



## IDENTIFYING DATA

### Final Year Dissertation

|                     |                                                                                                                                                                                                                                                                                                                                                                                |           |      |            |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|------------|
| Subject             | Final Year Dissertation                                                                                                                                                                                                                                                                                                                                                        |           |      |            |
| Code                | V02M098V01302                                                                                                                                                                                                                                                                                                                                                                  |           |      |            |
| Study programme     | Máster Universitario en Biología Marina                                                                                                                                                                                                                                                                                                                                        |           |      |            |
| Descriptors         | ECTS Credits                                                                                                                                                                                                                                                                                                                                                                   | Choose    | Year | Quadmester |
|                     | 12                                                                                                                                                                                                                                                                                                                                                                             | Mandatory | 2nd  | 1st        |
| Teaching language   | Spanish<br>Galician                                                                                                                                                                                                                                                                                                                                                            |           |      |            |
| Department          |                                                                                                                                                                                                                                                                                                                                                                                |           |      |            |
| Coordinator         | García Estévez, José Manuel                                                                                                                                                                                                                                                                                                                                                    |           |      |            |
| Lecturers           | García Estévez, José Manuel                                                                                                                                                                                                                                                                                                                                                    |           |      |            |
| E-mail              | jestevez@uvigo.es                                                                                                                                                                                                                                                                                                                                                              |           |      |            |
| Web                 | <a href="http://masterbiologiamarina.uvigo.es/gl/">http://masterbiologiamarina.uvigo.es/gl/</a>                                                                                                                                                                                                                                                                                |           |      |            |
| General description | The Work of End of *Máster is a fundamental activity in the training of the students of the title, since it includes all the process of approach, development and defence of a professional project. This involves the staged of all the competitions pursued by the student his evaluation by diverse the groups of interest (educational, court, tutors, and entrepreneurs). |           |      |            |

## Training and Learning Results

|      |                                                                                                                                                                                                                                                                                                  |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Code |                                                                                                                                                                                                                                                                                                  |
| A1   | (*)Posuír e comprender coñecementos que acheguen unha base ou oportunidade de ser orixinais no desenvolvemento e/ou aplicación de ideas, adoitado nun contexto de investigación.                                                                                                                 |
| A2   | (*)Que os estudantes saiban aplicar os coñecementos adquiridos e a súa capacidade de resolución de problemas en contornos novos ou pouco coñecidos dentro de contextos máis amplos (ou multidisciplinares) relacionados coa súa área de estudo.                                                  |
| A3   | (*)Que os estudantes sexan capaces de integrar coñecementos e se enfrontar á complexidade de formular xuízos a partir dunha información que, sendo incompleta ou limitada, inclúa reflexións sobre as responsabilidades sociais e éticas vinculadas á aplicación dos seus coñecementos e xuízos. |
| A4   | (*)Que os estudantes saiban comunicar as súas conclusións, e os coñecementos e razóns últimas que as sustentan, a públicos especializados e non especializados dun xeito claro e sen ambigüidades.                                                                                               |
| A5   | (*)Que os estudantes posúan as habilidades de aprendizaxe que lles permitan continuar estudando dun xeito que terá que ser, en grande medida, autodirixido e autónomo.                                                                                                                           |
| B1   | Utilización de criterios y métodos científicos en el planteamiento y resolución de problemas aplicando los conocimientos adquiridos                                                                                                                                                              |
| B2   | Búsqueda, análisis e integración de información a partir de diferentes fuentes y capacidad para su interpretación y evaluación                                                                                                                                                                   |
| B3   | Aprendizaje de diversas técnicas y métodos analíticos tanto en el medio natural como en el laboratorio                                                                                                                                                                                           |
| B4   | Desarrollo de habilidades en el manejo y tratamiento de herramientas, matemáticas, estadísticas e informáticas                                                                                                                                                                                   |
| B5   | Desarrollo de la habilidad de elaboración, presentación y defensa de trabajos e informes técnicos                                                                                                                                                                                                |
| B6   | Desarrollo de la curiosidad científica, de la iniciativa y la creatividad                                                                                                                                                                                                                        |
| B7   | Entendimiento de la proyección social de la ciencia                                                                                                                                                                                                                                              |
| C1   | Conocimiento físico-químico del medio oceánico y costero                                                                                                                                                                                                                                         |
| 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                                                                                                                                                                                   |
| C4   | Conocimiento y búsqueda del potencial interés económico y biotecnológico de los organismos marinos                                                                                                                                                                                               |
| C5   | Conocimiento de los principios de explotación y sostenibilidad del medio marino y planificación y supervisión de su gestión                                                                                                                                                                      |
| C6   | Conocimiento, identificación y evaluación de la calidad ambiental del medio marino y de la legislación vigente. Dirección de consultorías ambientales                                                                                                                                            |
| C7   | Catalogación, evaluación, conservación, restauración y gestión de áreas marinas y litorales protegidos. Elaboración, asesoramiento legal y ejecución de planes de ordenación del litoral                                                                                                         |

