



## IDENTIFYING DATA

### Invasive Species and Fouling

|                     |   |          |      |            |
|---------------------|---|----------|------|------------|
| Subject             | Invasive Species and Fouling  |          |      |            |
| Code                | V02M098V01211   |          |      |            |
| Study programme     | (*)Máster Universitario en Bioloxía Mariña  |          |      |            |
| Descriptors         | ECTS Credits  | Choose   | Year | Quadmester |
|                     | 3   | Optional | 1st  | 2nd        |
| Teaching language   | Spanish<br>Galician   |          |      |            |
| Department          |   |          |      |            |
| Coordinator         | García Estévez, José Manuel<br>Ruiz de la Rosa, José Miguel   |          |      |            |
| Lecturers           | Cremades Ugarte, Javier<br>García Estévez, José Manuel<br>Ruiz de la Rosa, José Miguel<br>Veiga Sánchez, María Purificación   |          |      |            |
| E-mail              | jmruiz@udc.es<br>jestevez@uvigo.es  |          |      |            |
| Web                 |   |          |      |            |
| General description | (*)Exponse as principais rutas da introdución de especies foráneas, as características tanto dos invasores como dos sistemas receptores, e as consecuencias ecolóxicas, xenéticas e evolutivas dos devanditos eventos. Préstase especial atención á problemática do fouling, presentando os organismos que o compoñen, a súa sucesión, os seus efectos negativos e os seus posibles tratamentos preventivos |          |      |            |

## Competencies

|      |  |
|------|--|
| Code |  |
| B5   | Desarrollo de la habilidad de elaboración, presentación y defensa de trabajos e informes técnicos              |
| C2   | Conocimiento de la diversidad de organismos marinos y sus estrategias adaptativas                              |
| C3   | Conocimiento y comprensión de las interacciones de los organismos marinos y los ecosistemas marinos y costeros |
| D4   | Desarrollo de la capacidad para actualizar el conocimiento de forma autónoma                                   |

## Learning outcomes

| Expected results from this subject  | Training and Learning Results |
|---|-------------------------------|
| (*)*Conocer Characteristic wools of wools invading species *y *su *riesgo for *los @receptor ecosystems.*Reconocer Wools *principales invading species *halladas in wools coasts *gallegas.*Conocer Wool importance of *fouling how *vector of species *alóctonas *y *su problematic social *y economic.*Conocer *los *principales *tratamientos *antifouling *y *sus *desventajas. | C2<br>C3                      |
| (*)*Reconocer Wools *principales invading species *halladas in wools coasts *gallegas   | C2<br>C3                      |
| (*)*Conocer Wool importance of *fouling how *vector of species *alóctonas *y *su problematic social *y economic   | C2<br>C3                      |
| (*)*Conocer *los *principales *tratamientos *antifouling *y *sus *desventajas   | C2<br>C3                      |
| New   | B5<br>D4                      |

## Contents

|       |  |
|-------|--|
| Topic |  |
|-------|--|

(\*)1. Invading species2. \*Biodiversidad \*alóctona (\*1.1. Characteristics1.2. Routes of \*introducción1.3. @Receptor systems1.4. Consequences2.1. Studio of cases: \*principales species2.2. Roads of \*introducción2.3. Dynamics of \*colonización2.4. Problematic3.1. Definition \*y problematic3.2. \*Principales Organisms3.3. \*Sucesión3.4. \*Tratamientos \*antifouling

## Planning

|                          | Class hours | Hours outside the classroom | Total hours |
|--------------------------|-------------|-----------------------------|-------------|
| Lecturing                | 18          | 45                          | 63          |
| Mentored work            | 0.1         | 0                           | 0.1         |
| Seminars                 | 2           | 8                           | 10          |
| Objective questions exam | 2           | 0                           | 2           |

\*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

## Methodologies

|               | Description   |
|---------------|---|
| Lecturing     | The masterclasses summarise the state of the matter   |
| Mentored work | It will register the assistance of the students to the distinct classes   |
| Seminars      | To develop the capacity to work autonomously, the students will review scientific works to present them in an oral and/or written way |

## Personalized assistance

| Methodologies            | Description                            |
|--------------------------|--|
| Lecturing                | Resolution of doubts on the fly        |
| Seminars                 | Discussion of the group work presented |
| Mentored work            | Register of the assistance to class    |
| Tests                    | Description                            |
| Objective questions exam | Pertinent explanations                 |

## Assessment

|               | Description                                    | Qualification | Training and Learning Results |    |
|---------------|--|---------------|-------------------------------|----|
| Lecturing     | Examination of objective questions             | 70            | C2                            | C3 |
| Mentored work | Assistance to class                            | 10            |                               |    |
| Seminars      | Preparation and presentation of works in group | 20            | B5                            | D4 |

## Other comments on the Evaluation

In the first announcement (22/04/20, 10-12 \*h) the three methodologies will be considered. In the second announcement (07/07/20, 10-12 \*h) the evaluation will result from the written exam, being able to be the 20-60% of the final note the qualifications obtained in activities evaluated positively previously.

## Sources of information

### Basic Bibliography

### Complementary Bibliography

## Recommendations

## Other comments

It is recommended to work on the matter in a continuous form

## Contingency plan

### Description

=== EXCEPTIONAL PLANNING ===

Given the uncertain and unpredictable evolution of the health alert caused by COVID-19, the University of Vigo establishes

an extraordinary planning that will be activated when the administrations and the institution itself determine it, considering safety, health and responsibility criteria both in distance and blended learning. These already planned measures guarantee, at the required time, the development of teaching in a more agile and effective way, as it is known in advance (or well in advance) by the students and teachers through the standardized tool.

=== ADAPTATION OF THE METHODOLOGIES ===

- \* Teaching methodologies maintained
  
- \* Teaching methodologies modified
  
- \* Non-attendance mechanisms for student attention (tutoring)
  
- \* Modifications (if applicable) of the contents
  
- \* Additional bibliography to facilitate self-learning
  
- \* Other modifications

=== ADAPTATION OF THE TESTS ===

- \* Tests already carried out  
Test XX: [Previous Weight 00%] [Proposed Weight 00%]  
...
  
  - \* Pending tests that are maintained  
Test XX: [Previous Weight 00%] [Proposed Weight 00%]  
...
  
  - \* Tests that are modified  
[Previous test] => [New test]
  
  - \* New tests
  
  - \* Additional Information
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