

# 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 Campus

University of East Anglia

## Host Institution Faculty

## Host Institution Degree

## Host Institution Department

Mathematics (MTH)

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