English version at the end of this document

Ano Letivo	2022-23
Unidade Curricular	INTRODUÇÃO À DIAGNOSE E GESTÃO DE ECOSSISTEMAS COSTEIROS
Cursos	RISCOS COSTEIROS, IMPACTOS DAS ALTERAÇÕES CLIMÁTICAS E ADAPTAÇÃO - COASTHazar (2º CICLO) ERASMUS MUNDUS
Unidade Orgânica	Faculdade de Ciências e Tecnologia
Código da Unidade Curricular	19391004
Área Científica	CIÊNCIAS DO AMBIENTE
Sigla	
Código CNAEF (3 dígitos)	422
Contributo para os Objetivos de Desenvolvimento Sustentável - ODS (Indicar até 3 objetivos)	13 14 15
Línguas de Aprendizagem	English

Modalidade de ensino

Face to face

Docente Responsável

Óscar Manuel Fernandes Cerveira Ferreira

DOCENTE	TIPO DE AULA	TURMAS	TOTAL HORAS DE CONTACTO (*)

* Para turmas lecionadas conjuntamente, apenas é contabilizada a carga horária de uma delas.

ANO	PERÍODO DE FUNCIONAMENTO*	HORAS DE CONTACTO	HORAS TOTAIS DE TRABALHO	ECTS
1º	S1	20T; 30TP	125	5

* A-Anual;S-Semestral;Q-Quadrimestral;T-Trimestral

Precedências

Sem precedências

Conhecimentos Prévios recomendados

N/A

Objetivos de aprendizagem (conhecimentos, aptidões e competências)

SCOPE :

The main objective of this course is that students acquire the skills to address the characterization, diagnosis and risk assessment of coastal ecosystems in different scenarios associated with climate change.

LEARNING OUTCOMES:

- Students will learn about the main coastal ecosystems, both from a structural and functional point of view, the ecosystem services they provide, the factors that determine their distribution and the pressures that may condition their state.

- Students will learn how to carry out the diagnosis and evaluation of coastal ecosystems in different scenarios of socioeconomic development, through the use of indicators, indices and the application of mathematical models.

- Students will learn the basics of the ecosystem-based management applied to coastal and marine areas in the context of the marine spatial planning process.

- Students will learn about different approaches and techniques to assess the environmental risks of climate change on coastal ecosystems.

Conteúdos programáticos

1. Introduction to coastal ecosystems: structure, functions, ecosystem services, pressures.

2. Assessment and diagnosis of coastal ecosystems: approaches, techniques, models.

3. Ecosystem-based management and planning processes in coastal areas.

4. Climate change: effects and trends on coastal ecosystems.

5. Models for the management and planning of aquatic ecosystems

6. Environmental risk assessment to climate change on coastal ecosystems

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Metodologias de ensino (avaliação incluída)

ASSESSMENT METHODS AND CRITERIA

Exercise 1:	**Type: Work**	**20,00%**
Exercise 2:	**Type: Work**	**20,00%**
Exercise 3:	**Type: Work**	**20,00%**
Exercise 4:	**Type: Work**	**20,00%**
Test:	**Type: Written exam**	**20,00%**

Observations -it is obligatory to attend the 80% of the classroom teaching -Only for duly justified causes (eg sanitary restrictions), the evaluations may be organized remotely.

Bibliografia principal

Frankling, J & Miller, JA 2010. Mapping species distributions. Cambridge University Press.

Kaiser, MJ, Attrill, MJ, Jennings, S, Thomas, DN, Barnes, DKA, Brierley, AS, Hiddink, JG, Kaartokallio, H, Polunin, NVC, Raffaelli, DG 2011. Marine ecology: Processes, systems and impacts. Oxford University Press.

Phillips, SJ, Anderson, RP, Schapire, RE 2006. Maximum entropy modelling of species geographic distributions. Ecol. Modelling 190, 231-259.

Phillips, SJ, Anderson, RP, DudÍk, M, Schapire, RE, Blair, ME 2017. Opening the black box: an open-source release of Maxent. Ecography 40: 887?893.

Townsed, A, Soberón, J, Pearson, RG, Anderson, RP, Martínez-Meyer, E, Nakamura, M, Araujo, MB 2011. Ecological Niches and Geographic Distributions. Princeton University Press.

United Nations 2005. Millennium Ecosystem Assessment. Ecosystems and Human Well-being: Synthesis. Island Press, Washington, DC.

Wolanski, E. Day, JW, Elliot, M, Ramachandran, R 2019. Coasts and Estuaries. The future. Elsevier.

Academic Year	2022-23
Course unit	
Courses	Coastal Hazards - Risks, Climate Change Impacts and Adaption (COASTHazar)
Faculty / School	FACULTY OF SCIENCES AND TECHNOLOGY
Main Scientific Area	
Acronym	
CNAEF code (3 digits)	422
Contribution to Sustainable Development Goals - SGD (Designate up to 3 objectives)	13 14 15
Language of instruction	English
Teaching/Learning modality	Face to face

Coordinating teacher Óscar Manuel Fernandes Cerveira Ferreira

Teaching staff	Type	Classes	Hours (*)

* For classes taught jointly, it is only accounted the workload of one.

Contact hours

T	TP	PL	TC	S	E	OT	O	Total
20	30	0	0	0	0	0	0	125

T - Theoretical; TP - Theoretical and practical ; PL - Practical and laboratorial; TC - Field Work; S - Seminar; E - Training; OT - Tutorial; O - Other

Pre-requisites

no pre-requisites

Prior knowledge and skills

N/A

The students intended learning outcomes (knowledge, skills and competences)

SCOPE :

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LEARNING OUTCOMES:

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- Students will learn about different approaches and techniques to assess the environmental risks of climate change on coastal ecosystems.

Syllabus

1. Introduction to coastal ecosystems: structure, functions, ecosystem services, pressures.

2. Assessment and diagnosis of coastal ecosystems: approaches, techniques, models.

3. Ecosystem-based management and planning processes in coastal areas.

4. Climate change: effects and trends on coastal ecosystems.

5. Models for the management and planning of aquatic ecosystems

6. Environmental risk assessment to climate change on coastal ecosystems

Teaching methodologies (including evaluation)

ASSESSMENT METHODS AND CRITERIA

Exercise 1:	**Type: Work**	**20,00%**
Exercise 2:	**Type: Work**	**20,00%**
Exercise 3:	**Type: Work**	**20,00%**
Exercise 4:	**Type: Work**	**20,00%**
Test:	**Type: Written exam**	**20,00%**

Observations -it is obligatory to attend the 80% of the classroom teaching -Only for duly justified causes (eg sanitary restrictions), the evaluations may be organized remotely.

Main Bibliography

Frankling, J & Miller, JA 2010. Mapping species distributions. Cambridge University Press.

Kaiser, MJ, Attrill, MJ, Jennings, S, Thomas, DN, Barnes, DKA, Brierley, AS, Hiddink, JG, Kaartokallio, H, Polunin, NVC, Raffaelli, DG 2011. Marine ecology: Processes, systems and impacts. Oxford University Press.

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