Universidad Politécnica de Cartagena

Centro Universitario de la Defensa

Quality Management Syllabus

Industrial Organization Engineering Degree

Academic year 2014-2015

1. Course details

Name	Quality Management		
Course field	Industrial Organization		
Code	Business Management		
Degree Course	Grado en Ingeniería de Organización Industrial		
Programme	2009 (Decreto 269/2009 de 31 de julio)		
Faculty	Centro Universitario de la Defensa en la Academia General del Aire		
Type	Optional		
Duration	Four-month course	**Year**	4th
Language	Spanish/English		

ECTS	4,5	**Hours / ECTS**	25	**Total workload (hours)**	112,5

Lectures Timetable	To stipulate.	**Room**	4.1 and 3.1.
Classes/Practicals/Seminars timetable	To stipulate.	**Building**	3 and 4.

2. Teaching Staff contact details

Head of the course	LORENA PARA GONZÁLEZ		
Department	Department of Economics and Juridical Sciences		
Area of expertise	Business Management		
Office location	Room nº33		
Phone	968189935	**Fax**	968187790
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URL / WEB	Virtual Classroom UPCT		
Office hours (for supervisions)	To stipulate		
Office hours location (for supervisions)	Indicated location.		

3. Course outline

3.1. Presentation

This subject allows pupils to get to know the contribution of Quality Management as a key factor to achieve the goals of the organizations in the actual context.

This subject allows pupils to know Quality Management as an important factor of the success of the organizations, adjusting its contents to the most specific problematic of the companies regarding industrial organization.

This is due to the increasing interest in the consecution of competitive advantages to the organizations through continuous improvement and Excellence.

Optional and fourth course subject whose contents have been partially presented in a brief way in the subjects of 3º course "Operations Management" and "Labour work and Human Resources Management".

3.2. Year and duration within the degree programme

The subject "Quality Management" is studied in fourth course and belongs to the module of Optional Subjects.

3.3. Description of the course

An appropriate Quality Management of an organization becomes to be a basic need for the survival and competitive development of itself in the global market that rules today.

The subject is structured in two huge blocks: a part centered in Quality Management and different techniques and tools designated to control and improvement; and a second part concentrated in the philosophies and methodologies more used in the last years in the consecution of distinctive competences in organizations, with the aim of increasing results.

This subject is considered as adequate to the profile of the pupils, with regard to their future, in which this subject will allow them to act in an appropriate way in the units in which they take part of, as from the point of view of the worker as from the executive.

3.4. Related courses. Prerequisites and recommendations

This subject has had a brief introduction in the Unit 3 of the subject "Work labour and Human Resources Management" of third course –Unit "Methods study"- and in the Unit 9 of the subject "Operations Management" of third course "Quality Management". There does not exist previous requirements to study the subject.

3.5. Special measures

Special measures will be adopted to allow coordination among the studies of the subjects with the military and aeronautical activities. Concretely, work groups will be established with pupils with limited availability, in order to encourage apprenticeship through the planning of group tutorials and planning and delivery of activities through

Virtual Classroom.

4. Competences

4.1. Specific competences of the course

To value the importance of an appropriate Quality Management, that could encourage the consecution of the business objectives. To carry out adequate quality measurements, to identify key quality problems, to establish quality control systems, to implant a quality philosophy in an organization and detect the key role that the different organizational areas perform in this implementation.

4.2. Generic and transversal competences

INSTRUMENTAL COMPETENCES

- ☒ T1.1 Analytical and summary skills
- ☒ T1.2 Organizational and planning skills
- ☒ T1.3 Oral and written communication skills in their mother tongue
- ☐ T1.4 Oral and written comprehension skills in a foreign language
- ☒ T1.5 Basic computer skills
- ☒ T1.6 Information management ability
- ☒ T1.7 Problem solving skills
- ☐ T1.8 Decision making ability

PERSONAL COMPETENCES

- ☐ T2.1 Critical and self-critical ability
- ☐ T2.2 Teamwork
- ☒ T2.3 Interpersonal skills
- ☐ T2.4 Ability to work in an interdisciplinary team
- ☐ T2.5 Ability to communicate with experts in other fields
- ☐ T2.6 Ability to deal with diversity and multiculturalism
- ☐ T2.8 Ethical commitment

SYSTEMIC COMPETENCES

- ☒ T3.1 Ability to apply theory to practice
- ☒ T3.2 Learning ability
- ☒ T3.3 Ability to adapt to new situations
- ☒ T3.4 Creativity
- ☐ T3.5 Leadership
- ☐ T3.6 Knowledge about other cultures and customs
- ☒ T3.7 Ability to work autonomously
- ☐ T3.8 Initiative and entrepreneurship
- ☐ T3.9 Quality concern
- ☐ T3.10 Motivation for success

4.3. General aims/ Degree specific competences

SPECIFIC COMPETENCES OF THE FIELD

☒ E.1.2.k Knowledge on technological subjects for the execution of measurements, calculations, studies, reports, enquiries and other analogue works.

