



IDENTIFYING DATA

Quality management and control

Subject	Quality management and control			
Code	V02G030V01911			
Study programme	(*)Grao en Bioloxía			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	4th	1st
Teaching language	Spanish			
Department				
Coordinator	Gallardo Medina, Mercedes Pérez Ribas, Francisco Manuel			
Lecturers	Gallardo Medina, Mercedes Pérez Ribas, Francisco Manuel			
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General description	This subject expects the students to know and understand the principles of quality management and environment, while knowing the normative of organization and efficient management of a laboratory. This means that the students will acquire competences in the application of the regulations ISO 9000 of quality management, ISO 14000 of environmental management and ISO 17025 for technical management and competence in testing and calibration laboratories			

Competencies

Code	
A1	Students should prove understanding and knowledge in this study field that starts in the Secondary Education and with a level that, even though it is supported in advanced books, also includes some aspects that involve knowledge from the vanguard of the study field.
A2	Students should know how to apply their knowledge to their work or vocation in a professional way. They also should have the competences that are usually proved through the elaboration and defence of arguments and the resolution of problems within their study field.
A3	Students should prove ability for information-gathering and interpret important data (usually within their study field) to judge relevant social, scientific or ethical topics.
A4	Students should be able to communicate information, ideas, issues and solutions to all audiences (specialist and unskilled audience).
A5	Students should develop the necessary learning skills to undertake further studies with a high degree of autonomy
B2	Ability of reading and analyzing scientific papers and having critical assessment skills to understand data collection, deducing the main idea from the least relevant ones and basing on the corresponding conclusions.
B3	Acquisition of general knowledge about the basic subjects of biology, both at theory and experimental level, without dismissing a higher specialization in subjects that are oriented to a concrete professional area.
B4	Ability in handling experimental tools, both scientific and computer technology equipment that support the search for solutions to problems related to the basic knowledge of biology and with those of a concrete labour context.
B7	Collection of information about issues of biologic interest, analysis and emission of critical opinions and reason them including the reflection about social and/or ethical aspects related to the issue.
B10	Development of analytic and abstraction skills, the intuition and the logical and rigorous thought through the study of biology and its uses.
B11	Ability to communicate in detail and clearly: knowledge, methodology, ideas, issues and solutions to all audiences (not only qualified but unskilled in Biology).
B12	Ability to identify their own educational necessities in the biology field and in concrete labour areas and to organize their learning with a high grade of autonomy in any context.
C25	Gathering background information, develop experimental work and analysing data results
C27	Developing and monitoring management systems and quality control on Biology
C29	Helping and evaluating scientific, technical, ethical, legal and socioeconomically aspects related to Biology.

C30 Controlling and counselling on every aspect related to Organisms Welfare.

C31 Knowing and handling technical and scientific apparatus.

C32 Knowing and handling basic or specific key concepts and terminology

C33 Understanding the social projection of Biology.

D1 Development of capacity of analysis and synthesis

D2 Acquisition of the organization and planning capacity for tasks and time

D6 Research and interpreting of information from different sources

D11 Adquisition of an ethical agreement with the society and the profession

D13 Sensitivity for environmental issues

D14 Adquisition of abilities in the interpersonal relationships

D16 Acceptance of a quality commitment

D18 Development of negotiating power

Learning outcomes

Expected results from this subject	Training and Learning Results			
To know the norms of management and quality control of quality of processes, systems, investigation, etc., related with biology	A1	B2 B3	C27 C32 C33	D1 D6 D13 D16
To understand the concept of quality systems of and his application Handle and apply the most quality systems important ones.	A1 A2	B3	C27 C31	D2 D6 D13 D16
To know and be familiarised with the methods of validation, calibration, calculation of uncertainties verification assays, standards of quality and others quality parameters and systems	A2	B2 B4	C31 C32	D6 D13 D16
To know evaluate, verify and accredit the quality	A2 A5	B4 B7 B11	C27 C30	D1 D2 D13 D14 D16 D18
To understand the importance and repercussion of the implementation of quality systems of in the professional field and at the social level	A4	B10 B11	C27 C33	D11 D13 D14 D16 D18
To obtain information, evaluate and interpret results	A3	B2 B7 B10	C25	D2
To apply quality management knowledge to advise, supervise and assess scientific, technical, ethical, legal and socio-economic aspects related to biology	A2 A3	B10 B12	C29	D2 D6 D11 D13 D14 D16 D18
To know and manage the concepts, terminology and scientific-technical instrumentation related to quality management	A1 A4	B4 B11	C32	D6 D13 D16

Contents

Topic	
Block 1.- The Quality Management System	Subject 1. The Quality management: concept and historical evolution
	Subject 2. Design and implementation of a Quality Management System
Block 2.- Models and standards for the Quality management	Subject 3. Quality Management. UNE-EN-ISO 9000
	Subject 4. Environmental management: UNE-EN-ISO 14000. EMAS
	Subject 5. Quality management in the laboratory: standards and techniques. Regulation UNE-EN ISO/IEC 17025: 2005
Block 4.- Tools for the Quality management	Subject 6. Tools for the Quality management
	Subject 7. The continuous improvement and the participatory management of the quality

Planning

	Class hours	Hours outside the classroom	Total hours
Introductory activities	2	0	2
Master Session	18	0	18
Projects	25	62.5	87.5
Forum Index	2	0	2
Multiple choice tests	1	19.5	20.5
Jobs and projects	2	18	20

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Introductory activities	Presentation of the teaching guide of the subject, planning, teaching staff, activities and evaluation.
Master Session	Teachers' exposure to the subject matter, theoretical bases and / or guidelines of a work, exercise or project to be developed by the student.
Projects	Implementation of activities that allow the integration of theoretical knowledge, management tools and standards and formal models of Quality management. Students, working in small groups, will have to develop an integrated project on the application of Quality and Environmental management systems, using ISO 9000 and ISO 14000 standards as a tool. With this, students are expected to train, among others, the skills of analysis and synthesis, learning in cooperation, organization, information search, communication and strengthening of personal relationships.
Forum Index	Activity developed in a face-to-face environment in which diverse subjects related to the academic and / or professional field are debated with professionals of reputed prestige that develop their main labor activity in the Quality scope.

