FORM FOR SUBMISSION OF MODULE
FOR A EUROPEAN JOINT MASTERS

1.	**Module Title:** Coastal & marine areas: managing complex systems
2.	**Module Code:** (not necessary yet)
3.	**Maximum Number of Students:** 25
4.	**Total ECTS Credits:** 2 ECTS
5.	**Month:** First year, second semester
6.	**Notional Learning Hours (Please fill a number in box):** **(a) Contact Time - e.g in the classroom, or fieldwork** **(b) Private Study - reading time, preparing and taking assessments** **Format of Teaching:** Lectures　　　　　　　　　　　8 Hours (a) Laboratories or Practicals　　　6 Hours (a) Other (computer workshops)　　0 Hours Other (tutorials)　　　　　　　4 Hours Other (private study)　　　　　36 Hours (b) **Teaching Strategy:** Lectures – 14 Workshops – Tutorials – 4
7.	**Convener:** Dr. Javier García Sanabria.
8.	**Institution:** University of Cadiz
9.	**Level (Please tick Y):** Master Degree
10.	**Language(s) of Tuition**: English
11.	**Pre-requisites:** It is unlikely that there will be prerequisites beyond the entrance qualifications for a science-based Masters programme.
12.	**Co-requisites:** None

13.	**Programme(s) for which module is core:**
	Erasmus Mundus Joint Master Degree in Water and Coastal Management (WACOMA)
14.	**Module Description - The Purpose or Aims:**
	1. Provide high-level training response to the demands of society considering that coastal and marine environment are now strategic areas of particular interest and concern.
	2. Achieve a process of collective learning through the analysis of international to local experiences and their comparison within the governance framework.
	3. Update knowledge on coastal and marine management through real experiences and case studies.
	4. Analyze the new framework for the development of marine spatial planning initiatives.
	5. Understanding the inherent complexity of the integrated management of coastal and marine areas
15.	**Learning Outcomes:**
	1. Understanding the constant interaction processes that occur on the coast and marine environment between the natural, social, economic and administrative subsystems; understanding the relevance and importance of the current integrated perspective.
	2. Develop sensitivity towards environmental and social problems affecting the coastal and marine environment, from the ethical commitment and sustainability.
	3. Making judgments about complex issues that deal with coastal-marine management; knowing relate, synthesize and develop critical thinking.
16.	**Summary of Course Content:**
	1. Introduction to integrated coastal and marine management as a complex issue. Singularities of coastal and marine areas. Frameworks and methodologies (the Spyglass model, the Decalogue of management, the orders of outcomes, the public policy cycle). Key issues: policy and strategy, participation, coordination, institutions, instruments, information and communication, formation and training, education, and resources. Exercise: Debate on Governance. (4 hours).
	2. The international context for Marine Spatial Planning: the United Nations and the European Maritime Policy. The new Directive of Marine Spatial Planning. Practical simulation exercise: planning a coastal-marine area. (4 hours).
	3. Cases of study from international, national, regional and local scales of management. (3 hours)
	4. Applying lessons learned. Group exercise: designing an integrated management initiative. Oral presentations (evaluation exercise). (3 hours).

17.	**Key Skills Taught:** 1. Develop integrated analysis of complex problems from the approach of governance 2. To analyze the different variables involved in the processes of coastal and marine management (stakeholders, public bodies, scientists, poticians, etc.); each of them with their own objectives, interests and criteria. 3. Communication and negotiation skills: the art of persuasion. 4. To make proposals 5. Leadership capacity and working with groups
18.	**Assessment Methods:** 1. Attendance and participation in theoretical and practical lessons 2. Exhibitions and / or defenses of exercises, themes and works
19.	**Assessment Criteria:** A successful candidate should have or be able to do the following: *Threshold* A basic understanding of the appropriate science and modelling approach and a reasonable understanding of the model results and their implications. *Good* A good understanding of the science and correct model results which are presented and interpreted to a good standard, with some reference to independent literature data and results. *Excellent* A good to excellent understanding of the science and correct model results which are presented and interpreted to a high standard, with plenty of references used for comparisons and to critically evaluate the results.

