

## DEGREE IN CHEMISTRY (2019-20)

<b>Código:</b> C053	<b>Fecha de aprobación:</b> 22/03/2012	<b>Precio:</b> 20,27 1st-registration credits
<b>Créditos:</b> 240	<b>Título:</b> Undergraduate 3-5 years (ECTS)	

### RAMA

Sciences

### PLAN

DEGREE IN CHEMISTRY

### TIPO DE ENSEÑANZA

Face-to-face

### CENTROS DONDE SE IMPARTE

Faculty of Science

### ESTUDIO IMPARTIDO CONJUNTAMENTE CON

Solo se imparte en esta universidad

### FECHAS DE EXAMEN

[Acceda al listado de fechas de examen para esta titulación.](#)

## PLAN DE ESTUDIOS OFERTADO EN EL CURSO 2019-20

Leyenda: No ofertada Sin docencia

### FIRST YEAR

#### CORE SUBJECTS

60 créditos

Curso	Título	Créditos	Subject
1	CORE	6	<a href="#">26010 - MATHEMATICS 1</a>
1	CORE	6	<a href="#">26011 - PHYSICS 1</a>
1	CORE	6	<a href="#">26012 - CHEMISTRY 1</a>
1	CORE	6	<a href="#">26013 - BIOLOGY</a>
1	CORE	6	<a href="#">26014 - GEOLOGY</a>
1	CORE	6	<a href="#">26015 - MATHEMATICS II</a>
1	CORE	6	<a href="#">26016 - PHYSICS II</a>
1	CORE	6	<a href="#">26017 - CHEMISTRY II</a>
1	CORE	6	<a href="#">26018 - BASIC LABORATORY OPERATIONS I</a>
1	CORE	6	<a href="#">26019 - BASIC LABORATORY OPERATIONS II</a>

### SECOND YEAR

#### COMPULSORY SUBJECTS

60 créditos

Curso	Título	Créditos	Subject
2	COMPULSORY	9	<a href="#">26020 - ORGANIC CHEMISTRY</a>
2	COMPULSORY	9	<a href="#">26021 - INORGANIC CHEMISTRY</a>
2	COMPULSORY	6	<a href="#">26022 - CHEMICAL THERMODYNAMICS</a>
2	COMPULSORY	6	<a href="#">26023 - ANALYTICAL CHEMISTRY</a>
2	COMPULSORY	9	<a href="#">26024 - QUANTUM CHEMISTRY AND SPECTROSCOPY</a>
2	COMPULSORY	9	<a href="#">26025 - CHEMOMETRICS AND INSTRUMENTAL ANALYSIS</a>
2	COMPULSORY	6	<a href="#">26026 - INORGANIC SOLIDS</a>
2	COMPULSORY	6	<a href="#">26027 - ORGANIC STEREOCHEMISTRY</a>

### THIRD YEAR

#### COMPULSORY SUBJECTS

60 créditos

Curso	Título	Créditos	Subject
3	COMPULSORY	6	<a href="#">26030 - STRUCTURE DETERMINATION OF ORGANIC COMPOUNDS</a>
3	COMPULSORY	6	<a href="#">26031 - ADVANCED INORGANIC CHEMISTRY</a>
3	COMPULSORY	6	<a href="#">26032 - CHEMICAL KINETICS</a>
3	COMPULSORY	6	<a href="#">26033 - SEPARATION TECHNIQUES</a>
3	COMPULSORY	6	<a href="#">26034 - CHEMICAL ENGINEERING</a>
3	COMPULSORY	6	<a href="#">26035 - ADVANCED ORGANIC CHEMISTRY</a>
3	COMPULSORY	6	<a href="#">26036 - EXPERIMENTATION IN INORGANIC CHEMISTRY</a>
3	COMPULSORY	6	<a href="#">26037 - ADVANCED PHYSICAL CHEMISTRY</a>
3	COMPULSORY	6	<a href="#">26038 - QUALITY IN ANALYTICAL LABORATORIES</a>
3	COMPULSORY	6	<a href="#">26039 - BIOCHEMISTRY</a>

### FOURTH YEAR

#### COMPULSORY SUBJECTS

30 créditos

Curso	Título	Créditos	Subject
4	END OF DEGREE WORK	18	<a href="#">26499 - FINAL PROJECT</a>
4	COMPULSORY	6	<a href="#">26040 - PROJECTS IN CHEMISTRY</a>
4	COMPULSORY	6	<a href="#">26041 - MATERIALS SCIENCE</a>

