ANX-PR/CL/001-01
LEARNING GUIDE

SUBJECT
203000039 - Scientific Seminars

DEGREE PROGRAMME
20BC - Master Universitario En Biologia Computacional

ACADEMIC YEAR & SEMESTER
2021/22 - Semester 2
Index

Learning guide

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1. Description

1.1. Subject details

<table>
<thead>
<tr>
<th>Name of the subject</th>
<th>203000039 - Scientific Seminars</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of credits</td>
<td>3 ECTS</td>
</tr>
<tr>
<td>Type</td>
<td>Compulsory</td>
</tr>
<tr>
<td>Academic year of the programme</td>
<td>First year</td>
</tr>
<tr>
<td>Semester of tuition</td>
<td>Semester 2</td>
</tr>
<tr>
<td>Tuition period</td>
<td>February-June</td>
</tr>
<tr>
<td>Tuition languages</td>
<td>English</td>
</tr>
<tr>
<td>Degree programme</td>
<td>20BC - Master Universitario en Biologia Computacional</td>
</tr>
<tr>
<td>Centre</td>
<td>20 - E.T.S. De Ingenieria Agronomica, Alimentaria Y De Biosistemas</td>
</tr>
<tr>
<td>Academic year</td>
<td>2021-22</td>
</tr>
</tbody>
</table>

2. Faculty

2.1. Faculty members with subject teaching role

<table>
<thead>
<tr>
<th>Name and surname</th>
<th>Office/Room</th>
<th>Email</th>
<th>Tutoring hours *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jesus Israel Pagan Muñoz</td>
<td>B10</td>
<td><a href="mailto:jesusisrael.pagan@upm.es">jesusisrael.pagan@upm.es</a></td>
<td>Sin horario.</td>
</tr>
<tr>
<td>(Subject coordinator)</td>
<td></td>
<td></td>
<td>Modificable bajo</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>petición por email.</td>
</tr>
</tbody>
</table>

* The tutoring schedule is indicative and subject to possible changes. Please check tutoring times with the faculty member in charge.
3. Skills and learning outcomes *

3.1. Skills to be learned

CE03 - Analizar e interpretar bioinformáticamente los datos que se derivan de las tecnologías ómicas, y proponer soluciones bioinformáticas en relación a dichos datos.

CG04 - Que los estudiantes sean capaces de comunicar los fundamentos de sus líneas de trabajo en el área de la Biología Computacional, así como los resultados y conclusiones obtenidos, a públicos especializados y no especializados de un modo claro y sin ambigüedades.

CG06 - Que los estudiantes posean las habilidades de aprendizaje que les permitan continuar estudiando de un modo que habrá de ser en gran medida autodirigido o autónomo para adaptarse a la rápida evolución prevista en el área de la Biología Computacional.

CT08 - Tener capacidad de análisis y síntesis para interpretar datos relevantes y abordar los problemas desde diferentes perspectivas.

3.2. Learning outcomes

RA73 - Conocer las principales áreas de investigación en el campo de la Biología Computacional a nivel nacional e internacional

RA74 - Ser capaz de extraer, valorar y sintetizar la información procedente de comunicaciones científicas del campo de la Biología Computacional

RA71 - Conocer las relaciones entre la ciencia y sus aplicaciones tecnológicas en el ámbito de la Biología Computacional

RA70 - Ser capaz de comunicar a la comunidad científica, en los formatos adecuados, las hipótesis de trabajo y los resultados experimentales obtenidos durante el trabajo de investigación y/o innovación

* The Learning Guides should reflect the Skills and Learning Outcomes in the same way as indicated in the Degree Verification Memory. For this reason, they have not been translated into English and appear in Spanish.
4. Brief description of the subject and syllabus

4.1. Brief description of the subject

The course aims at providing students with a general view of the areas of knowledge in which Computational Biology can be applied, both in the context of scientific research and for production of services and technological products. To achieve this goal, students will attend a series of seminars given by speakers invited by the course coordination. Speakers will be top professionals in their area of knowledge and will cover disciplines than span from medical applications of Computational Biology to bioinformatics technology applicable to the development of new marketable crop varieties.

