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**Ano Letivo** 2021-22

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**Unidade Curricular** RIVER RESTORATION

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**Cursos** ECOHIDROLOGIA APLICADA - Erasmus Mundus (2.º Ciclo) (\*)

(\*) Curso onde a unidade curricular é opcional

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**Unidade Orgânica** Faculdade de Ciências e Tecnologia

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**Código da Unidade Curricular** 19311016

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**Área Científica** CIÊNCIAS DO AMBIENTE

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**Sigla**

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**Código CNAEF (3 dígitos)** 851

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**Contributo para os Objetivos de Desenvolvimento Sustentável - ODS (Indicar até 3 objetivos)** 6,13,14,

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**Línguas de Aprendizagem** inglês

**Modalidade de ensino**

presencial/ remoto

**Docente Responsável**

Luís Manuel Zambujal Chícharo

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	S1	8T; 5TP; 8TC; 3OT	75	3

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

**Precedências**

Sem precedências

**Conhecimentos Prévios recomendados**

biology, ecology

**Objetivos de aprendizagem (conhecimentos, aptidões e competências)**

At the end of the course, the student will acquire the theoretical and practical knowledge necessary for the recovery of degraded ecosystems, as well as knowledge of European rules and regulations.

**Conteúdos programáticos**

Engineering concepts and techniques to recover the physical environment and biodiversity and to mitigate fragmentation: relationship between river erosion, hydraulic characteristics and hydromorphological processes; the role of riparian vegetation, the recovery of habitats and the stabilization of margins through natural engineering; the restoration of connectivity through ecological flows and transposition devices. Iberian and European case studies

#### **Metodologias de ensino (avaliação incluída)**

The subjects will be exposed in theoretical classes, trained in field classes, processed in practical classes.

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#### **Bibliografia principal**

1. CORTES, R.M.V. HUGHES, S.J.; VARANDAS, S., MAGALHÃES, M., FERREIRA, M.T., 2009. Habitat variation at different scales and biotic linkages in lotic systems: consequences for monitorization. *Aquatic Ecology*. *Aquatic Ecology* 43: 1107-1120.

BOAVIDA, I., SANTOS, J., LOURENÇO, J., CORTES, R.M.V., FERREIRA, T. & PINHEIRO, A., 2009. Using a Two Dimensional Approach To Evaluate Channel Rehabilitation In A Mediterranean Stream (Southern Portugal). 4th European Conference on River Restoration, pgs. 749-758. Ed.

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**Academic Year** 2021-22

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**Course unit**

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**Courses** Applied Ecohydrology - Erasmus Mundus (2.º Cycle) (\*)

(\*) Optional course unit for this course

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**Faculty / School** FACULTY OF SCIENCES AND TECHNOLOGY

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**Main Scientific Area** CIÊNCIAS DO AMBIENTE

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**Acronym**

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**CNAEF code (3 digits)** 851

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**Contribution to Sustainable Development Goals - SGD (Designate up to 3 objectives)** 6,13,14

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**Language of instruction** english

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**Teaching/Learning modality** face to face/remote

**Coordinating teacher**      Luís Manuel Zambujal Chícharo

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
	8	5	0	8	0	0	3	0	75

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

biology, ecology

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

At the end of the course, the student will acquire the theoretical and practical knowledge necessary for the recovery of degraded ecosystems, as well as knowledge of European rules and regulations.

#### Syllabus

Engineering concepts and techniques to recover the physical environment and biodiversity and to mitigate fragmentation: relationship between river erosion, hydraulic characteristics and hydromorphological processes; the role of riparian vegetation, the recovery of habitats and the stabilization of margins through natural engineering; the restoration of connectivity through ecological flows and transposition devices. Iberian and European case studies

#### Teaching methodologies (including evaluation)

The subjects will be exposed in theoretical classes, trained in field classes, processed in practical classes

#### Main Bibliography

1. CORTES, R.M.V. HUGHES, S.J.; VARANDAS, S., MAGALHÃES, M., FERREIRA, M.T., 2009. Habitat variation at different scales and biotic linkages in lotic systems: consequences for monitorization. *Aquatic Ecology*. *Aquatic Ecology* 43: 1107-1120.
2. BOAVIDA, I., SANTOS, J., LOURENÇO, J., CORTES, R.M.V., FERREIRA, T. & PINHEIRO, A., 2009. Using a Two Dimensional Approach To Evaluate Channel Rehabilitation In A Mediterranean Stream (Southern Portugal). 4th European Conference on River Restoration, pgs. 749-758. Ed.