

## SYLLABUS

### 1. Course description

<b>Degree:</b>	<b>Biotechnology</b>
<b>Course:</b>	<b>Virology</b>
<b>Module:</b>	<b>Biochemistry and Molecular Biology</b>
<b>Department:</b>	<b>Molecular Biology and Biochemical Engineering</b>
<b>Academic Year:</b>	<b>2017/2018</b>
<b>Term:</b>	<b>Second</b>
<b>ECTS credits:</b>	<b>4.5</b>
<b>Year:</b>	<b>2<sup>nd</sup> year</b>
<b>Type:</b>	<b>Compulsory</b>
<b>Language:</b>	<b>Spanish</b>

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

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### 2. Lecturers

#### 2.1. Coordinator: Inés Canosa Pérez-Fragero

#### 2.2. Lecturers

<b>Name:</b>	<b>Inés Canosa Pérez-Fragero</b>
<b>School:</b>	<b>School of Experimental Sciences</b>
<b>Department:</b>	<b>Molecular Biology and Biochemical Engineering</b>
<b>Area:</b>	<b>Microbiology</b>
<b>Office Hours:</b>	<b>Mondays and Tuesdays: 12-13.30 and 17-18.30, (please ask previously for an appointment)</b>
<b>Office:</b>	<b>22.03.02</b>
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<b>Phone:</b>	<b>954.34.9052 (CABD) / 954.34.9160 (Office in building 22)</b>

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### 3. Topics

#### TOPIC I. Introduction on Virology

Unit 1. Concept of virus. Hershey and Chase experiment. Virus nature and classification. Virus nomenclature. Virus detection and manipulation.

Unit 2. Viral particle structure. Types of symmetry. Enveloped virus. Complex virus.

Unit 3. Genetics and virus evolution. Quasiespecies. Genetical analysis in virology: mutations and genetic functions. Virus isolation and production.

Unit 4. Interaction virus-cell. Viral infection phases. Types of viral infection. Cellular alteration during viral infection.

#### TOPIC II. Viral Families

Unit 5. Bacteriophages. Cycles of multiplication of bacteriophages. Illnesses caused by bacteriophages. DNA bacteriophages as a tool in genetic engineering.

Unit 6. Animal dsDNA viruses; (A) circular dsDNA viruses: *Papovaviridae*. (B) linear dsDNA viruses: *Adenoviridae*; (C) Complex dsDNA viruses: *Herpesviridae* and *Poxviridae*.

Unit 7. Animal RT viruses: (A) *Reoviridae* y (B) *Hepadnaviridae*.

Unit 8. Animal (+) ssRNA viruses: (A) *Picornavirales* and (B) *Togaviridae*.

Unit 9. (-) ssRNA viruses: (A) Segmented genome: *Orthomyxoviridae*, (B) Non-segmented genome: *Paramyxoviridae* and *Rhabdoviridae*.