



(*)Facultade de Química

Presentation

The studies of Chemistry have a large tradition at the University of Vigo, where it has been taught during more than 30 years. The establishment of the University System of Galicia in the 90s and the current process of implantation of the European Space of Higher Education (EEES) modified the offer of degrees, but not the pioneering spirit of the chemists in research or in the quest for a better service to the society.



Degrees given in the Faculty

Degree in Chemistry

- Masters And Doctorates:
 - Industry and Chemical Research and Industrial Chemistry
 - Theoretical chemistry and Computational Modelling
- Master:
 - Science and Technology of Conservation of Fishing Products

Web page

Information about the Faculty of Chemistry:

<http://quimica.uvigo.es>

Máster Universitario en Investigación Química y Química Industrial

Subjects

Year 1st

Code	Name	Quadmester	Total Cr.
V11M162V02103	Advanced Structural Determination	1st	3
V11M162V02104	Industrial Processes and Sustainability	1st	3
V11M162V02107	Supramolecular Chemistry	2nd	3
V11M162V02110	Applied Coordination Chemistry	1st	3
V11M162V02111	Organometallic Chemistry	1st	3

V11M162V02112	Synthetic Applications of Organometallic Compounds	2nd	3
V11M162V02113	Stereoselective Synthesis	1st	3
V11M162V02115	Chemistry of Biomolecules	1st	3
V11M162V02116	Metals in Biological Processes	1st	3
V11M162V02117	Medicinal Chemistry	2nd	3
V11M162V02119	The Chemistry of Natural Products	2nd	3
V11M162V02120	Preparation of Nanomaterials	1st	3
V11M162V02121	Advanced Techniques for the Characterization of Materials	2nd	3
V11M162V02122	Properties of Materials	1st	3
V11M162V02128	Chromatography and Analytical Separation	2nd	3
V11M162V02129	Industrial Chemistry: Process control	2nd	3
V11M162V02130	Quality in the Chemistry Laboratory	1st	3
V11M162V02131	Industrial Safety	1st	3
V11M162V02132	Management in Chemical Industry	1st	3
V11M162V02133	Industrial Legislation	2nd	3
V11M162V02134	Economics and Industry	1st	3
V11M162V02135	Human Resources	1st	3
V11M162V02138	Project Management	1st	3
V11M162V02140	Validation of analytical methodologies	1st	3
V11M162V02141	Characterisation of materials and biointerfaces	1st	3
V11M162V02142	Scientific transfer and communication	1st	3
V11M162V02143	Physical chemistry of natural media	1st	3
V11M162V02144	Environmental Chemistry	2nd	3
V11M162V02145	Techniques for controlling environmental pollution	2nd	3
V11M162V02146		1st	3
V11M162V02147		1st	3
V11M162V02148	Initiation to research	An	6
V11M162V02149	Clinical and methodological analyzes	1st	3
V11M162V02150	Polymeric molecular materials	1st	3
V11M162V02151	Applications of nanomaterials and new materials	2nd	3
V11M162V02152	Advanced sample preparation techniques	1st	3
V11M162V02153	Advanced atomic techniques and sensors	1st	3
V11M162V02154	Analytical mass spectrometry	2nd	3
V11M162V02155	Fluorescence spectroscopy and photochemistry	1st	3

IDENTIFYING DATA				
Advanced Structural Determination				
Subject	Advanced Structural Determination			
Code	V11M162V02103			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	1st
Teaching language	Spanish Galician			
Department				
Coordinator	Muñoz López, Luis Talavera Nevado, María			
Lecturers	Muñoz López, Luis Talavera Nevado, María			
E-mail	Imunoz@uvigo.es matalaveran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/advanced-strutural-determination-17767-17013-2-95796			

Training and Learning Results

Code

Expected results from this subject

Expected results from this subject Training and Learning Results

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Topic

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Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

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Personalized assistance

Assessment

Description	Qualification	Training and Learning Results
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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Industrial Processes and Sustainability				
Subject	Industrial Processes and Sustainability			
Code	V11M162V02104			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Domínguez Seoane, Marta Souto Salgado, José Antonio			
Lecturers	Domínguez Seoane, Marta Souto Salgado, José Antonio			
E-mail	souto@uvigo.es mseane@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/industrial-processes-and-sustainability-17767-17013-2-95797			