The course contains a series of 10 seminars of 3 hours of duration. 2 hours will be devoted to the oral presentations of invites speakers and 1 hour will be for discussion of master students with the speaker.

4.2. Syllabus

1. Computational Biology in Human Health
2. Computational Biology in Ecology and Evolution
3. Computational Biology in Agriculture
4. Computational Biology in Animal Welfare
5. Computational Biology in Biotechnology
6. Computational Biology and entrepreneurship
## 5. Schedule

### 5.1. Subject schedule*

<table>
<thead>
<tr>
<th>Week</th>
<th>Face-to-face classroom activities</th>
<th>Face-to-face laboratory activities</th>
<th>Distant / On-line</th>
<th>Assessment activities</th>
</tr>
</thead>
</table>
| 1    | Seminar by a top professional in his/her area of knowledge  
Duration: 02:00 |  
 |  | Participation and ability of the students to understand the seminars and make questions.  
Continuous assessment  
Presental  
Duration: 01:00 | |
| 2    | Seminar by a top professional in his/her area of knowledge  
Duration: 02:00 |  
 |  | Participation and ability of the students to understand the seminars and make questions.  
Continuous assessment  
Presental  
Duration: 01:00 | |
| 3    | Seminar by a top professional in his/her area of knowledge  
Duration: 02:00 |  
 |  | Participation and ability of the students to understand the seminars and make questions.  
Continuous assessment  
Presental  
Duration: 01:00 | |
| 4    | Seminar by a top professional in his/her area of knowledge  
Duration: 02:00 |  
 |  | Participation and ability of the students to understand the seminars and make questions.  
Continuous assessment  
Presental  
Duration: 01:00 | |
| 5    | Seminar by a top professional in his/her area of knowledge  
Duration: 02:00 |  
 |  | Participation and ability of the students to understand the seminars and make questions.  
Continuous assessment  
Presental  
Duration: 01:00 | |
| 6    | Seminar by a top professional in his/her area of knowledge  
Duration: 02:00 |  
 |  | Participation and ability of the students to understand the seminars and make questions.  
Continuous assessment  
Presental  
Duration: 01:00 | |
<table>
<thead>
<tr>
<th>No.</th>
<th>Event Description</th>
<th>Duration</th>
<th>Assessment Type</th>
<th>Assessment Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Seminar by a top professional in his/her area of knowledge</td>
<td>02:00</td>
<td>Continuous assessment</td>
<td>Presental</td>
</tr>
<tr>
<td>8</td>
<td>Seminar by a top professional in his/her area of knowledge</td>
<td>02:00</td>
<td>Continuous assessment</td>
<td>Presental</td>
</tr>
<tr>
<td>9</td>
<td>Seminar by a top professional in his/her area of knowledge</td>
<td>02:00</td>
<td>Continuous assessment</td>
<td>Presental</td>
</tr>
<tr>
<td>10</td>
<td>Seminar by a top professional in his/her area of knowledge</td>
<td>02:00</td>
<td>Continuous assessment</td>
<td>Presental</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
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<td>13</td>
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<td>15</td>
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<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Exan with questions related to the seminar contents</td>
<td></td>
<td></td>
<td>Final examination Not Presental</td>
</tr>
</tbody>
</table>

Depending on the programme study plan, total values will be calculated according to the ECTS credit unit as 26/27 hours of student face-to-face contact and independent study time.

* The schedule is based on an a priori planning of the subject; it might be modified during the academic year, especially considering the COVID19 evolution.
### 6. Activities and assessment criteria

