

## Advanced Topics in Water Resources and Environment

**Doctoral Programme – Academic Year 2019 – 2020**

Wednesday, from 11:00 to 13:00, Room V1.04

### Objectives of the course:

Provide PhD students with a few advanced topics in the areas of hydrology, water resources, and environmental issues related to hydraulic projects, giving special emphasis to those that are more relevant to the dissertations being elaborated by the students.

### Grading:

Final examination on the topics presented in the classes – 50%

Individual written report (10 to 15 pages) to be presented and discussed – 50%

<b>Professors:</b>	
FNC – Francisco Nunes Correia (Coordinator) fnc@civil.ist.utl.pt MPS – Manuela Portela mps@civil.ist.utl.pt RPO – Rodrigo Proença de Oliveira rpo@civil.ist.utl.pt	LTR – Luís Tavares Ribeiro luis.ribeiro@ist.utl.pt MCP – Manuel Pinheiro manuel.pinheiro@tecnico.ulisboa.pt ABA – António Betâmio de Almeida betamio.almeida@ist.utl.pt

### Programme:

Date	Professor	Topic
<b>19 February</b>	FNC, MPS, RPO, LTR	Programme and logistics of the course presented by the professors. Presentation of the students. Water resources and environment: Challenges and Approaches.
26	ABA	Risk and resilience in water resources management
<b>4 March</b>	MPS	Regionalization of hydro-meteorological information
11	RPO	<i>Integrated mathematical modelling of river basins [FNC in Brasilia]</i>
18	RPO	Design and management of reservoirs
25	MPS	Flood frequency analysis – Annual maximum vs. partial duration series
<b>1 April</b>	MCP	Environmental impact of water resources projects and strategic environmental assessment of plans and programmes
8	-----	----- Easter Break -----
15	RPO	Multiple Objective Optimization of Water Resources Systems Operation
22	RPO	Climate change and impact on the hydrological cycle
29	FNC	National and European Union legislation and policies in the area of water resources
<b>6 May</b>	FNC	Water resources governance: main goals, principles and indicators
13	FNC	Conclusion: Evolution of environmental policies throughout time
20	According to the subject	Evaluation: Presentation and discussion of the reports prepared by the students
27	According to the subject	Evaluation: Presentation and discussion of the reports prepared by the students