PROFESSIONAL COMPETENCES

☒E2.2 Capability to manage specifications, rules and norms of compulsive compliance.

☒E2.5 Facility to manage specifications, rules and norms of compulsive compliance.

☒E2.6 Management of departments of the functional areas of the organization (production, financial, human resources).

OTHER COMPETENCES

4.4. Learning objectives

Pupils should know how to manage quality in an industrial organization. Concretely, they will be able to implant a system based in the Total Quality Management (TQM) philosophy, being totally conscious of the ISO 9000 norms and the EFQM Model of Excellence. Moreover, pupils should be able to suggest measures planned to continuous improvement in organizations, such as Kanban system, Six Sigma, TPM; Poka-Yoke, Kaizen, 5 S, Just in Time, etc.

5. Contents

5.1. Contents according to the Degree programme

UNIT 1. QUALITY BASIS.
UNIT 2. TOTAL QUALITY MANAGEMENT (TQM).
UNIT 3. IMPROVEMENT TOOLS AND QUALITY CONTROL.
UNIT 4. QUALITY CIRCLES.
UNIT 5. JUST IN TIME PHILOSOPHY.
UNIT 6. ISO 9000 NORMS.
UNIT 7. EFQM MODEL OF EXCELLENCE.
UNIT 8. TOTAL QUALITY MANAGEMENT IN DEFENCE.

5.2. Lectures programme

UNIT 1. QUALITY BASIS.
UNIT 2. TOTAL QUALITY MANAGEMENT (TQM).
UNIT 3. IMPROVEMENT TOOLS AND QUALITY CONTROL.
UNIT 4. QUALITY CIRCLES.
UNIT 5. JUST IN TIME PHILOSOPHY.

UNIT 6. ISO 9000 NORMS.
UNIT 7. EFQM MODEL OF EXCELLENCE.
UNIT 8. TOTAL QUALITY MANAGEMENT IN DEFENCE.

5.3. Classes/Seminars/practicals/tutorials programme

UNIT 1. QUALITY BASIS.
UNIT 2. TOTAL QUALITY MANAGEMENT (TQM).
UNIT 3. IMPROVEMENT TOOLS AND QUALITY CONTROL.
UNIT 4. QUALITY CIRCLES.
UNIT 5. JUST IN TIME PHILOSOPHY.
UNIT 6. ISO 9000 NORMS.
UNIT 7. EFQM MODEL OF EXCELLENCE.
UNIT 8. TOTAL QUALITY MANAGEMENT IN ORGANIZATIONS OF DEFENCE.

6. Teaching methodology

6.1. Learning activities

Activity	Lecturer role	Student role	Hours
Lectures	Explanation of the subject and following of students' acquisition and application	Attendance: attendance to classes and participation	**22,5**
		Non-attendance: Study of the subject.	**28,75**
Problem and Cases Classes	Solving problems and analysis of case studies led by the Professor.	Attendance: Active participation. Exercises and question approaching.	**22,5**
		Non-attendance: Study of the subject. Solving problems and analysis of case studies led by Professor.	**25**
Supervisions and group tutorials	Supervisions and Tutorials (individual or group) in order to track individual and / or group learning. Solving problems in groups and learning motivation.	Tutorials in groups (10 students) problem solving. Individual tutorials to solve theory or practice queries.	**7,5**
		Non Attendance: queries by e-mail.	**3,75**
Course assessment	Solving written test/ exams sessions -- partial and final--	Attendance: Questionnaires, written exam	**2,5**
TOTAL			**112,5**

7. Assessment

7.1. Assessment system

Methods	Criteria	Weighting	Generic competences
Individual written exam (60% final qualification)	**Theoretical- Practical part** Theoretical and Theoretical- practical and/or problems knowledge will be evaluated	60 % (Final qualification)	T1.1,T1.2, T1.3, T1.5,T1.6, T1.7, T1.5, T3.1, T3.2, T3.3, T3.4, T3.7
Homework, Class participation, presentations, exercises (40% final qualification)	Evaluates class participation, contribution to topics discussion, teamwork, work exposure, innovation, homework and critical evaluation.	40 % (Final qualification)	T1.1, T1.2, T1.3, T1.5, T1.6, T1.7, T2.3, T3.1, T3.2, T3.3, T3.4, T3.7.