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|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C8  | Conocimiento y manejo de la metodología de investigación, de las técnicas muestreo e instrumentales y de análisis de datos aplicados al medio marino                                                                                     |
| C9  | Conocimientos de instituciones, organismos y legislación relacionados con el medio marino y sus recursos empresariales y económicos                                                                                                      |
| C10 | Inspección y asesoramiento técnico en la evaluación, explotación y gestión de pesquerías, extracción de recursos e instalaciones de acuicultura                                                                                          |
| C11 | Estudios de dinámica poblacional, mejora genética y selección de stocks en pesquerías, acuicultura y programas de repoblación                                                                                                            |
| C12 | Control de calidad y seguridad de alimentos y de productos de transformación y biotecnológicos de origen marino                                                                                                                          |
| C13 | Divulgación de conocimientos de la biología y el medio marinos: programas de formación y docencia; planificación y dirección de acuarios, museos, centros de interpretación ambiental, parques naturales y espacios naturales protegidos |
| C14 | Elaboración, discusión, interpretación, asesoramiento y peritaje de informes científico-técnicos, éticos, legales y socioeconómicos relacionados con el ámbito marino y pesquero                                                         |
| C15 | Gestión de actividades de ocio y turismo en el medio marino y litoral                                                                                                                                                                    |
| D1  | Desarrollo de las capacidades comprensivas, de análisis y síntesis                                                                                                                                                                       |
| D2  | Desarrollo de la capacidad de razonamiento crítico y autocrítico                                                                                                                                                                         |
| D3  | Desarrollo de las capacidades de trabajo en equipo, enriquecidas por la pluridisciplinariedad                                                                                                                                            |
| D4  | Desarrollo de la capacidad para actualizar el conocimiento de forma autónoma                                                                                                                                                             |
| D5  | Desarrollo de las habilidades de comunicación y discusión de planteamientos y resultados                                                                                                                                                 |
| D6  | Desarrollo de las capacidades de reflexión sobre responsabilidades sociales y éticas                                                                                                                                                     |
| D7  | Desarrollo de habilidades para la divulgación de ideas en contextos tanto académicos como no especializados                                                                                                                              |
| D8  | Desarrollo de la habilidad para hablar bien en público                                                                                                                                                                                   |

### Expected results from this subject

| Expected results from this subject                                                                                                                                                                                                                                                                                                                                                                                                                                        | Training and Learning Results                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Capacity of synthesis and skills in the communication and critical discussion of ideas. Quality of the works or scientific reports. Acquisition of knowledges and methodologies advanced in a field of application or of biological investigation. Autonomy in the preparation of new hypothesis, in the interpretation of results. Reflection on the limits of the technical employees, of the possible artefacts and of the need of standardisation of the technicians. | A1<br>A2<br>A3<br>A4<br>A5<br>B1<br>B2<br>B3<br>B4<br>B5<br>B6<br>B7<br>C1<br>C2<br>C3<br>C4<br>C5<br>C6<br>C7<br>C8<br>C9<br>C10<br>C11<br>C12<br>C13<br>C14<br>C15<br>D1<br>D2<br>D3<br>D4<br>D5<br>D6<br>D7<br>D8 |

### Contents

Topic

The Work of End of Máster is a fundamental activity in the training of the students, since it includes all the processes of approach, development and defence to a professional project. Its content include the planning of tasks to resolve a work or project, the realisation of said tasks and finally the concretion of the results in an explanatory memory of the problem posed, the procedure followed for his study or preparation, the interpretation of the results or of the design implemented and finally the results shown in the final report.

