

## COURSE DETAIL

### CHEMICAL OCEANOGRAPHY

**Country**

Taiwan

**Host Institution**

National Taiwan University

**Program(s)**

National Taiwan University

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Geography Environmental Studies

**UCEAP Course Number**

111

**UCEAP Course Suffix****UCEAP Official Title**

CHEMICAL OCEANOGRAPHY

**UCEAP Transcript Title**

CHEM OCEANOGRAPHY

**UCEAP Quarter Units**

1.50

**UCEAP Semester Units**

1.00

## Course Description

This course primarily focuses on the ocean's role in the global biogeochemical cycling of elements, with special attention given to the impact of human activities on the transport of these elements within these cycles. The course begins by covering basic ocean chemistry, followed by an exploration of the concept of global geochemical cycles based on water/rock interactions. The discussion then delves into nutrient and trace metal cycling, emphasizing redox reactions and the biologically mediated oxidation of organic matter. Steady-state models will be employed to explain the global distribution of these components in the oceans.

In addition, the course examines the role of sediment in shaping ocean chemical composition, considering both equilibrium and kinetic perspectives and touches upon marine chemistry related to radioactive and stable isotopes.

This course aims to provide young marine scientists with a foundation in the fundamental concepts of ocean chemistry, while offering a global perspective on the subject. There are no prerequisites for enrollment, but a background in basic chemistry (e.g., Chemistry 101) is preferred.

### Language(s) of Instruction

English

### Host Institution Course Number

Ocean5128

### Host Institution Course Title

CHEMICAL OCEANOGRAPHY

### Host Institution Campus

### Host Institution Faculty

### Host Institution Degree

**Host Institution Department**

Oceanography

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