

CHEMISTRY DEGREE

ACADEMIC YEAR 2007/2008

Degree	Chemistry
Centre	Faculty of Sciences C/Francisco Tomás y Valiente, 7 Campus de Cantoblanco 28049 – Madrid Phone: 914976879 Web page
Academic Credits	300
1 st and 2 nd cycle	

Total Credits	Compulsory Credits	Optional Credits	Free Election Credits	Total
First Cycle	125	12	13	150
Second Cycle	84	46	20	150
Total	209	58	33	300

FIRST CYCLE

First Course	Compulsory Credits 65	Optional Credits *	Free Election Credits **
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Code	Subject	Type	Credits	Semester
12680	Mechanics	(Tr)	6	1
12681	Chemical Bond and Structure	(Tr)	3	1
12682	Basic Experimental Tools	(Tr)	4	1
12685	Chemical Equilibrium	(Tr)	5	1
12686	Crystallography	(Ob)	3	1
12687	Calculus	(Tr)	6	1
12690	Additional Topics in Bond Theory and Structure	(Ob)	3	1
12683	Introduction to Experimental Physical Chemistry	(Tr)	7	2
12684	Introduction to Experimental Analytical Chemistry	(Tr)	7	2
12679	Algebra, Geometry and Statistics	(Tr)	6	2
12688	Electromagnetism and Optics	(Tr)	6	2
12689	Fundamentals of Quantum Chemistry	(Tr)	5	2
12691	Foundamentals of Thermodynamic	(Ob)	4	2

Second Course	Compulsory Credits 60	Optional Credits *	Free Election Credits **
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Code	Subject	Type	Credits	Semester
12693	Inorganic Chemistry	(Tr)	10	Annual
12694	Organic Chemistry	(Tr)	10	Annual
12695	Chemical Engineering	(Tr)	7	1
12696	Physical Chemistry	(Tr)	5	1
12698	Experimental Inorganic Synthesis	(Tr)	8	1
12699	Experimental Organic Synthesis	(Tr)	8	2
12692	Analytical Chemistry	(Tr)	5	2
12697	Biochemistry	(Tr)	7	2

Optional Subjects Offer in the First Cycle (Academic Year 2006/07)

Code	Subject	Type	Credits	Semester
12715	Biology for Chemists	(Op)	6	1
12718	Statistical Thermodynamics	(Op)	4	1
12719	The Mathematical Methods of the Chemistry	(Op)	4	1
12720	Computation in Chemistry	(Op)	4	1 y 2
12714	Agricultural Chemistry	(Op)	4	2
12716	Geochemistry	(Op)	4	2
12717	Separation Analytical Methods	(Op)	4	2

SECOND CYCLE

Third Course	Compulsory Credits 60	Optional Credits *	Free Election Credits **
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Code	Subject	Type	Credits	Semester
12701	Advanced Organic Chemistry	(Tr)	8	Annual
12703	Experimental Analytical Chemistry	(Tr)	6	Annual
12704	Experimental Physical Chemistry	(Tr)	6	Annual
12706	Inorganic Compounds	(Tr)	8	Annual
12708	Experimental Inorganic Chemistry	(Tr)	6	Annual
12709	Experimental Organic Chemistry	(Tr)	6	Annual
12700	Applications of Quantum Chemistry	(Tr)	4	1
12702	Instrumental Analytical Chemistry	(Ob)	5	1
12707	Structural Determination	(Tr)	7	2
12705	Advanced Physical Chemistry	(Tr)	4	2

Fourth Course	Compulsory Credits 24	Optional Credits *	Free Election Credits **
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Code	Subject	Type	Credits	Semester
12710	Advanced Analytical Chemistry	(Tr)	8	Annual
12711	Molecular Interactions and Structure	(Ob)	5	1
12713	Inorganic Chemistry of Organometallic Compounds	(Ob)	5	1
12712	Materials Science	(Tr)	6	2

(Tr): Troncal = Compulsory Credits

(Ob): Obligatorio = Compulsory Credits

(Op): Optativo = Optional Credits

Optional Subjects Offer in the Second Cycle (Academic Year 2006/07)

Code	Subject	Credits	Semester
12727	Advanced Experimentation in Analytical Chemistry	12	1
12733	Ionic Electrochemistry	4	1
12736	Advanced Laboratory of Electrochemistry	10	1
12737	Lasers	4	1
12740	Nuclear Chemistry	4	1
12743	X-ray Diffraction and Fluorescence	4	1
12746	Physical Chemistry of Solid State	6	1
12747	Symmetry in Chemistry	4	1
12751	Introduction to Dynamic Processes and Chemical Reactivity	4	1
12752	Atmospheric Chemistry and Astrochemistry	4	1
12759	Advanced Experimentation in Inorganic Chemistry	18	1
12766	Experimental Advanced Organic Chemistry	18	1
12768	Chemistry of Agricultural Products	6 (4+2)	1
12772	Soil Chemistry	6 (4+2)	1
12779	Design of Agricultural Experiment	4	1
12780	Geochemistry of Natural Processes	6	1
12781	Geochemistry of the elements in Weathering	6	1
12785	Exploration Geochemistry	6	1
12786	Experimental Advanced Geochemistry	10	1
12790	Macroscopic Models for New Materials	4	1
12721	Electroanalytical Methods	4	2
12722	Optical Methods and Other Methods	4	2
12724	Environmental Analytical Chemistry	4	2
12726	Analytical Methods in Clinical Chemistry	4	2
12731	Industrial Electrochemistry	4	2
12732	Corrosion and Protection Against Corrosion	4	2
12739	Electronic Spectroscopy	6	2
12741	Radiochemistry	4	2
12745	Photochemistry	4	2
12755	Coordination and Organometallic Compounds: Reactivity and Applications	6	2
12756	Bioinorganic Chemistry	4	2
12757	Structural Determination in Inorganic Chemistry	4	2
12758	Solid State Chemistry	4	2
12760	Starting Materials and Industrial Processes	6	2
12761	Organic Chemistry of Primary and Secondary Metabolism	4	2
12762	Structural Analysis of Organic Compounds	6	2
12763	Aromatic and Heterocyclic Chemistry	6	2
12764	Mechanisms of Organic Reactions	6	2
12765	Organic Chemistry and Chemical Information	6	2
12769	Pesticides: Chemistry and Mode of Action	6 (4+2)	2
12771	Soil Science	6	2
12774	Fertilizers and Fertilization	6 (4+2)	2
12775	Agricultural Pollution	6 (4+2)	2
12778	Conservation of Food and Agriculture Products	6	2
12782	Mineralogy and Mineral Genesis	6	2
12783	Physical Chemistry of Minerals	6	2
12784	Environmental Pollution and Hydrogeochemistry	6	2