#### OPTIONAL SUBJECTS

30 créditos

Curso	Título	Créditos	Subject
4	OPTIONAL	6	<a href="#">26000 - TRAINEESHIP</a>
4	OPTIONAL	6	<a href="#">26042 - ENVIRONMENTAL ANALYSIS</a>
4	OPTIONAL	6	<a href="#">26043 - TOXICOLOGICAL AND FORENSIC ANALYSIS</a>
4	OPTIONAL	6	<a href="#">26044 - BIOLOGY AND MOLECULAR BIOTECHNOLOGY</a>
4	OPTIONAL	6	<a href="#">26045 - ELECTROCHEMISTRY AND SUSTAINABLE DEVELOPMENT</a>
4	OPTIONAL	6	<a href="#">26046 - ENERGY AND THE ENVIRONMENT</a>
4	OPTIONAL	6	<a href="#">26047 - AGROCHEMISTRY</a>
4	OPTIONAL	6	<a href="#">26048 - COMPUTATIONAL CHEMISTRY</a>
4	OPTIONAL	6	<a href="#">26049 - FOOD CHEMISTRY</a>

4	OPTIONAL	6	<u>26050 - PHARMACEUTICAL CHEMISTRY</u>
4	OPTIONAL	6	<u>26051 - INDUSTRIAL ORGANIC CHEMISTRY</u>
4	OPTIONAL	6	<u>26052 - GREEN CHEMISTRY</u>
4	OPTIONAL	6	<u>26053 - CHEMISTRY AND BUSINESS</u>

LANGUAGE

Superado este bloque se obtiene  
**DEGREE IN CHEMISTRY**

## GENERAL OBJECTIVES OF THE DEGREE

The fundamental objective of the Degree is to produce professionals with a scientific and technological profile, and with a comprehensive knowledge of all areas related to Chemistry which will facilitate their entry into the labour market and/or further education in the form of a Master's Degree. The ultimate aims are to contribute, in conjunction with other professionals, to achieving maximum use of natural resources, minimum generation of pollutants, and the recovery and management of industrial waste, and to promote ethical commitment among future professionals to human rights and environmental sustainability.

Graduates in Chemistry are qualified to work in the production sector, research and development departments, as teachers at different educational levels, in management and in businesses related to Chemistry and other associated areas.

The general objectives of the Degree in Chemistry at the University of Alicante can be defined as follows:

- To provide students with a scientific-technological training based on current scientific methodologies.
- To promote an interest among students in learning Chemistry, thus enabling them to appreciate its applications in different contexts, and to involve students in a stimulating and satisfying learning and studying experience, providing them with an understanding of the principle theories and experimental techniques which are currently of most importance to the professional practice of Chemistry.
- To enable students to acquire a knowledge of chemistry, practical skills, and the approaches necessary for a wide range of professional activities.
- To give the students a solid and balanced theoretical-practical chemical knowledge base.
- To develop students' ability to apply their chemical knowledge to carry out scientific-technological work appropriately and resolve Chemistry problems.
- To develop students' worthwhile skills, both within the field of Chemistry and beyond.
- To provide students with a knowledge and skill base which will enable them to continue their education in more specialised areas of Chemistry, or in multi-disciplinary areas.
- To generate among students the capacity to value the importance of Chemistry in industrial, economic, environmental and social contexts.
- To facilitate graduates' entry into the labour market in any of the fields related to the skills associated with the Degree.
- To provide students with the ability to perform literature searches and use data bases to find scientific-technological information, and to keep laboratory records, draw up technical reports and produce simple scientific papers.



- [Credit structure of the degree course](#)
- [Distribution of credits per subject type](#)
- [General description of the course programme](#)

## CREDIT STRUCTURE OF THE DEGREE COURSE

The University of Alicante Chemistry Degree course programme is worth a total of 240 credits, distributed over four years each worth 60 ECTS credits. In turn, each year is organised into 30-credit semesters. The 240 credits cover all the theoretical and practical learning to be acquired by students.

In order to make the course compatible with other activities, students are allowed to take a part-time course consisting of 30 credits per academic year.