Personalized attention**Methodologies Description**

Master Session	The student will be able to formulate the doubts arisen in the master sessions through the electronic mail. On the other hand, each teacher establishes a reserve of 6 weekly hours of tutoring, for the attention of the students who request it. The schedule of these tutorials is made by the coordinator of the subject, but it will also be available to students both in the area of the subject in the virtual platform TEMA and in the website of the Faculty.
Projects	In these activities the teacher has the function of guiding and orienting the students' learning process and helping them to successfully carry out the planned project. For this, an effective monitoring focused on the equipment configured to carry it out will be accomplished. Likewise, the TEMA Platform will be available all the material with presentations of theory classes, previous projects, regulations and other useful documents for the realization of the project. On the other hand, the student may also solve their doubts in an individualized way in the hours for tutorials, which as indicated in the previous section will be communicated through the coordinator of the subject and will be available in the area of the subject in the Platform TEMA, as well as on the website of the Faculty.

Assessment

Description	Qualification	Training and Learning Results
Multiple choice tests with different alternative answers (true / false, multiple choice, pairing of elements ...). Students select a response from a limited number of possibilities.	30	A1 B2 C29 D1 A5 B3 C30 D6 B7 C31 D11 B10 C32 D13 B12 C33 D16

Jobs and projects	The students, in group, will present, in written and oral form, the result obtained from the Project-Based Learning (ABP) carried out in the seminars. In each session it's necessary that each of the members of the group upload the task, individually, to the platform enabled in FAITIC; this platform will allow the opening and closing window for the correct control of the effectiveness of the work developed by the student in the practice. Furthermore will be enabled another time window to improve the task developed in the classroom. It will be conducted in small groups through oral presentation and writing of the BPA.	70	A2 B2 C25 D1 A3 B4 C27 D2 A4 B7 C29 D6 A5 B10 C30 D11 B11 C31 D13 B12 C32 D14 C33 D16 D18
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Students will participate by co-evaluating the work of their peers.

Other comments on the Evaluation

In order to access to the theoretical exam it's necessary to attend 100% of the seminars. In order to pass it it's necessary to obtain 5 points.

In addition, in order to pass the subject it will be essential to obtain at least a grade of 40% in each of the tests: specifically 1.2 points (out of a maximum of 3) in the test type and of 2.8 (out of a maximum of 7) in the Project.

Also, 70% of the project grade depends on the attendance, the job developed in the classroom at the practice time, the participation and interest shown in the classroom by the student and the fact of uploading to FAITIC platform, during the time allocated, an improvement of work done in practice.

In case of obtaining a qualification lower than indicated, that part will be suspended until the new call of July. No qualification will be saved for the next course.

In case of not exceeding the Project, the incorrect parts must be corrected, complete missing sections, etc., depending on the comments of the evaluation or even repeat it in its entirety.

Timetable:

Classes will be held during the first semester in the morning. The specific schedule of each of the scheduled activities is approved at Faculty Board and is listed in the following link:

http://bioloxia.uvigo.es/docs/docencia/horarios/hor_4grado_1sem1718.pdf

Assessment tests: The calendar of exams can be consulted in the following link:

http://bioloxia.uvigo.es/docs/docencia/examenes/exames_grado_2017-18.pdf

Sources of information

Basic Bibliography

Camisón C, **Gestión de la calidad: conceptos, enfoques, modelos y sistemas**, 2006

Cuatrecasas L, **Gestión integral de la calidad. Implementación, control y certificación.**, 2010

López Lemos, Paloma, **Como documentar un sistema de Gestión de calidad según ISO 9001:2015**, 2015

Complementary Bibliography

Vilar Barrio JF, **Las Siete nuevas herramientas para la mejora de la calidad**, 1998

Cláver Cortés E, **Gestión de la calidad y gestión medioambiental**, 2011

López Lemos, Paloma, **Novedades ISO 9001:2015**, 2015

Varios autores, **Herramientas para la Calidad**, 2004

Woodside G, **Auditoría de sistemas de gestión ambiental: introducción a la norma ISO 14001**, 2001

Granero J. y Ferrado M, **Cómo implantar un sistema de gestión ambiental según la norma ISO 14001:2004**, 2011

Seoánez Calvo M & Angulo Aguado L, **Manual de gestión medioambiental de la empresa: sistemas de gestión medioambiental, auditorías medioambientales, evaluaciones de impacto ambiental y otras estrategias**, 1999

Rubio Romero JC, **Gestión de la prevención de riesgos laborales: OHSAS 18001 - Directrices OIT para su integración con calidad y medioambiente**, 2002

Recommendations

Subjects that continue the syllabus

Externships/V02G030V01981

Drafting and execution of projects/V02G030V01801

Final Year Dissertation/V02G030V01991

Subjects that are recommended to be taken simultaneously

Agri-food analysis and diagnostic/V02G030V01901
Clinical diagnosis and analysis/V02G030V01903
Environmental analysis and diagnosis/V02G030V01902
Biodiversity: management and conservation/V02G030V01905
Pollution/V02G030V01906
Environmental impact evaluation/V02G030V01904
Management and Conservation of spaces/V02G030V01910
Animal production/V02G030V01907
Microbial Production/V02G030V01908
Vegetable production/V02G030V01909
