

## SYLLABUS

### 1. COURSE DESCRIPTION

<b>Degree:</b>	<b>Biotechnology</b>
<b>Course:</b>	<b>Animal Biotechnology</b>
<b>Module:</b>	<b>Bioengineering and Biotechnological Processes. Biotechnological Processes</b>
<b>Department:</b>	<b>Molecular Biology and Biochemical Engineering</b>
<b>Academic Year:</b>	<b>2017-18</b>
<b>Term:</b>	<b>First</b>
<b>ECTS credits:</b>	<b>4.5 ECTS</b>
<b>Year:</b>	<b>4<sup>th</sup> year</b>
<b>Type:</b>	<b>Compulsory</b>
<b>Language:</b>	<b>Spanish</b>

<b>Course Model:</b>	<b>C1</b>	
<b>a. Basic Learning (EB):</b>		<b>60%</b>
<b>b. Practical Learning (EPD):</b>		<b>40%</b>

## SYLLABUS

### 2. LECTURERS

<b>Coordinator</b>	
<b>Name:</b>	<b>Juan José Infante Viñolo</b>
<b>School:</b>	<b>School of Experimental Sciences</b>
<b>Department:</b>	<b>Molecular Biology and Biochemical Engineering</b>
<b>Area:</b>	<b>Genetics</b>
<b>Office Hours:</b>	<b>Wednesdays and Thursdays: 18.00-19.00</b>
<b>Office:</b>	<b>22F1, second floor</b>
<b>E-mail:</b>	<b>jjinfvin@upo.es</b>
<b>Phone:</b>	<b>+34606660701</b>

## SYLLABUS

### 3. TOPICS

#### **THEORY (50% ASSESMENT, FINAL EXAM )**

1. UNIT 1: Genetic Improvement.
2. UNIT 2: Transgenesis, cloning and chromatin remodelling.
3. UNIT 3: Alternative platforms for the expression of recombinant proteins based on animals as biofactories.
4. UNIT 4: Model animals for basic research and preclinical trials.
5. UNIT 5: Animal health. Vaccines.
6. UNIT 6: Xenotransplants.

#### **PRACTICE (10% ASSESMENT, INCLUDING A QUESTION IN THE FINAL EXAM)**

##### PRACTICE 1.

Bases of the baculovirus expression system. Production of active principles in insects.

##### PRACTICE 2.

Infection of larvae of *Trichoplusia ni* for the production of recombinant proteins.

##### PRACTICE 3.

Obtaining clarified crude extracts from biofactory larvae. Estimation of the yield of soluble proteins.

##### PRACTICE 4.

Analysis of the yield and quality of the proteins of interest.

##### PRACTICE 5.

Work on technology transfer # 1.

Introduction to the protection of intellectual property. Deadlines. Examples of business development in biotechnology companies through proper management of intellectual property.

##### PRACTICE 6.

Work on technology transfer # 2.

Analysis of key patents in the biotechnology sector.