20.	**Resource Implications of Proposal and Proposed Solutions:**
	(Recommended Bibliography: compulsory, optional, other sources of information)
	- Arana García, Estanislao y Sanz Larruga, Francisco Javier (Dir.), Asensio Navarro Ortega (Coor.). 2012. La ordenación jurídica del medio marino en España. Estudios sobre la Ley 41/2010, de protección del medio marino. Thomson Reuters. - Ardron, J., Gjerde, K., Pullen, S. y Tilot, V. 2008. Marine spatial planning in the high seas. Marine Policy, 32: 832-839. - Barnard & Elliott,. The 10-tenets of adaptive management and sustainability: An holistic framework for understanding and managing the socio-ecological system. Environmental Science & Policy 51 (2015) 181-191. - Barragán, J. M. 2014. Política, gestión y litoral. Una nueva visión de la gestión integrada de áreas litorales. UNESCO y Editorial Tébar, Madrid, 620 pp. - Barragán, J. M. 2010. Coastal management and public policy in Spain. Ocean & Coastal Management, v. 53: 209- 217 pp. - Barragán, J. M., Chica, J. A. y Pérez-Cayeiro, M. L. 2008. Propuesta de Estrategia Andaluza de Gestión Integrada de Zonas Costeras. Consejería de Medio Ambiente de la Junta de Andalucía, Cádiz, 255 pp. - De Andrés García, M.; Barragán, J.M.; García Sanabria, J. Relationships between coastal urganization and ecosystems in Spain. Cities (2017), Vol. 68. 8-17. - Ehler, C. y Douvere, F. 2009. Marine Spatial Planning. A step-by-step approach toward Ecosystem-based Management. Intergovernmental Oeanographic Commision. Manual and Guides, nº 53, ICAM Dossier nº 6. Paris, UNESCO, 99 pp. - Elliott et al. "And DPSIR begat DAPSI(W)R(M)!"-A unifying framework for marine environmental management. Marine Polution Bulletin 118 (2017). 27-40. - García-Sanabria, J.; Barragán, J.M. "Formulation of the integrated management Strategy of the socioecological system of Mar Menor: lessons learned" (in press) - García-Sanabria, J., García-Onetti, J., Barragán, J. M. 2011. Las CCAA y la gestión integrada de las áreas litorales en España. Materiales para un debate sobre gobernanza. Fundación Biodiversidad y Universidad de Cádiz, 220 pp. - García-Sanabria, J. 2014. The scope of marine spatial planning and integrated coastal zone management: new challenges for the future. Journal of Coastal Development. J Coast Dev 2014, 17:2 - García-Sanabria, J. 2014. La planificación espacial marina: una herramienta útil para diferentes ámbitos de aplicación. 7th International Congress for Spatial Planning. Edita: Asociación Interprofesional de Ordenación del Territorio FUNDICOT. I.S.S.N.:2386-6993. Depósito legal: M-31392-2014 - García-Sanabria, J. 2015. The approach of Integrated Coastal Zone Management: from technical to political point of view. Journal of Coastal Zone Management. J Coast Zone Manag 2015, 18:2 - Olsen, S. 2003. Frameworks and indicators for assessing progress in integrated coastal managment initiatives. Ocean and Coastal Management. Volume 46. Issues 3-4, 2003. Pages 347-361. - Olsen, S. et al, 2011. Governance baselines as a basis for adaptive marine spatial planning. J Coast Conserv (2011) 15:313–322
21.	**Does this module replace existing provision? If so, please indicate modules to be replaced:** The module fits in the area of "Environmental Impacts and management"
22.	**Start Date:** Second year, second semester. This subject should take place at the beginning as it is about the framework of integrated coastal and marine management, so then the other subjects would be more specific.
23.	**Is it intended that the module be available every year?** Yes