



1. General information

Course: QUALITY MANAGEMENT OF ANALYTICAL LABORATORIES
Type: CORE COURSE
Degree: 2326 - MASTER DEGREE PROGRAMME IN CHEMICAL RESEARCH
Center: 1 - FACULTY OF SCIENCE AND CHEMICAL TECHNOLOGY
Year: 1

Main language: Spanish

Use of additional languages:

Web site:

Code: 310580

ECTS credits: 6

Academic year: 2019-20

Group(s): 20

Duration: First semester

Second language: English

English Friendly: Y

Bilingual: N

Lecturer: JOSE ANTONIO MURILLO PULGARIN - Group(s): 20

Building/Office	Department	Phone number	Email	Office hours
Edificio San Alberto Magno	Q. ANALÍTICA Y TGIA. ALIMENTOS	3441	joseantonio.murillo@uclm.es	Lunes, Martes y Jueves de 17:30 a 19:30

Lecturer: ANGEL RIOS CASTRO - Group(s): 20

Building/Office	Department	Phone number	Email	Office hours
San Alberto Magno	Q. ANALÍTICA Y TGIA. ALIMENTOS	3405	angel.rios@uclm.es	Monday, Tuesday, and Wednesday from 11-13

2. Pre-Requisites

Not established

3. Justification in the curriculum, relation to other subjects and to the profession

Mandatory subject in the first semester (6 ECTS).

It belongs to the mater "Advanced Analytical Chemistry" in the block 1 of the Master (Advanced Knowledge of Chemistry).

It deals with fundamental knowledgements involved in the rest of the subject of the Master.

4. Degree competences achieved in this course

Course competences

Code	Description
E01	Knowing how to apply the knowledge of metrology, and the principles and tools for quality management in the R & D & I laboratories of the chemical field
E07	Knowing the principles of sustainable chemistry and safety standards for handling known chemicals
E09	Knowing the possibilities offered by new analytical methodologies in different fields of application, such as environmental analysis, pharmacological analysis, etc.
G01	Knowing the precision of the experimental data and its use for the planning of experimental research work.
T01	Capacity for organization, planning and decision making.
T03	Motivation for quality, job security and awareness of environmental issues, with knowledge of internationally recognized systems for the correct management of these aspects

5. Objectives or Learning Outcomes

Course learning outcomes

Description

Know and apply the principles of management and quality in chemical laboratories.

Know and perform qualification activities, maintenance, calibration and verification of chemical laboratory instruments within an equipment management plan.

Know and be able to plan the implementation of international standards on quality management in laboratories.

Apply the principles of metrology under the requirements of the rules on quality management systems in laboratories.

Knowing how to plan validation processes of chemical measurement.

6. Units / Contents

Unit 1:

Unit 2:

Unit 3:

Unit 4:

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	R	Description
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Class Attendance (theory) [ON-SITE]	Lectures		0.64	16	Y	N	Y	
Problem solving and/or case studies [ON-SITE]	Problem solving and exercises		0.65	16.25	Y	N	Y	
Group tutoring sessions [ON-SITE]	Group tutoring sessions		0.2	5	Y	N	Y	
Study and Exam Preparation [OFF-SITE]	Self-study		3.5	87.5	Y	N	Y	
Study and Exam Preparation [OFF-SITE]	Assessment tests		1.01	25.25	Y	N	Y	
Total:			6	150				
Total credits of in-class work: 1.49				Total class time hours: 37.25				
Total credits of out of class work: 4.51				Total hours of out of class work: 112.75				

As: Assessable training activity

Com: Training activity of compulsory overcoming

R: Rescheduling training activity

8. Evaluation criteria and Grading System			
Evaluation System	Grading System		Description
	Face-to-Face	Self-Study Student	
Assessment of problem solving and/or case studies	30.00%	0.00%	
Theoretical exam	30.00%	0.00%	
Assessment of active participation	40.00%	0.00%	
Total:	100.00%	0.00%	

9. Assignments, course calendar and important dates	
Not related to the syllabus/contents	
Hours	hours
Unit 1 (de 4):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4
Group tutoring sessions [PRESENCIAL][Group tutoring sessions]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	20
Study and Exam Preparation [AUTÓNOMA][Assessment tests]	6
Unit 2 (de 4):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	3
Group tutoring sessions [PRESENCIAL][Group tutoring sessions]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	20
Study and Exam Preparation [AUTÓNOMA][Assessment tests]	6
Unit 3 (de 4):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	5
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	5.25
Group tutoring sessions [PRESENCIAL][Group tutoring sessions]	2
Study and Exam Preparation [AUTÓNOMA][Self-study]	30.5
Study and Exam Preparation [AUTÓNOMA][Assessment tests]	8.25
Unit 4 (de 4):	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4
Group tutoring sessions [PRESENCIAL][Group tutoring sessions]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	17
Study and Exam Preparation [AUTÓNOMA][Assessment tests]	5
Global activity	
Activities	hours
Group tutoring sessions [PRESENCIAL][Group tutoring sessions]	5
Study and Exam Preparation [AUTÓNOMA][Assessment tests]	25.25
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	16.25
Class Attendance (theory) [PRESENCIAL][Lectures]	16
Study and Exam Preparation [AUTÓNOMA][Self-study]	87.5
Total horas: 150	

10. Bibliography and Sources
Publishing

Author(s)	Title/Link	house	Citv	ISBN	Year	Description
Ramón Compañó y Ángel Ríos	Garantía de la Calidad en los Laboratorios Analíticos	Síntesis	Madrid			