(1) Conditions for the written test will be specified in the previous notice of the examination. A minimum of 40% of the exam is required in order to compute the rest of the work: presentations, class participation and other.
(2) Quality criteria previously established has to be comply in this subject

7.2. Learning process monitoring

The compliance of the apprenticeship will be carried out through some mechanisms:
-Accomplishment of an exam, relative to the level of knowledge of the pupils about the global topics related to the program, as well as the displays of the practical exercises on behalf of the pupils.
-Accomplishment of an exercise, that will be displayed in the classroom.
-Questions made during lessons.
-Participation in the analysis of interest notices that will be discussed in the classroom.
-Problems solution in classroom, as in an individually solve way as in team.
-Critical capability in discussions.
-Individual/group tutorial activities.

8. Results, learning activities and assessment

8.1. Learning objectives/learning activities/results assessment

Learning objectives (4.4)		Lectures	Classes	Practicals	Tutorials	Continous assessment		Assessment	Research project	Problems	Teamwork	Practicals reports	Oral presentations
Storical and conceptual analysis of TQM.		■		■									
To know and develop tools for control and quality improvement. To analyse the characteristics and importance of Quality Circles. To realize the existent relationship among the different methodologies of Just in Time philosophy.		■	■	■						■	■		■
To know the different relationships of TQM with several organizational aspects. To know the influence of the personnel factor in the application of a TQM program. To know ISO 9000 norms.		■	■	■						■	■		■
To know and realize the importance of EFQM Model of Excellence. To learn the importance of the relationship between TQM and EFQM Model. To know the influence of the personnel factor on		■	■	■						■	■		■

EFQM Model.													
		■	■	■	■	■		■		■	■	■	
		■	■			■		■		■	■	■	
		■				■		■		■	■		

9. ECTS Allocation

COURSE		ATTENDANCE		CONVENTIONAL ATTENDANCE		NON-CONVENTIONAL ATTENDANCE		NON-ATTENDANCE	
CREDITS	TOTAL HOURS	AC	AH	CAC	CAH	NCAC	NCAH	NAC	NAH
4,5	112,5	2,52	63	1,8	45	0,72	18	1,98	49,5

AC: ATTENDANCE CREDITS
CAC: CONVENTIONAL ATTENDANCE CREDITS
NCAC: NON-CONVENTIONAL ATTENDANCE CREDITS
NAC: NON-ATTENDANCE CREDITS

AH: ATTENDANCE HOURS
CAH: CONVENTIONAL ATTENDANCE HOURS
NCAH: NON-CONVENTIONAL ATTENDANCE HOURS
NAH: NON-ATTENDANCE HOURS

10. SCHEDULE

		ATTENDANCE ACTIVITIES													NON-ATTENDANCE ACTIVITIES					
		Conventional					Non-conventional													
Week	Units or activities	Lectures	Classes	Practicals (laboratory classes)			Teamwork	Tutorials	Seminars	Visits		Assessment				Individual papers	Group papers		Self-study	TOTAL HOURS
1	U1	2	1					1								1			1	1.5
2	U1	1	2					1									1		1.5	7
3	U2	2	1					1									1		1.5	6.5
4	U2	1	2					1								1.5			1.5	7.5
5	U3	2	1					1									1		1.5	5.5
6	U3	1	2					1									1		1.5	6.5
7	U4	2	1					1									2		1.5	7
8	U4	3										2					1		1.5	6.5
9	U5	2	1					2									1		1.5	5.5
10	U5	1	2					1								1			1.5	7.5
11	U6	1	2					1.5									1		1	7.5
12	U6	2	1					1									1		1.5	7
13	U7	1	2					2									1.5		3	7.5
14	U7	1	2					1									1		3	5.5
15	U8	2	1					2									1		2	6.5
16	U8	1	2																	7.5
																	1			
Exams																				2.5
Other																				7.5
Total hours		23	22					17,				2				3.5	13.5		36,5	112.5

U=Unit

11. REFERENCES

Specific

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General

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Lawrence, P. y Lorsch, J. (1973): Organización y ambiente. Barcelona: De. Labor.

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