Training and Learning Results

Code

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Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Supramolecular Chemistry				
Subject	Supramolecular Chemistry			
Code	V11M162V02107			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish Galician			
Department				
Coordinator	Valencia Matarranz, Laura María Freire Iribarne, Félix			
Lecturers	Freire Iribarne, Félix Valencia Matarranz, Laura María			
E-mail	felixmanuel.freire@uvigo.es qilaura@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/supramolecular-chemistry-op-17769-17015-3-91602			

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Planning			
	Class hours	Hours outside the classroom	Total hours
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Methodologies	
	Description

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Assessment		
Description	Qualification	Training and Learning Results

Other comments on the Evaluation	
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Sources of information	
Basic Bibliography	
Complementary Bibliography	

Recommendations	
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IDENTIFYING DATA

Applied Coordination Chemistry

Subject	Applied Coordination Chemistry			
Code	V11M162V02110			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish Galician			
Department				
Coordinator	Vázquez López, Ezequiel Manuel Pérez Lourido, Paulo Antonio			
Lecturers	Pérez Lourido, Paulo Antonio Vázquez López, Ezequiel Manuel			
E-mail	ezequiel@uvigo.es paulo@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262-027/applied-coordination-chemistry-17769-17015-3-95799			

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	Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

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Personalized assistance

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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Química Organometálica				
Subject	Química Organometálica			
Code	V11M162V02111			
Study programme	Máster Universitario en Investigación Química e Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1	1c
Teaching language	Castelán			
Department	Química inorgánica			
Coordinator	García Fontán, María Soledad Bolaño García, Sandra			
Lecturers	Bolaño García, Sandra García Fontán, María Soledad Talavera Nevado, María			
E-mail	sgarcia@uvigo.es bgs@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	A guía docente desta materia estará dispoñible na seguinte ligazón: https://www.usc.gal/gl/estudos/masteres/ciencias/master-universitario-investigacion-quimica-quimica-industrial/20262027/quimica-organometalica-17769-17015-3-95800			

Resultados de Formación e Aprendizaxe	
Code	

Resultados previstos na materia	
Expected results from this subject	Training and Learning Results

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Planificación			
	Class hours	Hours outside the classroom	Total hours
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Metodoloxía docente	
	Description

Atención personalizada	
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Avaliación		
Description	Qualification	Training and Learning Results

Other comments on the Evaluation	
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Bibliografía. Fontes de información	
Basic Bibliography	
Complementary Bibliography	

Recomendacións	
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IDENTIFYING DATA				
Synthetic Applications of Organometallic Compounds				
Subject	Synthetic Applications of Organometallic Compounds			
Code	V11M162V02112			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish Galician			
Department				
Coordinator	Álvarez Rodríguez, Rosana Martínez Fernández, Claudio			
Lecturers	Álvarez Rodríguez, Rosana Martínez Fernández, Claudio			
E-mail	claudiom@uvigo.es rar@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/es/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/synthetic-applications-organometallic-compounds-17769-17015-3-95801			

Training and Learning Results

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Expected results from this subject

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New

New

New

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Topic

(*)1. Reacciones de acoplamiento cruzado e reacción de Heck	(*)Reacciones de acoplamiento cruzado e reacción de Heck
(*)2. Reacciones de inserción	(*)Reacciones de inserción
(*)3. Reacciones de complejos π 3-alilo	(*)Reacciones de complejos π 3-alilo
(*)4. Reacciones de complejos metálicos de alquenos, alquinos, dienos e arenas	(*)Reacciones de complejos metálicos de alquenos, alquinos, dienos e arenas
(*)5. Reactividade dos carbenos metálicos	(*)Reactividade dos carbenos metálicos
(*)6. Reacciones de activación de enlaces CH.	(*)Reacciones de activación de enlaces CH.

