COURSE DETAIL

COASTAL MORPHODYNAMICS
Country Netherlands
Host Institution Utrecht University
Program(s) Utrecht University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Environmental Studies Earth & Space Sciences
UCEAP Course Number 135
UCEAP Course Suffix
UCEAP Official Title COASTAL MORPHODYNAMICS
UCEAP Transcript Title COSTAL MORPHODYNMCS
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

This course focuses on the estuarine, coastal, and marine processes and morphological features that determine the morphodynamic behavior of coastal systems. Coastal morphodynamics is defined as the mutual co-adjustment of coastal landforms and processes. Emphasis is on the behavior of sedimentary coastal systems, such as beaches and dune coasts, barrier island systems, tidal inlets, estuaries, and deltas. It includes the behavior of both sandy and muddy coasts. The time scales involved vary from less than a second (e.g., intra-wave processes; short-term) to decades (e.g., the coastal response to sea level rise; long-term). The course starts with the dynamics of wave-, tide- and current-driven processes and the effect on sediment transport processes and associated morphological change. The second part of the course deals with the morphodynamic character of different types of coastal systems. This is analyzed by discussing, evaluating, and quantifying the dominant processes, the relevant morphological features, and sedimentary products. Exercises, papers, and case studies are an integral part of the course and are used to develop skills in analyzing and solving coastal problems. The course also contains several lectures on coastal instrumentation (for example, remote sensing) and on the societal relevance of coastal processes in mitigating coastal erosion.

Language(s) of Instruction
English

Host Institution Course Number
GEO3-4306

Host Institution Course Title
COASTAL MORPHODYNAMICS

Host Institution Campus
Utrecht University

Host Institution Faculty
Geosciences

Host Institution Degree

Host Institution Department
Earth Sciences

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