Testi del Syllabus

Resp. Did.	BOGONI PAOLO	Matricola: 004286
Docenti	BOGONI PAOLO, 2 CFU CAMPISI BARBARA, 4 CFU	
Anno offerta:	2023/2024	
Insegnamento:	096EC - THEORY AND TECHNIQU	ES FOR QUALITY CONTROL
Corso di studio:	EC01 - ECONOMIA E GESTIONE A	ZIENDALE
Anno regolamento:	2021	
CFU:	6	
Settore:	SECS-P/13	
Tipo Attività:	C - Affine/Integrativa	
Anno corso:	3	
Periodo:	Secondo Semestre	

Testi in italiano

Lingua insegnamento	English
Contenuti (Dipl.Sup.)	The TTQC course is divided into two parts: i) the first part of the course is intended to provide an overview of the basic concepts, models and tools (in their relative historical origin and context) in the field of quality; ii) the second part aims at introducing the methodologies based on life cycle thinking as an effective strategy towards sustainable production of goods and services. In particular, the focus is on the following issues:
	 FIRST PART ON "QUALITY" - prof. Campisi (25 hours) 1. The evolution of the "quality" concept: some general and technical definitions. Garvin's eight-dimensional model for product quality and Kano's model for customer needs analysis. Garvin's framework on the five major quality approaches. 2. The three waves of quality control and management: from quality inspections to the preventive and proactive systems for control, assurance, management, and quality improvement. 3. The PDCA cycle for the continuous improvement process and the Japanese Quality Control tools (the "Toolbox") to base decisions on facts. 4. The voluntary ISO quality standards for business efficiency and customer satisfaction. The ISO 9000 Quality Management Principles.
	 SECOND PART ON "LIFE CYCLE THINKING" - prof. Bogoni (20 hours) 1. Introduction to sustainable quality and circular economy (basic concepts and principles). 2. Life Cycle Management (LCM) as an integrated approach to measure and minimize the impacts on the environment, the economy and society of a process, product or service. 3. Life Cycle Assessment (LCA) Methodology: goal and scope definition, inventory of all the inputs and outputs, assessment of the potential impacts, interpretation of the inventory data and impact assessment results. 4. Case studies for LCA application in sectors including natural resources, agriculture, energy and industry. 5. European Integrated Product Policy and Environmental Labeling as an

Testi di riferimento	 Essentials of Quality with Cases and Experiential Exercises (selected chapters see below) by V. E. Sower March 2010, Paperback. Ch. 1 Introduction to Quality (pp 3-20) Ch. 2 Strategic Quality Management & Operationalizing Quality (pp. 25-43) Ch. 4 Innovation & Creativity in Quality (pp. 85-99) Ch. 5 Quality Systems & Quality Systems Auditing (pp. 107-129) Ch. 6 Product, Process, and Materials Control (pp. 135-148) Ch. 8 Quality Improvement Tools (pp. 179-197) Life Cycle Assessment: Principles, Practice and Prospects by R. E. Horne, T. Grant and K. Verghese March 2009, CSIRO Publishing. Additional readings and support material (course slides, scientific papers and reports in PDF format) will be shared with students in the dedicated
Obiettivi formativi	team on the MS TEAMS platform. KNOWLEDGE AND UNDERSTANDING At the end of the course, students will have to demonstrate knowledge and understanding of the key concepts and fundamental principles implied by the business approaches aimed at continuous quality improvement, also oriented to the sustainable production of goods and services.
	APPLYING KNOWLEDGE AND UNDERSTANDING At the end of the course, the student must be able to: - identify the approach adopted by a company for quality management; - identify the strategy adopted by a company for environmental sustainability.
	MAKING JUDGEMENTS At the end of the course, students will have to demonstrate that he/she has not only acquired knowledge and concepts but also his/her ability to apply them for the analysis of concrete examples.
	COMMUNICATION SKILLS The oral exam aims at assessing students' skills on using, effectively, appropriately and with specific language, the concepts learned in the course. For the attending students, it will be also possible to verify the communicative ability acquired in written form through partial tests.
	LEARNING SKILLS At the end of the course, students must demonstrate that they are able to apply the knowledge, skills and the minimum competencies required in this syllabus.
Metodi didattici	Lectures. Quizzes for the self-assessment on Moodle platform https://moodle2.units.it/course/view.php?id=9431 Critical readings and discussion of scientific papers. Working group sessions.
Modalità di verifica dell'apprendimento	a) For students attending classes regularly, taking two written exams scheduled after the first half and at the end of the classes is possible. The written exam generally consists of multiple choice and two open questions. Questions have a different weight on the final evaluation, depending on their difficulty level. Students have to obtain a passing grade (the minimum is 18) for both of them to pass the course. The final mark will be an average of both results. The grade is based on a 30-point scale. The duration of the written exams is two hours at the most. Those students who cannot pass the written exams must take the oral exam on one or both parts according to the obtained grades.

