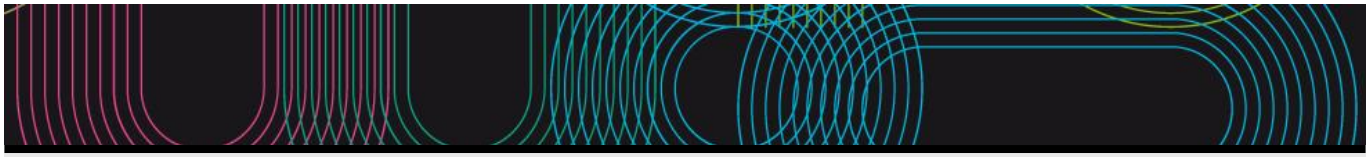

(*)Facultade de Química

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 stablisment of the Universitary 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 no the pioneering spirit of the chemists in research of 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		1st	3
V11M162V02144		2nd	3
V11M162V02145		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		2nd	3
V11M162V02152		1st	3
V11M162V02153		1st	3
V11M162V02154		2nd	3
V11M162V02155		1st	3
V11M162V02156	Final Dissertation	2nd	24

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			
Lecturers	Muñoz López, Luis Talavera Nevado, María			
E-mail	lmunoz@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/20232024/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

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

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	Souto Salgado, José Antonio			
Lecturers	Novoa Carballal, Ramón Souto Salgado, José Antonio			
E-mail	souto@uvigo.es			
Web	http://http://quimica.uvigo.es/es/estudios/master-iqqi/			
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/2023202 4/industrial-processes-and-sustainability-17767-17013-2-95797			

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

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Assessment

Description	Qualification	Training and Learning Results

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	Cid Fernández, María Magdalena			
Lecturers	Cid Fernández, María Magdalena Valencia Matarranz, Laura María			
E-mail	mcid@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/2023 2024/supramolecular-chemistry-op-17769-17015-3-91602			

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

	Description

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Assessment

Description	Qualification	Training and Learning Results

Other comments on the Evaluation

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

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/gl/			
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/2023202 4/applied-coordination-chemistry-17769-17015-3-95799			

Training and Learning Results

Code

Expected results from this subject

Expected results from this subject	Training and Learning Results

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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

Sources of information

Basic Bibliography

Complementary Bibliography

Recommendations

IDENTIFYING DATA				
Organometallic Chemistry				
Subject	Organometallic Chemistry			
Code	V11M162V02111			
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	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/gl/			
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/2023 2024/organometallic-chemistry-17769-17015-3-95800			

Training and Learning Results
Code

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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
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				
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			
Lecturers	Álvarez Rodríguez, Rosana Martínez Fernández, Claudio			
E-mail	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/20232024/synthetic-applications-organometallic-compounds-17769-17015-3-95801			

Training and Learning Results
Code

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

Contents
Topic
(*)1. Reaccións de acoplamento cruzado e reacción de Heck
(*)2. Reaccións de inserción
(*)3. Reaccións de complexos pi3-alilo
(*)4. Reaccións de complexos metálicos de alquenos, alquinos, dienos e arenas
(*)5. Reactividade dos carbenos metálicos
(*)6. Reaccións 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
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

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**

Problem and/or exercise solving			

Assessment			
	Description	Qualification	Training and Learning Results
Seminars	(*)Durante as sesións do seminario, proporase aos alumnos unha serie de problemas adicionais que terán que ser entregados na data acordada	20	
Problem and/or exercise solving	(*)Ao final da materia haberá unha proba escrita de 2-3 horas.	80	

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	Rodríguez de Lera, Angel			
Lecturers	Rodríguez de Lera, Angel Vaz Araújo, Belén			
E-mail	qolera@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/2023 2024/stereoselective-synthesis-op-17769-17015-3-91607			

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
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

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	García Domínguez, Patricia Teijeira Bautista, Marta			
E-mail	qomaca@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/2023 2024/biomolecule-chemistry-op-17770-17016-3-91609			

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

	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

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/gl/			
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/2023 2024/metals-biological-processes-17770-17016-3-98949			

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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Description	Qualification	Training and Learning Results