Planning

	Class hours	Hours outside the classroom	Total hours
Seminars	11	21	32
Lecturing	10	21	31
Problem and/or exercise solving	2	10	12

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Methodologies

	Description
Seminars	(*)Realizaranse exercicios de cada tema, ben empregando o encerado o ben de maneira individual
Lecturing	(*)Empregarase material adiantado aos alumnos para introducir as reaccións de cada tema. Empregarase tamén o encerado

Personalized assistance

Methodologies	Description
Lecturing	
Seminars	
Tests	Description

Assessment			
	Description	Qualification	Training and Learning Results
Problem and/or exercise solving	(*)Ao final da materia haberá unha proba escrita de 2-3 horas.	100	

Other comments on the Evaluation

Sources of information

Basic Bibliography

Bates, R., **Organic Synthesis Using Transition Metals**, 2nd, wiley, 2012

Hegedus, L. S., **Transition Metals in the Synthesis of Complex Organic Molecules**, 2nd, University Science Books, 1999

Complementary Bibliography

Recommendations

Subjects that it is recommended to have taken before

Applied Coordination Chemistry/V11M162V02110

Organometallic Chemistry/V11M162V02111

IDENTIFYING DATA				
Stereoselective Synthesis				
Subject	Stereoselective Synthesis			
Code	V11M162V02113			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Álvarez Rodríguez, Rosana Vaz Araújo, Belén			
Lecturers	Álvarez Rodríguez, Rosana Vaz Araújo, Belén			
E-mail	belenvaz@uvigo.es rar@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/stereoselective-synthesis-op-17769-17015-3-91607			

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Planning			
	Class hours	Hours outside the classroom	Total hours
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Methodologies	
	Description

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Assessment		
Description	Qualification	Training and Learning Results

Other comments on the Evaluation	
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Sources of information	
Basic Bibliography	
Complementary Bibliography	

Recommendations	
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IDENTIFYING DATA				
Chemistry of Biomolecules				
Subject	Chemistry of Biomolecules			
Code	V11M162V02115			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Teijeira Bautista, Marta			
Lecturers	Besada Pereira, Pedro Ortolano, Saida Teijeira Bautista, Marta			
E-mail	qomaca@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	(*)The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/biomolecule-chemistry-op-17770-17016-3-91609			

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Topic

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Methodologies

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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Metals in Biological Processes				
Subject	Metals in Biological Processes			
Code	V11M162V02116			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish Galician			
Department				
Coordinator	Vázquez López, Ezequiel Manuel Couce Fortúnez, María Delfina			
Lecturers	Couce Fortúnez, María Delfina Vázquez López, Ezequiel Manuel			
E-mail	delfina@uvigo.es ezequiel@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/metals-biological-processes-17770-17016-3-98949			

Training and Learning Results

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	Class hours	Hours outside the classroom	Total hours
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Personalized assistance

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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA

Medicinal Chemistry

Subject	Medicinal Chemistry			
Code	V11M162V02117			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	Teijeira Bautista, Marta Terán Moldes, María del Carmen			
Lecturers	Teijeira Bautista, Marta Terán Moldes, María del Carmen			
E-mail	qomaca@uvigo.es mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/medical-chemistry-op-17770-17016-3-91610			

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	Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

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Personalized assistance

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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
The Chemistry of Natural Products				
Subject	The Chemistry of Natural Products			
Code	V11M162V02119			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	Besada Pereira, Pedro			
Lecturers	Besada Pereira, Pedro Lorenzo Fernández, Paula			
E-mail	pbes@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/chemistry-natural-products-17770-17016-3-92896			

Training and Learning Results

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	Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

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Personalized assistance

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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Preparation of Nanomaterials				
Subject	Preparation of Nanomaterials			
Code	V11M162V02120			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Pérez Juste, Jorge Correa Duarte, Miguel Ángel			
Lecturers	Correa Duarte, Miguel Ángel Pérez Juste, Jorge			
E-mail	macorrea@uvigo.es juste@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/preparation-nanomaterials-17771-17017-3-95804			

Training and Learning Results

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Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	0	0	0
Seminars	0	0	0

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

Methodologies

	Description
Lecturing	
Seminars	

Personalized assistance

Assessment

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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Advanced Techniques for the Characterization of Materials				
Subject	Advanced Techniques for the Characterization of Materials			
Code	V11M162V02121			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	Pérez Juste, Jorge Correa Duarte, Miguel Ángel			
Lecturers	Correa Duarte, Miguel Ángel Pérez Juste, Jorge Rivas Murias, Beatriz			
E-mail	macorrea@uvigo.es juste@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/advanced-materials-characterization-techniques-17771-17017-3-98951			

