COURSE DATA

Data Subject	
Code	34227
Name	Degree Final project
Cycle	Grade
ECTS Credits	18.0
Academic year	2016 - 2017

Study (s)

Degree	Center	Acad. year	Period
1108 - Degree in Chemistry	Faculty of Chemistry	4	Second term

Subject-matter

Degree	Subject-matter	Character
1108 - Degree in Chemistry	19 - Degree Final project in Chemistry	End Labour Studies

Coordination

Name	Department
CERVERA SANZ, MARIA LUISA	310 - Analytical Chemistry

SUMMARY

The Bachelor’s Thesis (TFG) is a compulsory subject worth 18 credits that is programmed to be studied in the 8th semester (year 4) of the Degree in Chemistry. Its target is to make it possible for students to apply the knowledge acquired throughout the degree course by means of carrying out technical work or a fundamental or applied research project that is related to some of the multiple fields in chemistry. That is why the project is to be conducted in the final stage of the curriculum and is focused on assessing the competences associated with the degree (as included in the Verifica document).

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

1108 - Degree in Chemistry V1-2009 :

R4-OBLIGATION TO HAVE SUCCESSFULLY COMPLETED THE COURSE

34183 - General Chemistry I

34184 - General Chemistry II

34185 - Chemistry laboratory I

34186 - Chemistry laboratory II

34187 - Mathematics I

34188 - Mathematics II

34189 - Physics I

34190 - Physics II

34191 - Biology

34192 - Informatics for Chemistry

34193 - Physical Chemistry I

34194 - Physical Chemistry II

34196 - Physical Chemistry Laboratory I

34198 - Inorganic Chemistry I

34199 - Inorganic Chemistry II

34201 - Inorganic Chemistry Laboratory I

34203 - Organic Chemistry I

34204 - Organic Chemistry II

34206 - Organic Chemistry Laboratory I

34228 - Analytical Chemistry I

34229 - Analytical Chemistry II

34231 - Analytical Chemistry Laboratory I

Other requirements

To be allowed to take this subject the student must have successfully completed all the subjects in year 1 and in year 2, as well as, at least, 150 ECTS credits in basic and compulsory subject areas. Additionally, the student must enrol in all the credits pending completion to finish the degree.
The bachelors thesis will be assessed once the student complies with the requirements established in the TFG explanatory document.

OUTCOMES

1108 - Degree in Chemistry

- Develop capacity for analysis, synthesis and critical thinking.
- Show inductive and deductive reasoning ability.
- Demonstrate leadership and management skills, entrepreneurship, initiative, creativity, organization, planning, control, leadership, decision making and negotiation.
- Solve problems effectively.
- Demonstrate ability to work in teams both in interdisciplinary teams and in an international context.
- Demonstrate ability to communicate information, ideas, problems and solutions to both specialist and non-specialist audiences and using information technology, as appropriate.
- Demonstrate a commitment to ethics, equality values and social responsibility as a citizen and as a professional.
- Learn autonomously.
- Demonstrate the ability to adapt to new situations.
- Acquire a permanent sensitivity to quality, the environment, sustainable development and the prevention of occupational hazards.
- Demonstrate knowledge and understanding of essential facts, concepts, principles and theories related to the areas of chemistry.
- Recognise and analyse new problems and plan strategies to solve them.
- Evaluate, interpret and synthesise chemical data and information.
- Handle chemicals safely.
- Handle the instrumentation used in the different areas of chemistry.
- Interpret data from observations and measurements in the laboratory in terms of their significance and the theories that underpin them.
- Evaluate the risks in the use of chemicals and laboratory procedures.
- Relate theory and experimentation.
- Recognise and evaluate chemical processes in daily life.
- Develop sustainable and environmentally friendly methods.
- Relate chemistry with other disciplines.
- Students must be able to apply their knowledge to their work or vocation in a professional manner and have acquired the competences required for the preparation and defence of arguments and for problem solving in their field of study.
- Students must have the ability to gather and interpret relevant data (usually in their field of study) to make judgements that take relevant social, scientific or ethical issues into consideration.

- Students must be able to communicate information, ideas, problems and solutions to both expert and lay audiences.
- Students must have developed the learning skills needed to undertake further study with a high degree of autonomy.
- Express oneself correctly, both orally and in writing, in any of the official languages of the Valencian Community.
- Have basic skills in the use of information and communication technology and properly manage the information obtained.

LEARNING OUTCOMES

Upon completion of the TFG, students must:

- Demonstrate capacity for analysis and synthesis (CG1).
- Demonstrate inductive and deductive ability (CG2).
- Demonstrate capacity for organisation and planning (CG3).
- Make decisions with rigour (CG3).
- Demonstrate skills in interpersonal relations from a gender perspective (CG6).
- Work in a team with a responsible and professional behaviour and from a gender perspective (CG5).
- Demonstrate ability to apply their knowledge creatively to solve a real chemical problem (CG3, CG4, CE17).
- Demonstrate ability to structure a solid defence of personal points of view based on well-founded scientific knowledge (CE13).
- Demonstrate skills to prepare complex, well-structured and well-written scientific reports (CE16, CE20).
- Demonstrate skill in the oral presentation of a project, using the most common audiovisual media (CT1, CT3, CG7).
- Be aware of the ethical component and of the ethical principles of professional practice (CG6).
- Demonstrate autonomous learning and capacity for initiative (CG3, CG8).
- Reason critically (CG1).
- Demonstrate ability in information management (CG7).
- Show adaptation to new situations (CG9).
- Demonstrate motivation for quality (CG10).
- Demonstrate sensitivity to environmental issues (CG10).
- Recognise and analyse new problems and plan strategies to solve them (CE15).
- Demonstrate ability to relate theory and experimentation (CE22).
- Recognise and evaluate the chemical processes in daily life (CE23).
- Demonstrate ability to link chemistry with other disciplines (CE26).
- Handle the chemical instrumentation employed in the different areas of chemistry; assess the risks of the use of chemical substances and procedures, and develop sustainable and environmentally friendly methodologies (CE19, CE21, CE25).