## DISTRIBUTION OF CREDITS PER SUBJECT TYPE

Subject type	Credits
Core	60
Compulsory	132
Optional	30
Final Project	18
Total credits	240

## GENERAL DESCRIPTION OF THE COURSE PROGRAMME

The Course Programme is structured into four modules (core, compulsory, complementary and optional).

- The **core module** is taken in the first year and is worth 60 credits. 48 of these credits correspond to core subjects in the area of the Sciences, and comprise the disciplines Mathematics, Physics, Chemistry, Biology and Geology. In addition, the cross-disciplinary core course, Basic Laboratory Operations (OBL), is worth 12 credits and is aimed at transmitting practical laboratory skills and cross-disciplinary skills such as IT and information skills, oral and written communication, reading documents in English (priority proficiencies at University of Alicante) and teamwork.

These first year subjects (core module) consist of a total of 10 courses, each worth 6 credits.

- The **Compulsory module** is taught over the second and third years (semesters 3, 4, 5 and 6). Students take 27 credits in each of the four essential branches of Chemistry (Analytical Chemistry, Physical Chemistry, Inorganic Chemistry and Organic Chemistry). Each course comprises three subjects worth 6 credits each, and one 9-credit subject, which together constitute the theoretical and practical aspects of each branch. Laboratory work credits are broken down differently for each of the four subjects.

The third year also includes the compulsory courses Chemical Engineering and Biochemistry, each worth 6 credits, and taught in semesters 5 and 6, respectively.

- These two courses, along with "Materials" and "Chemistry Projects" (obligatory in Year 4, Semester 8), comprise the **Complementary Module**. Aimed at complementing Chemistry Degree students' education, this module enables them to acquire all the necessary skills for professional practice in Chemistry, as regulated in Decree 2 September 1955 (Professionalism Decree); Decree 2281/1963 of 10 August, regulating the Doctorate in Industrial Chemistry and the attributes of Degree Holders; and Royal Decree 1163/2002 of 8 November, creating and regulating healthcare specialities for Chemists, Biologists and Biochemists.

The incorporation of laboratory work within each course enables the integration of theoretical and practical work. Additionally, for certain courses such as Analytical Chemistry and Inorganic Chemistry, Semester 6 will consist essentially of practical courses, in order that students may combine their theoretical and practical knowledge and apply them to complex problems, with a higher level of autonomy.

- The **optional module** contains the **Optional Subjects**, worth 78 credits and comprising 13 optional 6-credit courses, including the possibility of Work Experience. Students are required to choose a total of 6 subjects from those on offer. These are mainly applied subjects, the aim being to round off the proficiencies of future graduates by offering a series of different approaches to Chemistry. The offer of optional subjects comprises Environmental Analysis, Toxicological Analysis, Molecular Biology and Biotechnology, Electrochemistry and Sustainable

Development, Energy and the Environment, Work Experience, Agricultural Chemistry, Computational Chemistry, Chemistry and Business, Pharmaceutical Chemistry, Industrial Organic Chemistry, and Green Chemistry.

Optional Subjects will be able to be modified inside the same course in function of the organisation of the centre.

The period of realisation of work experience can vary of semester in function of the availability of the companies in that they realise .

- For the optional **Work Experience** programme, worth up to 6 credits, a framework agreement has been established between the University and collaborating businesses and institutions, offering students the possibility of working in companies and public and private institutions in the field of Chemistry, giving them a first contact with the working world and increasing their employment opportunities.
- The **Final Project**, the final phase of the Course Programme, is worth a total of 18 ECTS. These are divided into three 6-ECTS blocks, two of which are experimental and one of which is written. Within the two experimental blocks, students may carry out a range of activities: searching for information, collecting and analysing data, research (laboratory, computer, industrial processes, bibliography, etc.), etc. These activities may be performed in departments, research institutes, businesses and institutions, on the basis of the scientific activity in question. Prior to evaluation their Final Project, students are required to provide academic certification verifying fluency in English to B1 level, in accordance with University of Alicante regulations.

Anyway, the student will have to have guaranteed the possibility to obtain academic recognition of until a maximum of six credits optatives of the total of the plan of studies maded, by the participation in cultural university activities, sportive, of representation estudiantil, solidary and of cooperation. For this, the University of Alicante has of a Regulations for the academic recognition of cultural university activities, sportive, of representation estudent, solidary and of cooperation. (<http://www.boua.ua.es/pdf.asp?pdf=2490.pdf>)  
Before the beginning of each academic course, the Council of Government will define the nature of the activities that will have this academic recognition.

