

SYLLABUS

1. COURSE DESCRIPTION

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| Degree: | Biotechnology |
| Course: | Bioreactors |
| Module: | Bioengineering and Biotechnological Processes. Biotechnological Processes |
| Department: | Molecular Biology and Biochemical Engineering |
| Academic Year: | 2017-18 |
| Term: | Second |
| ECTS credits: | 6 |
| Year: | 3rd year |
| Type: | Compulsory |
| Language: | Spanish |

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| Course Model: | B1 | |
| a. Basic learning (EB): | | 60% |
| b. Practical learning (EPD): | | 40% |

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2. LECTURERS

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| Coordinator | |
| Name: | Gassan Hodaifa Meri |
| School: | School of Experimental Sciences |
| Department: | Molecular Biology and Biochemical Engineering |
| Area: | Chemical Engineering |
| Office Hours: | Wednesdays, Thursdays: 12.00 – 15.00 (Please contact previously through e-mail) |
| Office: | 47.1.11 |
| E-mail: | ghodaifa@upo.es |
| Phone: | 954 978 206 |



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3. TOPICS

Topic I: Engineering in chemical reactions

- Unit 1. Introduction
- Unit 2. Thermodynamics of chemical reactions
- Unit 3. Kinetics of chemical reactions

The content of this topic is not thought in class. It is available at the virtual classroom, so students can read it.

Topic II: Ideal reactors: reactor models

- Unit 4. Stirred tank reactors
- Unit 5. Tubular reactor
- Unit 6. Heterogeneous reactor

Topic III: Biochemical Engineering. Biochemical reactors

- Unit 7. Enzymatic and microbial fermentation
- Unit 8. Fermenter design
- Unit 9. Scale change in bioreactors