GEOGRAPHIC INFORMATION SYSTEM (GIS) APPLIED TO ICZM

Credits: 5 ECTS

Detailed programme:

LEARNING BLOCK	TOPIC OR ACTIVITY
B1	Presentation. Introductory aspects: coordinate systems, map projections, vertical reference systems for coastal areas.
B2	Sources of spatial information: topographical and thematic mapping, aerial photographs, satellite images, GPS, LiDAR.
B3	Basic characteristics or the programmes ArcGIS and QGIS. Data models in GIS.
B4	On-line map data. Spatial data infrastructure (SDI).
B5	Geoprocessing and geostatistics.
B6	Case study 1: coastal thematic mapping with AHP.
B7	Case study 2: analysis of medium and long-term changes to the coast line (I).
B8	Case study 2: analysis of medium and long-term changes to the coast line (II).
B9	Case study 3: activity compatibility study according to MTPD and protection zone borders.
B10	Case study 4: coastal system vulnerability study with indices.
B11	Case study 5: Assessment of the effects of storms on coastal areas (I).
B12	Case study 5: Assessment of the effects of storms on coastal areas (II).
B13	Case study 6: Predicting floods generated by the rise in sea level.
B14	Case study 7: Identification and monitoring of harmful algae blooms.
B15	Case study 8: Detection and monitoring of oil spills (I).
B16	Case study 8: Detection and monitoring of oil spills (II).
B17	Case study 9: Spatial study of coastal water quality samples.
B18	Case study 10: Analysis of the adequacy for the location of a wind farm.

Evaluation system:

SYSTEM	WEIGHT
Presentation and/or defence of exercises, topics and projects	10 – 30
Computer classes and reports	10 – 30
Attendance and participation in theory and practical classes, seminars, mentoring and other complimentary activities	30 – 60