The Course Programme allows for optional work experience according to the following modalities:

1. Work Experience not related to the Final Project: successfully completed work experience programmes are worth up to 6 optional credits.
2. Work experience related to the Final Project: students may take 6 optional work experience credits and continue with one or two of the experimental blocks of the Final Project, up to a maximum of 18 ECTS.

Students may take up to 12 credits for work experience exclusively related to the experimental blocks of the Final Project. In this case, the Degree Supplement will specify that part of the student's Final Project comprised Work Experience.

### LANGUAGE REQUIREMENT (IN A FOREIGN LANGUAGE)

Students who study an **undergraduate degree** at the University of Alicante must **confirm** a minimum **level of B1 in a foreign language** (a B2 is recommended) in order to **obtain the diploma**.

The required language level is in accordance with the Common European Framework of Reference for Languages.

The language accreditation requirement can be obtained previously or at any time during university studies. However, the language requirement will be necessary in order to be able to **assess the final year project**.

The **different forms** of obtaining such language requirement can be consulted in the additional information in this section.

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### LANGUAGE TEACHING COMPETENCE CERTIFICATE

Students who want to have a career in non-university **teaching** when they finish their studies are **recommended** to obtain the **teaching competence certificate** (Valencian and/or foreign languages).

This certificate can be obtained by taking specific itineraries in your university studies or by taking the **UA teaching competence course in Valencian, German, French and English**.

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### FINAL YEAR PROJECT (TFG)

All the official undergraduate degrees must be completed by preparing and defending a final year project, which must be done in the final phase of the studies and be aimed at the assessment of competences associated to the degree.

The final year project must be an original, independent and personal work. The elaboration of it may be individual or coordinated. Each student will prepare this project under the supervision of a tutor, allowing students to show the received training content in an integrated many, as well as the acquired competences associated to the undergraduate degree.

In order to **register in the final year project**, students must comply with the requirements established in the "Regulations for continuation studies for students registered in undergraduate degrees at the University of Alicante". Among the requirements established to be able to register in the final year project, a minimum of 168 credits must be passed in undergraduate degrees with a total of 240 credits, and a minimum of 228 credits in undergraduate degrees with a total of 300 credits or more.

In order for **the final year project to be assessed**, a B1 level of a foreign language (B2 is recommended) must be confirmed.

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- [Access routes](#)
- [Procedure for applying for admission](#)
- [Recommended applicant profile](#)
- [Number of places and pass marks](#)

## ACCESS ROUTES

Admission to this degree course is open to any applicant who meets one of the following entrance requirements:

1. **SPANISH BACCALAUREATE (LOMCE) UNIVERSITY ENTRANCE EXAM (PAU):** Although students can access university by means of any Baccalaureate specialization, the recommended one is **Sciences**.

**ADMISSION SCORES FOR THIS DEGREE CAN BE IMPROVED BY TAKING THE SPECIFIC MODULES OF THE UNIVERSITY ENTRANCE EXAM (PAU) AS INDICATED IN THE TABLE BELOW WITH THEIR RESPECTIVE WEIGHTINGS.**

TABLE 1

MODULE WEIGHTINGS		PERFORMING ARTS	BIOLOGY	AUDIO VISUAL CULTURE I	TECHNICAL DRAWING II	DESIGN	BUSINESS ECONOMICS	PHYSICS	FUNDAMENTALS OF ART II	GEOGRAPHY	GEOLOGY	GREEK II	HISTORY OF PHILOSOPHY	HISTORY OF ART	LATIN II	MATHEMATICS APPLIED TO SOCIAL SCIENCES II	MATHEMATICS II	CHEMISTRY
		0,1																
Academic year 2017/18	0,2		X					X			X						X	X

2. **PREVIOUS BACCALAUREATES WITH OR WITHOUT A PASS IN THE UNIVERSITY ENTRANCE EXAM (PAU):** Students who have completed their Baccalaureate under previous education systems and have passed the PAU will be able to use the mark obtained in their application.

**HOWEVER, STUDENTS CAN TAKE SPECIFIC EXAM MODULES DURING THE VOLUNTARY PAU EXAM PERIOD IN ORDER TO IMPROVE THEIR ADMISSION SCORE AS SHOWN IN TABLE 1. THEY CAN ALSO SIT FOR THE OBLIGATORY PAU EXAMS, IN WHICH CASE THEY WILL HAVE TO TAKE ALL THE EXAMS SCHEDULED DURING THIS PERIOD.**

3. **VOCATIONAL EDUCATION:** Vocational educational qualifications such as senior technician, senior technician of plastic arts and design, or senior technician in sports is the preferred professional area although access to this degree may be through any professional field.