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

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IDENTIFYING DATA				
Properties of Materials				
Subject	Properties of Materials			
Code	V11M162V02122			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	#EnglishFriendly Spanish Galician			
Department				
Coordinator	Pastoriza Santos, Isabel Salgueiriño Maceira, Verónica			
Lecturers	Pastoriza Santos, Isabel Renero Lecuna, Carlos Rivas Murias, Beatriz Salgueiriño Maceira, Verónica Vázquez Besteiro, Lucas			
E-mail	vsalgue@uvigo.es pastoriza@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	(*)The teaching guide for this subject will be available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/material-properties-op-17771-17017-3-91614 English Friendly subject: International students may request from the teachers: a) resources and bibliographic references in English, b) tutoring sessions in English, c) exams and assessments in English.			

Training and Learning Results	
Code	
Expected results from this subject	
Expected results from this subject	Training and Learning Results
New	
New	
New	
New	
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New	

Contents	
Topic	
(*)TEMA 1. Modelos clásicos e cuánticos de electróns libres: o modelo de Drude e o modelo de Sommerfeld. Efecto do potencial periódico da rede nas propiedades do gas de electróns.	(*)Neste primeiro tema introdúcese as aproximacións para obter a conductividade eléctrica, térmica e o efecto Hall nun gas de electróns libres. A continuación descríbese o efecto da cuantización da enerxía e o principio de exclusión de Pauli sobre a estatística electrónica e as propiedades do modelo de electróns libres: o modelo de Sommerfeld. A calor específica, e a conductividade eléctrica. Descríbenos os inconvenientes dos modelos de electróns libres e a necesidade de ter en conta a interacción dos electróns co potencial periódico da rede cristalina para describir sistemas reais. A continuación explícanse as zonas de Brillouin, o teorema de Bloch e fórmase unha teoría de bandas para electróns libres. Densidad de estados electrónicos. Para rematar demóstrase como a aparición de gaps de enerxía prohibida nas bandas de estados electrónicos son unha consecuencia da interacción con ese potencial periódico.

(*)TEMA 2. Cuantización da energía de rede: fonones Neste tema explícase a cuantización da enerxía de rede e calcúlase a relación de dispersión para unha rede monoatómica unidimensional na aproximación do oscilador armónico (velocidade do son e conductividade térmica).	(*)Introdúcese o efecto de romper a simetría (dous átomos distintos, máis dunha dimensión, etc) sobre a relación de dispersión: modos ópticos e acústicos. Introdúcese o modelo de Debye para a conductividade térmica e a expansión térmica.
(*)TEMA 3. Técnicas experimentais na determinación de propiedades de transporte eléctrico e térmico.	(*)Explicaranse os aspectos fundamentais das principais técnicas experimentais na determinación de propiedades de transporte eléctrico e térmico en sólidos: conductividade eléctrica, conductividade térmica, poder termoeléctrico e efecto Hall.
(*)TEMA 4. Fenómenos cooperativos en aislantes: Ferroelectricidad e Magnetismo localizado.	(*)Introdúcense os fenómenos de polarización e o concepto de constante dieléctrica. Farase un tratamento xeral deste fenómeno para que os estudantes comprendan a relación no tratamento de fenómenos similares como a susceptibilidade magnética. Ecuación de Clausius-Mossotti e ecuación de Debye (dipolos inducidos e permanentes). Orixe dos materiais ferroeléctricos e o seu fenomenoloxía. Efecto do tamaño do sistema sobre a ferroelectricidad. A orixe do momento magnético e os distintos tipos de resposta a un campo aplicado. A función de Brillouin. Interacción de intercambio e a orixe da magnetización espontánea: Ferromagnetismo. Efecto da enerxía magnetostática sobre a enerxía total do sistema e a formación de dominios magnéticos. Sistemas monodominio e fenomenoloxía de sistemas magnéticos nanoestructurados.
(*)TEMA 5. Propiedades ópticas de materiais: aspectos xerais. Propiedades ópticas de metais e semicondutores.	(*)Plasmones: excitacións do gas de electróns libres. Cálculo da frecuencia de resonancia de plasma nun metal. Plasmones masivos, superficiais e localizados. Teoría de Mie e teoría de Gans. Métodos numéricos. Efecto da redución da dimensionalidade sobre as propiedades ópticas. Band gaps directos e indirectos. Excitones. Puntos cuánticos (nanopartículas) etc.

Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	9	10	19
Seminars	8	30	38
Laboratory practical	6	8	14
Objective questions exam	1	3	4

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

Methodologies

	Description
Lecturing	(*)As clases de teoría se impartirán en pizarra con apoio en power point.
Seminars	(*)Se impartirán clases de seminario e tutorías para resolución de problemas concretos ou exposición de traballos por parte do alumno
Laboratory practical	(*)Se impartirán nos laboratorios e se realizarán experimentos por parte dos alumnos.

Personalized assistance

Methodologies	Description
Lecturing	
Seminars	
Laboratory practical	
Tests	Description
Objective questions exam	

Assessment

	Description	Qualification	Training and Learning Results
Lecturing	(*)se evaluará a través dunha proba escrita	60	
Seminars	(*)se evaluará a través de probas curtas, exposición orais, resolución de problemas, etc.	25	

Other comments on the Evaluation

Sources of information

Basic Bibliography

S. Elliot, **The Physics and Chemistry of Solids**, Wiley&Sons, 2008

P. A. Cox, **The Electronic Structure and Chemistry of Solids**, Oxford University Press,

J. M. Ziman, **Principles of the Theory of Solids**, Cambridge University Press,

J. B. Goodenough, **Magnetism and the Chemical Bond**, Interscience Publishers,

Craig F. Bohren, Donald R. Huffman, **Absorption and Scattering of Light by Small Particles**, WILEY&VCH Verlag GmbH & Co. KGaA,

C. Kittel, **Introduction to Solid State Physics**, 8ª, Wiley, 2005

J. Maza, J. Mosqueira, J.A. Veira, **Física del Estado Sólido**, USC publicacións., 2012

N.W. Ashcroft and N.V. Mermin, **Solid State Physics**, Saunderson College, 1976

John Singleton, **Band Theory and Electronic Properties of Solids**, Oxford Master Series in Physics, 2001

Ewen Smith, Geoffrey Dent, **Modern Raman Spectroscopy □ A Practical Approach**, John Wiley & Sons, Ltd, 2005

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Chromatography and Analytical Separation				
Subject	Chromatography and Analytical Separation			
Code	V11M162V02128			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	Martínez Fernández, Claudio			
Lecturers	Martínez Fernández, Claudio Pérez Santin, Efrén			
E-mail	claudiom@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/analytical-separation-and-chromatography-techniques-17772-17018-3-92897			

Training and Learning Results

Code

Expected results from this subject

Expected results from this subject	Training and Learning Results
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Contents

Topic

Planning

Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

Description

Personalized assistance

Assessment

Description	Qualification	Training and Learning Results
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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Industrial Chemistry: Process control				
Subject	Industrial Chemistry: Process control			
Code	V11M162V02129			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	Sánchez Vázquez, Pablo Breogán			
Lecturers	Sánchez Vázquez, Pablo Breogán			
E-mail	pabsanchez@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/industrial-chemistry-process-control-17773-17019-3-91621			

Training and Learning Results
Code

Expected results from this subject	
Expected results from this subject	Training and Learning Results

Contents
Topic

Planning			
	Class hours	Hours outside the classroom	Total hours

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

Methodologies
Description

Personalized assistance

Assessment		
Description	Qualification	Training and Learning Results

Other comments on the Evaluation

Sources of information
Basic Bibliography
Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Quality in the Chemistry Laboratory				
Subject	Quality in the Chemistry Laboratory			
Code	V11M162V02130			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	#EnglishFriendly Spanish			
Department				
Coordinator	Romero Rivas, Vanesa			
Lecturers	Romero Rivas, Vanesa			
E-mail	vromero@uvigo.gal			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/quality-chemical-laboratories-17773-17019-3-91622 English Friendly subject: International students may request from the teachers: a) resources and bibliographic references in English, b) tutoring sessions in English, c) exams and assessments in English.			

