Total 2 (Hours of class plus student homework hours between weeks 15-18)		31

TOTAL (Total 1 + Total 2. Maximum 180 hours)								154,33	
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