**ADMISSION SCORES CAN BE IMPROVED BY TAKING THE PAU EXAM IN UP TO 4 OF THE MODULES IN TABLE 1.**

4. **STUDENTS FROM EDUCATION SYSTEMS IN COUNTRIES OF THE EUROPEAN UNION OR OTHER STATES WITH WHICH SPAIN HAS AN INTERNATIONAL AGREEMENT:** Accreditation is required and issued by *Universidad Nacional de Educación a Distancia (UNED)*.

**STUDENTS CAN SIT FOR EXAMS IN SUBJECTS INCLUDED IN THE PRUEBAS DE COMPETENCIAS ESPECÍFICAS (PCE), ORGANISED BY THE UNED, IN ORDER TO IMPROVE THEIR ADMISSION SCORE UP TO 14 POINTS AS INDICATED IN THE WEIGHTINGS IN TABLE 1.**

5. **STUDENTS FROM FOREIGN EDUCATION SYSTEMS:** Prior to applying for the validation of their foreign Baccalaureate, students may sit for up to 4 exams in subjects offered by the *Pruebas de Competencias Específicas (PCE)* organised by UNED (at least one subject from the core subjects).

**THE WEIGHTINGS INDICATED IN TABLE 1 WILL BE APPLIED TO CORE AND/OR OPTIONAL SUBJECTS.**

6. **OTHER:** University degrees and other similar qualifications. University entrance exam for students over 25 (preferential option: Sciences). Access on the basis of professional experience (applicants over 40 years of age). Access to applicants aged 45 years or more by means of an exam.

**Weightings of the subjects of the specific phase of the Proof of Access to the University (PAU) in the previous years**

High School Diploma Subjects	Weighting parameters	Music Analysis II	Biology	Earth and Environmental Sciences	Drawing II	Technical Drawing II	Design	Business Economics	Electronics	Physics	Geography	Greek II	History of Music and Dance	Art History	Latin II	Musical Language and Practice	World Literature	Mathematics Applied to the Social Sciences II	Mathematics II	Chemistry	Expressive techniques in the Arts and Crafts	Industrial Technology II	
Academic Years 2010-11	0.1																						
2011-12	0.2		x	x		x			x	x									x	x			x
Academic Years 2012-13	0.1			x					x														x
2013-14	0.2		x							x									x	x			
2014-15																							
Academic Years 2015-16	0.1								x														x
2016-17	0.2		x	x						x									x	x			

## PROCEDURE FOR APPLYING FOR ADMISSION: PRE-ENROLMENT AND REGISTRATION

- Anticipated number of places offered during the first pre-enrolment session: 60
- In order to apply for a place, the procedure and pre-enrolment periods established each year must be observed. [Information concerning the application procedure \(Pre-enrolment\)](#).
- Applicants admitted to a course must formally register within the timescale established annually in the enrolment calendar. [Registration Information](#).

## RECOMMENDED APPLICANT PROFILE

It is recommended that students who wish to study for a degree in Chemistry have a basic scientific-technical education, and should have studied, at least, the subjects Mathematics II, Physics and Chemistry in their second year of the high school diploma course. They should also have some knowledge of Biology and Geology.

Among the qualities the future Chemistry student should possess, the following are of especial relevance:

- Capacity for work (perseverance, method and rigour).
- Capacity for reasoning and critical analysis.
- Scientific spirit.
- Capacity to obtain, interpret and apply knowledge.
- Problem-solving skills.
- Capacity for synthesis and abstraction.
- Recommended complementary education: English and user-level computing skills.

## NUMBER OF PLACES AND PASS MARKS

YEARS	NUMBER OF PLACES	PASS MARKS						
		GENERAL	OVER 25	OVER 40	OVER 45	GRADUATES	SPORTSPEOPLE	DISABLED
2010-11	60	8,660	5,720	---	---	7,040	---	---
2011-12	60	7,684	6,495	---	---	---	---	---
2012-13	60	9,192	5,000	---	---	5,000	---	---

2013-14	60	8,024	5,000	---	---	5,000	---	---
2014-15	60	9,090	---	---	5,000	5,000	---	5,000
2015-16	60	9,510	---	---	---	5,870	---	---
2016-17	60	9,172	---	---	---	---	---	---
2017-18	60	8,864	---	---	---	---	---	---

- "Pass marks" indicated correspond to the results of the first adjudication of June.
- The definitive marks can be inferior to the here collected.

