

European Master in Advanced Materials Science and Engineering (AMASE)

Course 2012/2013

1st Semester. Adaptation Phase

Code	Course	Type	ECTS
CEM01	Physical Metallurgy	Compulsory	5
24798	Mechanical Behaviour of Materials	Compulsory	5
CEM04	Physical properties of materials	Compulsory	5
CEM05	Microstructural Materials Characterization	Compulsory	5
CEM33	Micromechanical Design of Materials Nanomechanics and coatings	Choose only one	5
25343	Polymers and Composites		5
240402	Communicating Technical Information (English I)	Choose only one	3+1
Language	French I, German I or Spanish I		4

TRACK 1: Advanced Metallic Materials

2nd Semester

Code	Course	Type	ECTS
24308	Metals and Alloys	Compulsory	5
24897	Corrosion and Degradation of Materials	Compulsory	5
25899	Fracture and Fatigue	Compulsory	5
23463	Materials Selection in Mechanical Design	Compulsory	5
25897	Metals Technology	Compulsory	5
24376	New perspectives in Materials Science	Optional	5
CEM39	Development of competences for the Search and Publication of Information in Materials Science	Optional	2
240403	Debates on technology and society (English II)	Choose only one	3+1
Language (*)	French II, German, II or Spanish II		4

3rd Semester

25376	Light Alloys	Optional	5
24423	Failure Analysis and Quality Control in Materials Technology	Optional	5
25380	Materials Joining Technologies	Optional	5
25388	Surface Technologies	Optional	5
CEM 37	Nanostructure Materials	Optional	5
CEM54	Modelling of Plastic Deformation of Metals	Optional	5
	Tutorised research work or internship (industry) (**)	Optional	5
240403	Debates on technology and society (English II)	Choose only one	3+1
Language	Spanish		4

4th Semester

CEM40	Master thesis	Compulsory	30
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TRACK 2: Polymers and Composites – Modelling, processing and tailored properties

2nd Semester

Code	Course	Type	ECTS
CEM41	Plastic Materials: characterization and applications	Compulsory	5
24903	Ceramic Materials	Compulsory	5
25900	Technology of Plastics and Composites	Compulsory	5
25899	Fracture and Fatigue	Compulsory	5
25898	Natural Material and Biomaterials	Compulsory	5
24376	New perspectives in Materials Science	Optional	5
CEM39	Development of Competences for the Search and Publication of Information in Materials Science	Optional	2
240403	Debates on technology and society (English II)	Choose only one	3+1
Language (*)	Spanish II, French II, German II		4

3rd Semester

25343	Polymers and Composites	Optional	5
CEM32	Advanced Ceramics and inorganic composite materials	Optional	5
CEM36	Composite Materials	Optional	5
CEM51	Design, Ecodesign and Polymers Recycling	Optional	5
CEM38	Live Tissues, Substitutive Materials and Bio Interfaces	Optional	5
25380	Materials Joining Technologies	Optional	5
	Tutorised research work or internship (industry) (**)	Optional	5
240403	Debates on technology and society (English II)	Choose only one	3+1
Language	Spanish		4

4th Semester

CEM40	Master thesis	Compulsory	30
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TRACK 5: Bio/Nanomaterials

3rd Semester

Code	Course	Type	ECTS
CEM38	Live Tissues, Substitutive Materials and Bio Interfaces	Optional	5
CEM 37	Nanostructure Materials	Optional	5
CEM31	Bioceramics	Optional	5
25388	Surface Technologies	Optional	5
CEM32	Advanced Ceramics and inorganic composite materials	Optional	5
CEM51	Design, Ecodesign and Polymers Recycling	Optional	5
	Tutorised research work or internship (industry) (**)	Optional	5
240403	Debates on technology and society (English II)	Choose only one	3+1
Language	Spanish		4

4th Semester

CEM40	Master thesis	Compulsory	30
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(*) First and second semester: students should choose only one language course per semester:

SPANISH: for students non-Spanish speaking countries

ENGLISH, FRENCH OR GERMAN: according to the language of the second university

In the third semester choose only one language course, either Spanish or English.

() NOTE: Registration of tutorised research work or internship (industry) is subjected to availability of projects and interships proposed by academic staff.**