Training and Learning Results

Code	
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Expected results from this subject

Expected results from this subject	Training and Learning Results
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Contents

Topic	
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Planning

	Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

Description	
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Personalized assistance

Assessment

Description	Qualification	Training and Learning Results
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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Industrial Safety				
Subject	Industrial Safety			
Code	V11M162V02131			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	González de Prado, Begoña			
Lecturers	González de Prado, Begoña			
E-mail	bgp@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/industrial-security-17773-17019-3-91623			

Training and Learning Results

Code

Expected results from this subject

Expected results from this subject	Training and Learning Results
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Topic

Planning

	Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

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Personalized assistance

Assessment

Description	Qualification	Training and Learning Results
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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Management in Chemical Industry				
Subject	Management in Chemical Industry			
Code	V11M162V02132			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Rosales Villanueva, Emilio			
Lecturers	Rosales Villanueva, Emilio			
E-mail	emiliorv@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/management-systems-chemical-industry-17773-17019-3-91624			

Training and Learning Results
Code

Expected results from this subject	
Expected results from this subject	Training and Learning Results

Contents
Topic

Planning			
	Class hours	Hours outside the classroom	Total hours
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Methodologies
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Personalized assistance

Assessment		
Description	Qualification	Training and Learning Results

Other comments on the Evaluation

Sources of information
Basic Bibliography
Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Industrial Legislation				
Subject	Industrial Legislation			
Code	V11M162V02133			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	Terán Moldes, María del Carmen			
Lecturers	Terán Moldes, María del Carmen			
E-mail	mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/industrial-legislation-17773-17019-3-91625			

Training and Learning Results
Code

Expected results from this subject	
Expected results from this subject	Training and Learning Results

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Topic

Planning			
	Class hours	Hours outside the classroom	Total hours

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

Methodologies
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Personalized assistance

Assessment		
Description	Qualification	Training and Learning Results

Other comments on the Evaluation

Sources of information
Basic Bibliography
Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Economics and Industry				
Subject	Economics and Industry			
Code	V11M162V02134			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Galician			
Department				
Coordinator	Terán Moldes, María del Carmen			
Lecturers	Terán Moldes, María del Carmen			
E-mail	mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/economy-and-business-17773-17019-3-91626			
Training and Learning Results				
Code				
Expected results from this subject				
Expected results from this subject	Training and Learning Results			
Contents				
Topic				
Planning				
	Class hours	Hours outside the classroom	Total hours	
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				
Methodologies				
	Description			
Personalized assistance				
Assessment				
Description	Qualification	Training and Learning Results		
Other comments on the Evaluation				
Sources of information				
Basic Bibliography				
Complementary Bibliography				
Recommendations				

IDENTIFYING DATA				
Human Resources				
Subject	Human Resources			
Code	V11M162V02135			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Galician			
Department				
Coordinator	Terán Moldes, María del Carmen			
Lecturers	Terán Moldes, María del Carmen			
E-mail	mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/human-resources-17773-17019-3-91627			

Training and Learning Results

Code

Expected results from this subject

Expected results from this subject	Training and Learning Results
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Topic

Planning

Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

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Personalized assistance

Assessment

Description	Qualification	Training and Learning Results
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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Project Management				
Subject	Project Management			
Code	V11M162V02138			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	González de Prado, Begoña			
Lecturers	González de Prado, Begoña			
E-mail	bgp@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/projects-management-17773-17019-3-91629			
Training and Learning Results				
Code				
Expected results from this subject				
Expected results from this subject			Training and Learning Results	
Contents				
Topic				
Planning				
	Class hours	Hours outside the classroom	Total hours	
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				
Methodologies				
	Description			
Personalized assistance				
Assessment				
Description	Qualification	Training and Learning Results		
Other comments on the Evaluation				
Sources of information				
Basic Bibliography				
Complementary Bibliography				
Recommendations				

IDENTIFYING DATA				
Validation of analytical methodologies				
Subject	Validation of analytical methodologies			
Code	V11M162V02140			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Leao Martins, Jose Manuel			
Lecturers	Leao Martins, Jose Manuel			
E-mail	leao@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/validation-analytical-methodologies-17767-17013-2-98941			

Training and Learning Results

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Expected results from this subject

Expected results from this subject	Training and Learning Results
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Topic

Planning

	Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

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Personalized assistance

Assessment

Description	Qualification	Training and Learning Results
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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Characterisation of materials and biointerfaces				
Subject	Characterisation of materials and biointerfaces			
Code	V11M162V02141			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Tojo Suárez, María Concepción Peña Gallego, María de los Ángeles			
Lecturers	Peña Gallego, María de los Ángeles Tojo Suárez, María Concepción			
E-mail	mpena@uvigo.es ctojo@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/materials-characterization-and-bio-interfaces-17767-17013-2-98942			