## PROFESSIONAL PROFILES

There are a wide range of employment opportunities available to graduates in Chemistry, spanning the service and industrial sectors and including education and research. To meet the demand generated by companies and institutions, it is necessary to establish the following profiles:

- **Professional profile:**

The professional profile of a Chemistry graduate should meet the educational requirements of companies in the industrial and service sectors. In these organizations, the graduate may carry out the function of a "chemist", but may also take on management tasks related to Chemistry.

- **Teaching or research profile:**

Some of the employment opportunities available to graduates are related to teaching. Currently, a graduate must continue his or her studies to the level of a Master's Degree in order to be qualified to work in Secondary education. Nonetheless, the Degree in Chemistry provides the basic skills necessary to perform these tasks. In addition, research in certain scientific areas is gaining increasing importance, both in the public sector (Universities, CSIS, OPIS, etc) and in companies with their own research department.

**IMPLEMENTATION TIMESCALE***Timescale for implementation of the Degree*

Academic year	Implementation of the Degree (Grado) in Chemistry	*Phasing out of the Degree (Licenciatura) in Chemistry
2010-2011	1st year	1st year
2011-2012	2nd year	2nd year
2012-2013	3rd year	3rd year
2013-2014	4th year	4th year
2014-2015		5th year

\* This refers to the year in which teaching on this course will no longer be given. Nevertheless, students are entitled to two exam sessions per year in the two years following the implementation of the new Degree, for the corresponding courses being phased out.

**CREDIT EQUIVALENCE BETWEEN THE FORMER DEGREE (LICENCIATURA) IN CHEMISTRY AND THE NEW DEGREE (GRADO) IN CHEMISTRY**

<b>Degree (Licenciatura) in Chemistry</b>	<b>Degree (Grado) in Chemistry</b>
Physical Chemistry I (7 credits)	Chemistry I (6 credits)
Solution Chemistry (6.5 credits)	Chemistry I (6 credits)
Chemical Bonding and the Structure of Materials (7 credits)	Chemistry II (6 credits)
Introduction to the Study of Organic Molecules (6.5 credits)	Chemistry II (6 credits)
Introduction to Experimental Chemistry and Instrumental Techniques in Physical Chemistry (7.5 credits)	Basic Laboratory Operations I (6 credits)
Introduction to Experimental Chemistry and Instrumental Techniques for Analytical Chemistry (7.5 credits)	Basic Laboratory Operations I (6 credits)
Mathematics (12 credits)	Mathematics I (6 credits)
Further Mathematics (8.5 credits)	Mathematics II (6 credits)
Physics I (7.5 credits)	Physics I (6 credits)
Applied Physics (8.5)	Physics II (6 credits)
Physics II (7.5)	Physics II (6 credits)
	Biology (6 credits)
Practical Crystallography (4.5 credits)	Geology (6 credits)
Analytical Chemistry (10 credits)	Analytical Chemistry (6 credits)
Advanced Analytical Chemistry (8.5 credits)	Separation Techniques (6 credits)
Experimentation in Analytical Chemistry (5 credits)	Quality in Analytical Laboratories (6 credits)
Spectroscopic Analysis Methods (7 credits)	Chemometrics and Instrumental Analysis (9 credits)
Electroanalysis (7 credits)	
Inorganic Chemistry (10 credits)	Inorganic Chemistry (9 credits)
Introduction to Materials Science (7 credits)	Inorganic Solids (6 credits)
Advanced Inorganic Chemistry (9 credits)	Advanced Inorganic Chemistry (6 credits)
Experimentation in Synthesis in Inorganic Chemistry (7.5 credits)	Experimentation in Inorganic Chemistry (6 credits)
Experimentation in Inorganic Chemistry (5 credits)	
Materials Science (6 credits)	Materials Science (6 credits)
Organic Chemistry (9.5 credits)	Organic Chemistry (9 credits)
Organic Stereochemistry (5 credits)	Organic Stereochemistry (6 credits)
Experimentation in Synthesis in Organic Chemistry (7.5 credits)	
Advanced Organic Chemistry (9 credits)	Advanced Organic Chemistry (6 credits)
Structure Determination (9 credits)	Structure Determination of Organic Compounds (6 credits)
Experimentation in Organic Chemistry (5 credits)	
Physical Chemistry I (7 credits)	Chemical Thermodynamics (6 credits)
Further Quantum Chemistry (4.5 credits)	Quantum Chemistry and Spectroscopy (9 credits)
Advanced Physical Chemistry II (8.5 credits)	
Advanced Physical Chemistry I (4.5 credits)	Advanced Physical Chemistry (6 credits)
Electrochemistry (6 credits)	

