



Master's Degree in Chemical and Bioprocess Engineering

Academic year 2021-22 (9th year)

<https://www.usc.gal/gl/estudos/masteres/enxenaria-arquitectura/master-universitario-enxenaria-quimica-bioprosos>

OBJECTIVE: To teach chemical engineers for careers in industry, academia and advanced research in the field of Chemical and Bioprocess Engineering”

MASTER'S DEGREE

The **Master's Degree in Chemical and Bioprocess Engineering (90 ECTS)** started in the academic year 2013-14, was re-accredited in the academic year 2015-16 and internationally accredited by the Institution of Chemical Engineers (IChemE) in the academic year 2017-18.

This degree enables its graduates to exercise the regulated profession of Chemical Engineer (Spanish Official Bulletin, August 4th, 2009). It is designed for candidates holding a Bachelor's Degree in Chemical Engineering or in Industrial Engineering with specialisation in Industrial Chemistry. Candidates holding other degrees in the fields of Engineering or of Science & Technology may also get accepted by taking complementary courses.

CONTENTS

- **Process Design:** Detailed skills on design, modelling and simulation of industrial processes, with emphasis on management of industrial risks.
- **Bioprocess:** Multidisciplinary environment for the acquisition of broad knowledge in biotechnological processes, in close collaboration with research groups at USC.
- **Business Management:** Business management skills, such as leadership, time management, human resources management. Encouragement towards entrepreneurship, training students in the process of business creation.
- **Research and Development:** Knowledge on cutting-edge topics in Science & Technology for the development or improvement of products and processes.

CAREER OPPORTUNITIES

- **Process engineer**, in companies belonging to chemical, biochemical, pharmaceutical, food, textile, and environmental sectors.
- **Design engineer**, in engineering companies, including applications to production, processes, R&D, etc.
- **Manager** in companies, in organisation or management areas.
- **Research & Development**, in companies and research institutions for the development or improvement of products and processes.
- **Access to PhD studies.**

ACCESS

Limited admission:
EU: 18 to 30
Non-EU: 12

HIGHLIGHTS

Innovative Features



- Multidisciplinary training (Engineering, Biology, Economics, Mathematics, Psychology)
- Combination of theoretical and practical teaching
- Participation of speakers from companies
- Programme of technical visits to companies
- Mandatory internships in companies to promote access to employment

Exchange Programs



- ERASMUS programme
- Agreements with European research centres for internships

Accreditations



- Internationally accredited by the Institution of Chemical Engineers (IChemE) <http://www.icheme.org/>
- In the Spanish top-5 of master's degrees in Science & Technology - Biosciences ("Ranking 250 Master" by the newspaper El Mundo, 2019-20)
- Certified by OHSAS 18001 standard, and transitioning to ISO 45001 (international standard on Occupational Health and Safety Management Systems).

SUMMARY

Academic years	1.5 years - 90 ECTS
Modular structure	<ol style="list-style-type: none"> 1. <i>Bioprocesses</i> (12 ECTS) 2. <i>Holistic Design of Processes</i> (18 ECTS) 3. <i>Business Management</i> (15 ECTS) 4. <i>Research and Development</i> (15 ECTS) 5. <i>Internship & Master's Thesis</i> (30 ECTS)
Language of instruction	Spanish
Output profile	Both company- and research-oriented
Mobility	ERASMUS programme with the possibility to choose among a large number of universities in Europe: 20 agreements (30 posts)
Mandatory internship in a company	All students must complete a 12-ECTS internship in one of the 70+ companies with which the Master's Degree has a collaboration agreement signed.
Laboratories	5 specialised teaching laboratories and 1 pilot plant
Computer rooms	8 computer rooms in the School, totalling 171 seats
Library	174 seats
Wireless internet connection available throughout the entire School facilities	



School
of Engineering

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