Training and Learning Results

Code

Expected results from this subject

Expected results from this subject Training and Learning Results

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Topic

Planning

Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

Description

Personalized assistance

Assessment

Description	Qualification	Training and Learning Results
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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Scientific transfer and communication				
Subject	Scientific transfer and communication			
Code	V11M162V02142			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Pastoriza Santos, Isabel			
	Iglesias Antelo, María Beatriz			
Lecturers	Iglesias Antelo, María Beatriz			
	Pastoriza Santos, Isabel			
E-mail	bantelo@uvigo.gal			
	pastoriza@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/scientific-transfer-and-communication-17767-17013-2-98943			

Training and Learning Results

Code	
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Expected results from this subject

Expected results from this subject	Training and Learning Results
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Contents

Topic	
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Planning

	Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

Description	
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Personalized assistance

Assessment

Description	Qualification	Training and Learning Results
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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Physical chemistry of natural media				
Subject	Physical chemistry of natural media			
Code	V11M162V02143			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Losada Barreiro, Sonia Estévez Guance, Laura			
Lecturers	Estévez Guance, Laura Losada Barreiro, Sonia Ramos Berdullas, Nicolás			
E-mail	sonia@uvigo.es lestevez@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/physicochemistry-natural-means-17768-17014-3-98944			

Training and Learning Results

Code

Expected results from this subject

Expected results from this subject Training and Learning Results

Contents

Topic

Planning

Class hours	Hours outside the classroom	Total hours
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*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

Description

Personalized assistance

Assessment

Description	Qualification	Training and Learning Results
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Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Environmental Chemistry				
Subject	Environmental Chemistry			
Code	V11M162V02144			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	Couce Fortúnez, María Delfina Iglesias Antelo, María Beatriz			
Lecturers	Couce Fortúnez, María Delfina Iglesias Antelo, María Beatriz			
E-mail	bantelo@uvigo.gal delfina@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/environmental-chemistry-17768-17014-3-98945			

Training and Learning Results	
Code	

Expected results from this subject	
Expected results from this subject	Training and Learning Results

Contents	
Topic	

Planning			
	Class hours	Hours outside the classroom	Total hours

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

Methodologies	
	Description

Personalized assistance	
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Assessment		
Description	Qualification	Training and Learning Results

Other comments on the Evaluation	
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Sources of information	
Basic Bibliography	
Complementary Bibliography	

Recommendations	
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IDENTIFYING DATA				
Techniques for controlling environmental pollution				
Subject	Techniques for controlling environmental pollution			
Code	V11M162V02145			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	González Romero, Elisa			
Lecturers	González Romero, Elisa			
E-mail	eromero@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/techniques-control-environmental-pollution-17768-17014-3-98946			

Training and Learning Results
Code

Expected results from this subject	
Expected results from this subject	Training and Learning Results

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Topic

Planning			
	Class hours	Hours outside the classroom	Total hours
Lecturing	16	24	40
Workshops	6	17	23
Objective questions exam	2	10	12

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

Methodologies
Description
Lecturing
Workshops

Personalized assistance	
Methodologies	Description
Lecturing	
Workshops	

Assessment			
	Description	Qualification	Training and Learning Results
Workshops		0	
Objective questions exam		0	

Other comments on the Evaluation

Sources of information
Basic Bibliography
Complementary Bibliography

Recommendations

IDENTIFYING DATA				
(*)Xestión e valorización de residuos				
Subject	(*)Xestión e valorización de residuos			
Code	V11M162V02146			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Terán Moldes, María del Carmen			
Lecturers	Terán Moldes, María del Carmen			
E-mail	mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/waste-management-and-recovery-17768-17014-3-98947			

Training and Learning Results

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

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Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
(*)Energía e medio ambiente				
Subject	(*)Energía e medio ambiente			
Code	V11M162V02147			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Terán Moldes, María del Carmen			
Lecturers	Terán Moldes, María del Carmen			
E-mail	mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/energy-and-environment-17768-17014-3-98948			