All the contents that contemplate the educations of the title, related with the management and exploitation of the marine environment and its resources.

| Planning               |             |                             |             |
|------------------------|-------------|-----------------------------|-------------|
|                        | Class hours | Hours outside the classroom | Total hours |
| Project based learning | 149.5       | 149.5                       | 299         |
| Presentation           | 1           | 0                           | 1           |

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

| Methodologies          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Project based learning | The methodology of the work of End of Master will change in function of the project posed i.e. more professional or more academic-scientific. Although conceptually they are similar, the methodology and the form to structure the information, can vary significantly between students, centres and interest and the supervisors. The methodology will be preferably the one of the Scientific Method, without prejudice that it can consist in a technical work, but yet will be methodologically rigorous in design, execution and presentation. The tasks to realise by the student will vary in function of the project realised and will reflect in the memory of the Work of End of Máster, that has to collect evidence of justification, methodology, results, discussion and comparison with other projects with similar results. |

| Personalized assistance |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methodologies           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Project based learning  | Each student will have at least an Internal Tutor of the Máster to direct the Report off Máster's End, that will have academic responsibilities (selection of centres, academic orientation, treatment of data, etc.) and which can be co-directed by a External Tutor, upon agreement subscribed before the initiation of the works, whenever the work is realised out of the university centres. The ultimate orientation of the formal presentation of the memory of the Master will be responsibility of the internal tutor that necessarily will be Doctor, without prejudice of an equivalent maximum implication of the external tutor, if applicable. The student will be able to resort to the orientation of his tutor of the PAT and of the educational staff of the title, to resolve specific elements of the development of his TFM, p.ej. Preparation of mathematical models. |

| Assessment             |                                                                                                                                                                                                                                                                                                                                                         | Qualification | Training and Learning Results                                                                                                                            |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | Description                                                                                                                                                                                                                                                                                                                                             |               |                                                                                                                                                          |
| Project based learning | The interuniversity academic court will consider the qualification awarded to the student by the Tutor-s of the TFM, according to the available reports, the evaluation sheet of the student and the degree of professional training or scientific excellence reached by the student according to the evaluation by peers developed by his supervisors. | 30            | A1 B1 C1 D1<br>A2 B2 C2 D2<br>A3 B3 C3 D3<br>A4 B4 C4 D4<br>A5 B5 C5 D5<br>B6 C6 D6<br>B7 C7 D7<br>C8 D8<br>C9<br>C10<br>C11<br>C12<br>C13<br>C14<br>C15 |

|              |                                                                                                                                                                                                                                                             |    |                                                                                                                                                          |
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| Presentation | The interuniversity academic court will value the quality of the contents of the memory *TFM and his organisation and written presentation, the clarity in the exhibition and the capacity of defence upon questions raised by the interuniversitary court. | 70 | A1 B1 C1 D1<br>A2 B2 C2 D2<br>A3 B3 C3 D3<br>A4 B4 C4 D4<br>A5 B5 C5 D5<br>B6 C6 D6<br>B7 C7 D7<br>C8 D8<br>C9<br>C10<br>C11<br>C12<br>C13<br>C14<br>C15 |
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#### Other comments on the Evaluation

The Work End of \*Máster will be necessarily the last matter \*cursada in this degree, not being able to defend before the \*superación of the rest of matters, and will give place to the application of the title by the student. They will be able to present and defend simultaneously the \*PE and the \*TFM, in the announcements of February or of July, both equivalent to effects qualifiers, or will be able to effect the presentation and defence of the \*PE in the announcement of February and the \*TFM in the one of July, but no to the reverse.

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#### Sources of information

##### Basic Bibliography

##### Complementary Bibliography

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#### Recommendations

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#### Other comments

The TFM is the conclusion of the formative activities and rofesionalizantion awarded by the master, and his concretion and evaluation is a right and a duty of each student. Its preparation can be generated after data or processes developed originally by the student in the centre of destination of the external practices, in companies or insititutions, although they are not synonymous at all, as the PE include the learning of a series of competences very distinct to the ones pursued and evaluated in the TFM. If by reasons of confidentiality there were not possible to ellaborate a TFM report from results obtained during the external practices, the title will ensure the preparation of the memory TFM in a thematic affine to the máster, for example, in a Research Department from the SUG universities involved.