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	Terán Moldes, María del Carmen Teijeira Bautista, Marta			
Lecturers	Teijeira Bautista, Marta Terán Moldes, María del Carmen			
E-mail	qomaca@uvigo.es mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/2023 2024/medical-chemistry-op-17770-17016-3-91610			

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

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/gl/			
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/2023 2024/chemistry-natural-products-17770-17016-3-92896			

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				
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/gl/			
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/2023 2024/preparation-nanomaterials-17771-17017-3-95804			

Training and Learning Results
Code

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

Contents
Topic

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		
Description	Qualification	Training and Learning Results

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/gl/			
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/20232024/advanced-materials-characterization-techniques-17771-17017-3-98951			

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

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	Salgueiriño Maceira, Verónica Pastoriza Santos, Isabel			
Lecturers	Núñez Sánchez, Sara Pastoriza Santos, Isabel Rivas Murias, Beatriz Salgueiriño Maceira, Verónica Vázquez Besteiro, Lucas			
E-mail	vsalgue@uvigo.es pastoriza@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/2023 2024/material-properties-op-17771-17017-3-91614			

Training and Learning Results

Code

Expected results from this subject

Expected results from this subject	Training and Learning Results
New	
New	
New	
New	
New	
New	
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 introdúcense as aproximaciones para obter a conductividad 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 conductividad eléctrica. Descríbense 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 formúlase 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 energia 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 conductividad 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 conductividad 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: conductividad eléctrica, conductividad 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 susceptibilidad magnética. Ecuación de Claussius- Mossotti e ecuación de Debye (dipolos inducidos e permanentes). Orixe dos materiais ferroeléctricos e o seu fenomenología. 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 fenomenología de sistemas magnéticos nanoestructurados.
(*)TEMA 5. Propiedades ópticas de materiais: aspectos xerais. Propiedades ópticas de metáis e semiconductores.	(*)Plasmones: excitacións do gas de electróns libres. Cálculo da frecuencia de resonancia de plasma nun metal. Plasmones masivos, superficiales e localizados. Teoría de Mie e teoría de Gans. Métodos numéricos. Efecto da reducción da dimensionalidad 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 oráis, resolución de problemas, etc.	25	
Laboratory practical	(*)se evaluará a través do traballo realizado no laboratorio e de unha memoria	15	

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. Kittle, **Introduction to Solid State Physics**, 8ª, Wiley, 2005
J. Maza, J. Mosqueira, J.A. Veira, **Física del Estado Solido**, USC publicacións., 2012
N.W. Ashcroft and N.V. Mermin, **Solid State Physics**, SaunderS 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**, hn 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	Terán Moldes, María del Carmen			
Lecturers	Martínez Fernández, Claudio Pérez Santin, Efrén Terán Moldes, María del Carmen			
E-mail	mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/20232024/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

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				
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/gl/			
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/20232024/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	Spanish			
Department				
Coordinator	Terán Moldes, María del Carmen			
Lecturers	Romero Rivas, Vanesa Terán Moldes, María del Carmen			
E-mail	mcteran@uvigo.es			
Web				
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/2023 2024/quality-chemical-laboratories-17773-17019-3-91622			

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				
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/gl/			
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/20232024/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

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				
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/gl/			
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/20232024/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	
	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				
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/gl/			
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/20232024/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

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				
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/gl/			
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/2023 2024/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/gl/			
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/20232024/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

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

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/gl/			
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/2023 2024/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	Gago Martínez, Ana Leao Martins, Jose Manuel			
Lecturers	Gago Martínez, Ana Leao Martins, Jose Manuel			
E-mail	anagago@uvigo.es leao@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/20232024/validation-analytical-methodologies-17767-17013-2-98941			

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				
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/gl/			
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/20232024/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

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				
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	Iglesias Antelo, María Beatriz Pastoriza Santos, Isabel			
Lecturers	Iglesias Antelo, María Beatriz Pastoriza Santos, Isabel			
E-mail	bantelo@uvigo.gal pastoriza@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/2023202 4/scientific-transfer-and-communication-17767-17013-2-98943			