Further Physical Chemistry (4.5 credits)	Chemical Kinetics (6 credits)
Advanced Physical Chemistry II (8.5 credits)	
Experimentation in Physical Chemistry (5 credits)	
Chemical Engineering (10 credits)	Chemical Engineering (6 credits)
Biochemistry (7 credits)	Biochemistry (6 credits)
Advanced Biochemistry (4.5 credits)	Biology and Molecular Biotechnology (Optional) (6 credits)
Fundamentos de Química Agrícola (4.5 créditos)	Agricultural Chemistry (Optional) (6 credits)
Intern Work Experience (6 credits)	Intern Work Experience (Optional) (6 credits)
	Projects in Chemistry (6 credits)
	Final Project (6 credits)

Two routes for credit equivalence recognition have been established, both requiring application by the interested party and subject to approval by the Commission for Recognition and Assessment of Academic Records.

#### Equivalence recognition by individual subject:

*The above Table details credit equivalence between credits taken in the Degree (Licenciatura) in Chemistry at the University of Alicante, and the new Degree (Grado) in Chemistry.*

If the student has studied at another centre, the Commission for Recognition and Assessment of Academic Records will consider the case, basing decisions on the above Table of Credit Equivalence.

#### Equivalence recognition by subject blocks

1. Students who have passed the first year of the Degree (*Licenciatura*) in Chemistry will be considered as having passed the first year of the Degree (*Grado*) in Chemistry. This in addition to the application of the credit equivalences listed in the above Table for subjects corresponding to the remaining academic years.
2. Any core, compulsory and optional subjects taken by students on the present Degree (*Licenciatura*) which do not have direct equivalence with subjects on the new Degree (*Grado*), will be given credit equivalence as Optional credits.
3. Any other equivalence recognition requested will be considered by the Commission for Recognition and Assessment of Academic Records, in accordance with current legislation.

## DEGREE IN CHEMISTRY. SYLLABUS SUMMARY

## ESTRUCTURA DEL PLAN DE ESTUDIOS POR TIPO DE MATERIA

TIPO DE MATERIA	CRÉDITOS
Formación básica (FB)	60
Obligatorias (OB)	150
Optativas incluidas	24
Prácticas Externas (OP)	6
Trabajo Fin de Grado	6
<b>Total créditos</b>	<b>240</b>

## DISTRIBUCIÓN POR CURSOS

PRIMER CURSO		SEGUNDO CURSO		TERCER CURSO		CUARTO CURSO	
Semestre 1	Semestre 2	Semestre 3	Semestre 4	Semestre 5	Semestre 6	Semestre 7	Semestre 8
Química I 6 ECTS	Química II 6 ECTS	Termodinámica Química 6 ECTS	Sólidos Inorgánicos 6 ECTS	Determinación Estructural de Compuestos Orgánicos 6 ECTS	Química Orgánica Avanzada 6 ECTS	Ciencia de Materiales 6 ECTS	Proyectos en Química 6 ECTS
Matemáticas I 6 ECTS	Matemáticas II 6 ECTS	Química Orgánica 9 ECTS	Quimiometría y Análisis Instrumental 9 ECTS	Química Inorgánica Avanzada 6 ECTS	Experimentación Química Inorgánica 6 ECTS	Asignatura Optativa <sup>(2)</sup> 6 ECTS	Trabajo Fin de Grado <sup>(1)</sup> 18 ECTS
Física I 6 ECTS	Física II 6 ECTS			Química Inorgánica Avanzada 6 ECTS	Cinética Química 6 ECTS	Asignatura Optativa <sup>(2)</sup> 6 ECTS	
Biología 6 ECTS	Operaciones Básicas de Laboratorio I 6 ECTS	Química Inorgánica 9 ECTS	Química Cuántica y Espectroscopia 9 ECTS	Técnicas de Separación 6 ECTS	Calidad en el Laboratorio Analítico 6 ECTS	Asignatura Optativa <sup>(2)</sup> 6 ECTS	
Geología 6 ECTS	Operaciones Básicas de Laboratorio II 6 ECTS	Química Analítica 6 ECTS	Estereoquímica Orgánica 6 ECTS	Ingeniería Química 6 ECTS	Bioquímica 6 ECTS	Asignatura Optativa <sup>(2)</sup> 6 ECTS	
						Asignatura Optativa <sup>(2)</sup> 6 ECTS	