DESCRIPTION OF CONTENTS

1. Internal theoretical and/or experimental work

The TFG is an autonomous and individual assignment that every student must perform under the supervision of a tutor. Theoretical and/or experimental work related to the qualification will be carried out in departments, laboratories or research centres of the University of Valencia.

2. Literature research and review

The TFG is an autonomous and individual assignment that every student must perform under the supervision of a tutor. Literature research and reviews will focus on different topics related to the degree programme.

3. Work based on interships

The TFG is an autonomous and individual assignment that every student must perform under the supervision of a tutor. Internships will be carried out in companies, organisations or institutions other than the University of Valencia, as long as an agreement has been signed.

WORKLOAD

ACTIVITY	Hours	% To be attended
Graduation project		100
Development of a final project	135,00	0
TOTAL	**135,00**	

TEACHING METHODOLOGY

The TFG must be prepared individually by every student. There are three possible options for conducting the TFG:

a) Theoretical and/or experimental work related to the qualification that can be carried out in departments, laboratories or research centres at the University of Valencia.

b) Literature research and reviews based on different topics related to the degree programme.

c) Work based on internships, carried out in companies, organisations or institutions other than the University of Valencia, as long as an agreement has been signed.

Every TFG will have a tutor who will be any full-time lecturer (doctor) linked to the areas of knowledge who teach in the University of Valencia Degree in Chemistry.

Also, any PhD holder contracted by the University of Valencia for the full academic year may act as a tutor. In this last case, an academic tutor must also be appointed, who will be a full-time lecturer (doctor) linked to one of the areas of knowledge who teach in the University of Valencia Degree in Chemistry.

In case of a TFG carried out outside the University of Valencia there will be an external tutor, who must hold a higher education qualification and be on active service, subject to the approval by the Committee for TFGs. In these cases, the Committee for TFGs shall appoint an academic tutor.

The tutor must provide the student with the specifications of the tasks to be performed and will prepare a confidential report about the work developed by the student to be submitted to the panel that will assess the TFG. The tutor will advise the student in anything that he or she may need.

In case the TFG is supervised by an external tutor, the function of the academic tutor will be only that of advising the student to guarantee that the TFG complies with the suitable academic requirements.

All the students must submit a report of their work, regardless of the type of bachelor's thesis they conduct, and they must defend it in a public meeting.

The report must be between 20 and 30 pages long (e.g.: font size 12 and single-spaced), excluding annexes. It can be written in any of two official languages of the University or in English. For the cover, the general model will be used and the content will be structured in the following sections:

- Summary (in two of the languages possible)
- Index
- Introduction
- Aims
- Experimental part
- Results and discussion
- Conclusions
- Bibliography

The oral defence of the TFG will be conducted by students in person and in an open session. The presentation will last a maximum of 15 minutes during which the student will have to make a summary of the report submitted. Next, the panel will ask questions and/or clarifications as deemed appropriate, for a maximum of 15 minutes.

Students in mobility programmes may carry out the TFG at the host university (agreement of the Academic Committee of 5 November 2014).

Students from other universities enrolled in the degree as exchange students may carry out the TFG at the University of Valencia under the same conditions as UV students, as long as their exchange agreement allows them to. Students can choose a topic and a tutor from the offer available at the time that they join the University of Valencia.

EVALUATION

The academic committee for the TFG will annually appoint, at the suggestion of the departments, at least one examining panel for every area of knowledge assigned to the Faculty of Chemistry, which will be made up of three lecturers (two from the relevant area of knowledge and an external one). In no case can the tutor of a TFG be part of the panel responsible for its assessment.

The oral defence of the TFG will be conducted by students in person and in an open session. Next, the panel will ask questions and/or clarifications as deemed appropriate.

The panel will assess the report submitted (30%), the oral presentation and the defence (70%), according to the template attached.

The panel will produce a record to announce the agreements reached as regards the final mark assigned to each student. This final mark is calculated as the average between the mark awarded by the tutor (40%) and by the examination panel (60%). The panel may meet with the tutor, if needed, in order to solve any discrepancies that could arise. The panel will also propose the award of distinctions (Matrícula de Honor). The maximum number of students that the panel can propose is a third of the total amount of distinctions that can be awarded.

Calificación the minimum of the two partes (tutor and Commission) has to be able to overcome the 5.0 unfulfilled.

Final marks awarded will be made public officially in a single record signed by the president and by an additional member of the Committee for TFGs.

The final awarding of the qualification of Matrícula de Honor will be made by the distinction-awarding panel, made up of four members (one from every area of knowledge) who will assess the bachelor’s thesis in one-off meeting.

Students may appeal against the final mark awarded through the procedure established in the relevant University of Valencia regulations.

REFERENCES

Basic

- Reglament del treball fi de grau aprovat pel Consell de Govern en sessió ordinaria del 20 de desembre de 2011. http://www.uv.es/quimdocs/graus/treball_fi_grau/reglament.pdf
- Pàgina web de la Facultat de Química: http://www.uv.es/uvweb/quimica/ca/estudis-grau-llicenciatura/graus/treball-fi-grau-1285879542401.html