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Other comments on the Evaluation

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Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Initiation to research				
Subject	Initiation to research			
Code	V11M162V02148			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	1st	An
Teaching language	Spanish			
Department				
Coordinator	Terán Moldes, María del Carmen Pérez Juste, Ignacio			
Lecturers	Pérez Juste, Ignacio Terán Moldes, María del Carmen			
E-mail	uviqpij@uvigo.es mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/initiation-research-17768-17014-3-98957			

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

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Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Clinical and methodological analyzes				
Subject	Clinical and methodological analyzes			
Code	V11M162V02149			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Terán Moldes, María del Carmen			
Lecturers	Terán Moldes, María del Carmen			
E-mail	mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/clinical-and-toxicological-analyzes-17770-17016-3-98950			

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Other comments on the Evaluation

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Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Polymeric molecular materials				
Subject	Polymeric molecular materials			
Code	V11M162V02150			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Rodríguez Riego, Rafael Novoa Carballal, Ramón			
Lecturers	Novoa Carballal, Ramón Rodríguez Riego, Rafael			
E-mail	ramon.novoa@uvigo.es rafael.rodriquez.riego@uvigo.gal			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/molecular-and-polymeric-materials-17771-17017-3-98952			

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Other comments on the Evaluation

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Basic Bibliography

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Recommendations

IDENTIFYING DATA				
Applications of nanomaterials and new materials				
Subject	Applications of nanomaterials and new materials			
Code	V11M162V02151			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	Alonso Gómez, José Lorenzo Salonen , Laura			
Lecturers	Alonso Gómez, José Lorenzo Salonen , Laura			
E-mail	lauramaria.salonen@uvigo.es lorenzo@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/applications-nanomaterials-and-new-materials-17771-17017-3-98953			

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Recommendations

IDENTIFYING DATA				
Advanced sample preparation techniques				
Subject	Advanced sample preparation techniques			
Code	V11M162V02152			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Calle González, Inmaculada de la Pena Pereira, Francisco Javier			
Lecturers	Calle González, Inmaculada de la Pena Pereira, Francisco Javier Romero Rivas, Vanesa			
E-mail	incalle@uvigo.es fjpena@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/advanced-techniques-sample-preparation-17772-17018-3-98954			

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Recommendations

IDENTIFYING DATA				
Advanced atomic techniques and sensors				
Subject	Advanced atomic techniques and sensors			
Code	V11M162V02153			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	González Romero, Elisa			
Lecturers	González Romero, Elisa			
E-mail	eromero@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/advanced-atomic-techniques-and-sensors-17772-17018-3-98955			

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Lecturing	16	24	40
Workshops	6	17	23
Objective questions exam	2	10	12

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

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Workshops

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Workshops	

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Workshops		0	
Objective questions exam		0	

Other comments on the Evaluation

Sources of information

Basic Bibliography
Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Analytical mass spectrometry				
Subject	Analytical mass spectrometry			
Code	V11M162V02154			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	Costas Rodríguez, Marta			
Lecturers	Costas Rodríguez, Marta			
E-mail	martacr@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/2026-2027/analytical-mass-spectrometry-17772-17018-3-98956			

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Basic Bibliography

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Recommendations

IDENTIFYING DATA				
Fluorescence spectroscopy and photochemistry				
Subject	Fluorescence spectroscopy and photochemistry			
Code	V11M162V02155			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Optional	1st	1st
Teaching language	Spanish			
Department				
Coordinator	Prieto Jiménez, Inmaculada			
Lecturers	Prieto Jiménez, Inmaculada			
E-mail	iprieto@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/fluorescence-and-photochemical-spectroscopy-op-17772-17018-3-91603			

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Recommendations

IDENTIFYING DATA				
Final Dissertation				
Subject	Final Dissertation			
Code	V11M162V02156			
Study programme	Máster Universitario en Investigación Química y Química Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	24	Mandatory	1st	2nd
Teaching language	Spanish			
Department				
Coordinator	García Fontán, María Soledad			
Lecturers	García Fontán, María Soledad			
E-mail	sgarcia@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/en/			
General description	The subject guide is available at the following link: https://www.usc.gal/en/studies/masters/science/master-chemical-investigation-research-and-industrial-chemistry/20262027/masters-thesis-17774-17020-2-98958			
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