	To take the written exams, students must attend at least 2/3 of the classes, submit the assignments given for part 1 and participate in the critical reading for part 2, whose results will contribute to the final assessment. b) Non-attending students have to pass an oral exam on both parts. The final exam consists of a verbal discussion about the topics treated in the course. It is based on four questions (two for each part of the course) and takes 20-30 minutes on average. The grading system applied is: (18-24): sufficient or fair knowledge of the subject, adequate mastery of the technical language (25-27): good or very good knowledge of the subject, technical language proficiency, and essential ability to connect the themes addressed during the course (28-30 with honours): excellent knowledge of the subject and technical language proficiency, autonomous critical and analytical skills, and ability to apply acquired knowledge to concrete scenarios.
Programma esteso	
Obiettivi Agenda 2030 per lo sviluppo sostenibile	This course explores topics closely related to one or more United Nations 2030 Agenda for Sustainable Development (SDGs) goals.

Obiettivi per lo sviluppo sostenibile

Codice	Descrizione
7	Energia pulita e accessibile
9	Industria, innovazione e infrastrutture
13	Agire per il clima



😹 Testi in inglese

English
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and minimize the impacts on the environment, the economy and society of a process, product or service.

3. Life Cycle Assessment (LCA) Methodology: goal and scope definition, inventory of all the inputs and outputs, assessment of the potential impacts, interpretation of the inventory data and impact assessment results.

4. Case studies for LCA application in sectors including natural resources, agriculture, energy and industry.

5. European Integrated Product Policy and Environmental Labeling as an example of sustainable quality: application of Life Cycle Assessment.

Essentials of Quality with Cases and Experiential Exercises (selected chapters see below)

by V. E. Sower

March 2010, Paperback.

Ch. 1 Introduction to Quality (pp 3-20)

Ch. 2 Strategic Quality Management & Operationalizing Quality (pp. 25-43)

Ch. 4 Innovation & Creativity in Quality (pp. 85-99)

Ch. 5 Quality Systems & Quality Systems Auditing (pp. 107-129)

Ch. 6 Product, Process, and Materials Control (pp. 135-148)

Ch. 8 Quality Improvement Tools (pp. 179-197)

Life Cycle Assessment: Principles, Practice and Prospects by R. E. Horne, T. Grant and K. Verghese March 2009, CSIRO Publishing.

Additional readings and support material (course slides, scientific papers and reports in PDF format) will be shared with students in the dedicated team on the MS TEAMS platform.

KNOWLEDGE AND UNDERSTANDING

At the end of the course, students will have to demonstrate knowledge and understanding of the key concepts and fundamental principles implied by the business approaches aimed at continuous quality improvement, also oriented to the sustainable production of goods and services.

APPLYING KNOWLEDGE AND UNDERSTANDING

At the end of the course, the student must be able to:

- identify the approach adopted by a company for quality management;

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MAKING JUDGEMENTS

At the end of the course, students will have to demonstrate that he/she has not only acquired knowledge and concepts but also his/her ability to apply them for the analysis of concrete examples.

COMMUNICATION SKILLS

The oral exam aims at assessing students' skills on using, effectively, appropriately and with specific language, the concepts learned in the course.

For the attending students, it will be also possible to verify the communicative ability acquired in written form through partial tests.

LEARNING SKILLS

At the end of the course, students must demonstrate that they are able to apply the knowledge, skills, and the minimum competencies required in this syllabus.

Lectures.

Quizzes for the self-assessment on Moodle platform https://moodle2.units.it/course/view.php?id=9431

Critical readings and discussion of scientific papers. Working group sessions.

 a) For students attending classes regularly, taking two written exams scheduled after the first half and at the end of the classes is possible. The written exam generally consists of multiple choice and two open questions. Questions have a different weight on the final evaluation, depending on their difficulty level. Students have to obtain a passing grade (the minimum is 18) for both of them to pass the course. The final mark will be an average of both results. The grade is based on a 30-point scale. The duration of the written exams is two hours at the most. Those students who cannot pass the written exams must take the oral exam on one or both parts according to the obtained grades. To take the written exams, students must attend at least 2/3 of the classes, submit the assignments given for part 1 and participate in the critical reading for part 2, whose results will contribute to the final assessment. b) Non-attending students have to pass an oral exam on both parts. The final exam consists of a verbal discussion about the topics treated in the course. It is based on four questions (two for each part of the course) and takes 20-30 minutes on average. The grading system applied is: (18-24): sufficient or fair knowledge of the subject, technical language proficiency, and essential ability to connect the themes addressed during the course. (28-30 with honours): excellent knowledge of the subject and technical language proficiency, autonomous critical and analytical skills, and ability to apply acquired knowledge to concrete scenarios.
This course explores topics closely related to one or more United Nations 2030 Agenda for Sustainable Development (SDGs) goals.

Obiettivi per lo sviluppo sostenibile

Codice	Descrizione
7	Affordable and clean energy
9	Industries, innovation and infrastructure
13	Climate action