<sup>(1)</sup> Previamente a la evaluación del Trabajo Fin de Grado el alumno debe acreditar el nivel B1 de inglés de acuerdo con la Normativa establecida en la UA.

<sup>(2)</sup> **Optatividad:** la oferta del semestre 7 está compuesta por 10 asignaturas de las que el alumno elige 4 y en el semestre 8 la oferta es de 2 asignaturas de las que el alumno debe cursar una. La asignatura "Prácticas Externas" puede ser cursada por el estudiante en cualquiera de los dos semestres. La adscripción de las asignaturas a los semestres 7 y 8 se realizará estableciendo un procedimiento de rotación anual de las mismas.

ASIGNATURAS OPTATIVAS			
Análisis Medioambiental	6 ECTS	Química Computacional	6 ECTS
Análisis Toxicológico y Forense	6 ECTS	Química y Empresa	6 ECTS
Biología y Biotecnología Molecular	6 ECTS	Química Orgánica Industrial	6 ECTS
Electroquímica y Desarrollo Sostenible	6 ECTS	Química Verde	6 ECTS
Química Farmacéutica	6 ECTS	Química de los Alimentos	6 ECTS
Energía y Medioambiente	6 ECTS	Prácticas Externas	6 ECTS
Química Agrícola	6 ECTS		





- [Verified Report](#)
- [Resolution from the Universities Council: Positive verification](#)
- [Resolution from the Universities Council: Accreditation renewal](#)
- [Authorization from the Valencian Government](#)

## Internal Quality Assurance System (SGIC) of the Title

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- Structure of the Centre for Quality
  - [Comission of Internal Quality Guarantee](#)
  - [Other Commissions](#)
- [Handbook SGIC](#)
- [Procedures](#)
  - [Strategic \(PE\)](#)
  - [Key \(PC\)](#)
  - [Support \(PA\)](#)
  - [Measurement \(PM\)](#)
- [Management of the SGIC \(Access to ASTUA\)](#) 

## Follow-up of the Title

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- [Self-reports UA](#)
- [External reports AVAP](#)
- [Other reports](#)
- [Improvement Plans](#)
- [Progress and Learning Outcomes](#)

Information about the Centre	General information for students
<ul style="list-style-type: none"> <li>• <b>Faculty of Sciences</b> Telephone:+ 34 96 590 3557 Fax:+ 34 96 590 3781 <a href="mailto:facu.ciencias@ua.es">facu.ciencias@ua.es</a> <a href="http://ciencias.ua.es/en/">http://ciencias.ua.es/en/</a></li> <li>• <a href="#">Mobility Programmes</a></li> <li>• <a href="#">Work experience with companies and institutions</a></li> <li>• <a href="#">Reception and welcome events</a></li> <li>• <a href="#">Tutorial Action Programme</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Grants and assistance</a></li> <li>• <a href="#">Accommodation</a></li> <li>• <a href="#">Student refectories and cafeterias</a></li> <li>• <a href="#">Transport</a></li> <li>• <a href="#">Emergency medical care</a></li> <li>• <a href="#">Insurance</a></li> <li>• <a href="#">Services for students with special needs</a></li> <li>• <a href="#">Student representation and participation</a></li> <li>• <a href="#">University student identity card (TIU)</a></li> <li>• <a href="#">Frequently asked questions</a></li> </ul>
UA: General Regulations	+ Information about qualifications
<ul style="list-style-type: none"> <li>• <a href="#">Academic regulations and procedures of the University of Alicante</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Official State Gazette (BOE) on publication of course programmes</a></li> <li>• <a href="#">Own Web</a></li> <li>• <a href="#">Information pamphlet</a></li> <li>• <a href="#">Video presentation of the degree</a></li> </ul>