

COURSE DETAIL

DYNAMICAL OCEANOGRAPHY

Country

United Kingdom - England

Host Institution

University of East Anglia

Program(s)

Environment and Sustainability, East Anglia

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Geography Earth & Space Sciences

UCEAP Course Number

137

UCEAP Course Suffix**UCEAP Official Title**

DYNAMICAL OCEANOGRAPHY

UCEAP Transcript Title

DYNAMICAL OCEANOGR

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course covers mathematical modelling of large-scale ocean circulation and oceanic wave motion, fluid dynamics, and differential equations. Students use these techniques to explain phenomena in the ocean that are relevant to the real world. Students examine the effects of rotation on fluid flows. This leads to the concept of geostrophy, which enables ocean currents to be inferred from measurements of sea surface height or from vertical profiles of seawater density. The role of wind in driving the ocean is examined. This enables students to model the large-scale circulation of the ocean including the development of oceanic gyres and strong western boundary currents. The course concludes by examining the role of waves, and the differences between wave motion at mid-latitudes and the Equator.

Language(s) of Instruction

English

Host Institution Course Number

MTHE6007B

Host Institution Course Title

DYNAMICAL OCEANOGRAPHY

Host Institution Course Details

Host Institution Campus

University of East Anglia

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mathematics (MTH)

Course Last Reviewed

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