
Ano Letivo 2022-23

Unidade Curricular DESENHO DE MEDIDAS DE REDUÇÃO DE RISCO EM ZONAS COSTEIRAS

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 19391007

Área Científica ENGENHARIA

Sigla

Código CNAEF (3 dígitos) 582

**Contributo para os Objetivos de
Desenvolvimento Sustentável - 11**
ODS (Indicar até 3 objetivos)

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 (*)
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* 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	S2	40T; 32PL	140	5

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

Precedências

Sem precedências

Conhecimentos Prévios recomendados

N/A

Objetivos de aprendizagem (conhecimentos, aptidões e competências)

At the end of the module students should be able to

- understand the Disaster Risk Reduction (DRR) cycle and distinguish between its elements
- analyze the effectiveness of DRR intervention measures and understand their suitability.
- design a breakwater, a dyke and dyke revetments under given coastal forcing conditions
- explain Building with Nature (BwN) design concepts

Conteúdos programáticos

- Introduction to Disaster Risk Reduction (DRR)
- Breakwater design
- Design of dikes and revetments

Metodologias de ensino (avaliação incluída)

Teaching methodologies include classical classroom teaching, concrete design exercises in groups including presentations of the results, individual assignments and group discussions. Apart from training classical design knowledge and skill, the course thus stimulates thinking and acting in a complex design environment including required skills of group discussions and design.

Bibliografia principal

Van Dongeren, A., Ciavola, P., Martinez, G., Viavattene, C., Bogaard, T., Ferreira, O., ... & McCall, R. (2018). Introduction to RISC-KIT: Resilience-increasing strategies for coasts. *Coastal Engineering*, 134, 2-9.

Van Dongeren, A., Ciavola, P., Martinez, G., Viavattene, C., DeKleermaeker, S., Ferreira, O., ... & McCall, R. (2016). RISC-KIT: resilience-increasing strategies for coasts.

Ciavola, P., Harley, M. D., & Den Heijer, C. (2018). The RISC-KIT storm impact database: A new tool in support of DRR. *Coastal Engineering*, 134, 24-32.

Lecture note Revetments, sea-dikes and River levees, LN0062/07/01 H.J. Verhagen

Lecture note Design of Closure Dams LN0052/02/1 H.J. Verhagen

Stability of pattern placed revetment PIANC

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) 582

Contribution to Sustainable Development Goals - SGD (Designate up to 3 objectives) 11

Language of instruction English

Teaching/Learning modality Face to face

Coordinating teacher Óscar Manuel Fernandes Cerveira Ferreira

Teaching staff	Type	Classes	Hours (*)
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* For classes taught jointly, it is only accounted the workload of one.

Contact hours	T	TP	PL	TC	S	E	OT	O	Total
	40	0	32	0	0	0	0	0	140
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)

At the end of the module student should be able to

- understand the Disaster Risk Reduction (DRR) cycle and distinguish between its elements
- analyze the effectiveness of DRR intervention measures and understand their suitability.
- design a breakwater, a dyke and dyke revetments under given coastal forcing conditions
- explain Building with Nature (BwN) design concepts

Syllabus

- Introduction to Disaster Risk Reduction (DRR)
- Breakwater design
- Design of dikes and revetments

Teaching methodologies (including evaluation)

Teaching methodologies include classical classroom teaching, concrete design exercises in groups including presentations of the results, individual assignments and group discussions. Apart from training classical design knowledge and skill, the course thus stimulates thinking and acting in a complex design environment including required skills of group discussions and design.

Main Bibliography

Van Dongeren, A., Ciavola, P., Martinez, G., Viavattene, C., Bogaard, T., Ferreira, O., ... & McCall, R. (2018). Introduction to RISC-KIT: Resilience-increasing strategies for coasts. *Coastal Engineering*, 134, 2-9.

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