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

(*)Fisicoquímica de medios naturais

Subject	(*)Fisicoquímica de medios naturais			
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 Guiance, Laura			
Lecturers	Estévez Guiance, Laura Losada Barreiro, Sonia Otero Martínez, Nicolás Ramos Berdullas, Nicolás			
E-mail	sonia@uvigo.es lestevez@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/20222023/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

*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				
(*)Química do medio ambiente				
Subject	(*)Química do medio ambiente			
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/gl/			
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/2023 2024/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

Assessment		
Description	Qualification	Training and Learning Results

Other comments on the Evaluation

Sources of information
Basic Bibliography
Complementary Bibliography

Recommendations

IDENTIFYING DATA

(*)Técnicas para o control da contaminación ambiental

Subject	(*)Técnicas para o control da contaminación ambiental			
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/gl/			
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/20232024/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

Contents

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/gl/			
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/20232024/waste-management-and-recovery-17768-17014-3-98947			

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				
(*)Enerxía e medio ambiente				
Subject	(*)Enerxía 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	Rodríguez González, José Antonio Terán Moldes, María del Carmen			
E-mail	mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/2023 2024/energy-and-environment-17768-17014-3-98948			

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				
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	uviqpipj@uvigo.es mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/20232024/initiation-research-17772-17018-3-98957			

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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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Other comments on the Evaluation

Sources of information
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/gl/			
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/20232024/clinical-and-toxicological-analyzes-17770-17016-3-98950			

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Other comments on the Evaluation

Sources of information
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	Novoa Carballal, Ramón			
Lecturers	Kiriakidi , Sofía Novoa Carballal, Ramón			
E-mail	ramon.novoa@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/20232024/molecular-and-polymeric-materials-17771-17017-3-98952			

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Other comments on the Evaluation

Sources of information

Basic Bibliography

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Recommendations

IDENTIFYING DATA				
(*)Aplicacións dos nanomateriais e novos materiais				
Subject	(*)Aplicacións dos nanomateriais e novos materiais			
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	Rodríguez Arguelles, María Carmen			
Lecturers	González Ballesteros, Noelia Rodríguez Arguelles, María Carmen			
E-mail	mcarmen@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/20232024/applications-nanomateriais-and-new-materials-17771-17017-3-98953			

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Other comments on the Evaluation

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Basic Bibliography
Complementary Bibliography

Recommendations

IDENTIFYING DATA				
(*)Técnicas avanzadas de preparación da mostra				
Subject	(*)Técnicas avanzadas de preparación da mostra			
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	Pena Pereira, Francisco Javier Calle González, Inmaculada de la			
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/gl/			
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/2023202 4/advanced-techniques-sample-preparation-17772-17018-3-98954			

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Other comments on the Evaluation

Sources of information
Basic Bibliography
Complementary Bibliography

Recommendations

IDENTIFYING DATA

(*)Técnicas atómicas avanzadas e sensores

Subject	(*)Técnicas atómicas avanzadas e sensores			
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/gl/			
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/20232024/advanced-atomic-techniques-and-sensors-17772-17018-3-98955			

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

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Methodologies

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Lecturing	
Workshops	

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Methodologies	Description
Lecturing	
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	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				
(*)Espectrometría de masas analítica				
Subject	(*)Espectrometría de masas analítica			
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	Terán Moldes, María del Carmen			
Lecturers	Terán Moldes, María del Carmen			
E-mail	mcteran@uvigo.es			
Web	http://http://miqqi.webs.uvigo.es/gl/			
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/20232024/analytical-mass-spectrometry-17772-17018-3-98956			

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Other comments on the Evaluation

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Basic Bibliography
Complementary Bibliography

Recommendations

IDENTIFYING DATA				
(*)Espectroscopia de fluorescencia e fotoquímica				
Subject	(*)Espectroscopia de fluorescencia e fotoquímica			
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/gl/			
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/20232024/fluorescence-and-photochemical-spectroscopy-op-17772-17018-3-91603			

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Other comments on the Evaluation

Sources of information
Basic Bibliography
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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/gl/			
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/20232024/masters-thesis-17774-17020-2-98958			

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