#### 6.1. Assessment activities

##### 6.1.1. Continuous assessment

<table>
<thead>
<tr>
<th>Week</th>
<th>Description</th>
<th>Modality</th>
<th>Type</th>
<th>Duration</th>
<th>Weight</th>
<th>Minimum grade</th>
<th>Evaluated skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Participation and ability of the students to understand the seminars and make questions.</td>
<td>Face-to-face</td>
<td>01:00</td>
<td>10%</td>
<td>5 / 10</td>
<td>CG04, CG06, CE03, CT08</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Participation and ability of the students to understand the seminars and make questions.</td>
<td>Face-to-face</td>
<td>01:00</td>
<td>10%</td>
<td>5 / 10</td>
<td>CG04, CG06, CE03, CT08</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Participation and ability of the students to understand the seminars and make questions.</td>
<td>Face-to-face</td>
<td>01:00</td>
<td>10%</td>
<td>5 / 10</td>
<td>CG04, CG06, CE03, CT08</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Participation and ability of the students to understand the seminars and make questions.</td>
<td>Face-to-face</td>
<td>01:00</td>
<td>10%</td>
<td>5 / 10</td>
<td>CE03, CT08, CG04, CG06</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Participation and ability of the students to understand the seminars and make questions.</td>
<td>Face-to-face</td>
<td>01:00</td>
<td>10%</td>
<td>5 / 10</td>
<td>CG04, CG06, CE03, CT08</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Participation and ability of the students to understand the seminars and make questions.</td>
<td>Face-to-face</td>
<td>01:00</td>
<td>10%</td>
<td>5 / 10</td>
<td>CG06, CE03, CG04, CT08</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Participation and ability of the students to understand the seminars and make questions.</td>
<td>Face-to-face</td>
<td>01:00</td>
<td>10%</td>
<td>5 / 10</td>
<td>CG04, CG06, CE03, CT08</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Participation and ability of the students to understand the seminars and make questions.</td>
<td>Face-to-face</td>
<td>01:00</td>
<td>10%</td>
<td>5 / 10</td>
<td>CG04, CG06, CE03</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Participation and ability of the students to understand the seminars and make questions.</td>
<td>Face-to-face</td>
<td>01:00</td>
<td>10%</td>
<td>5 / 10</td>
<td>CG04, CG06, CE03, CT08</td>
<td></td>
</tr>
</tbody>
</table>
6.1.2. Final examination

<table>
<thead>
<tr>
<th>Week</th>
<th>Description</th>
<th>Modality</th>
<th>Type</th>
<th>Duration</th>
<th>Weight</th>
<th>Minimum grade</th>
<th>Evaluated skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Exam with questions related to the seminar contents</td>
<td>No Present</td>
<td>Face-to-face</td>
<td>03:00</td>
<td>100%</td>
<td>5 / 10</td>
<td>CE03, CT08, CG04, CG06</td>
</tr>
</tbody>
</table>

6.1.3. Referred (re-sit) examination

<table>
<thead>
<tr>
<th>Description</th>
<th>Modality</th>
<th>Type</th>
<th>Duration</th>
<th>Weight</th>
<th>Minimum grade</th>
<th>Evaluated skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam with questions related to the seminar contents</td>
<td>Face-to-face</td>
<td>03:00</td>
<td>100%</td>
<td>5 / 10</td>
<td>CG04, CG06, CE03, CT08</td>
<td></td>
</tr>
</tbody>
</table>

6.2. Assessment criteria

Continuous evaluation: Participation and capacity to understand the seminars and make questions about their content will be evaluated. Attendance is mandatory.

Final evaluation: Written exam with questions about the content of the seminars.

Extraordinary evaluation: Written exam with questions about the content of the seminars.

The results will follow the scheme established by the UPM in 2012 as A: Excelent, B: Advanced, C: Satisfactory, D: Not satisfactory.
7. Teaching resources

7.1. Teaching resources for the subject

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master web page</td>
<td>Web resource</td>
<td>A full list of seminars and speakers will be available at the Master webpage.</td>
</tr>
</tbody>
</table>

8. Other information

8.1. Other information about the subject

The seminar course will give a broad view about the potential applications of Computational Biology to improve human, animal and plant welfare. Because of the transversal nature of computational biology, seminars will include speakers who are experts in quite diverse areas of knowledge such as human health, crop production, ecosystem preservation, climate change, biotechnology or veterinary sciences. Thus, the content of the seminars will be related to ODS #1 (End of Poverty), #2 (Zero Hunger), #3 (Health and Welfare), #12 (Sustainable Production), #13 (Actions for climate), #14 (Marine Life), #15 (Life in Terrestrial Ecosystems).