

SEMESTER-II

GEOG. 661:

PHYSICAL OCEANOGRAPHY

3(3-0)

Course Objectives

To make student understand about the origin of oceans, its changing physical characteristics and geomorphology of the ocean floor, so that the student have up-to-date knowledge about the physical characteristic and the resources available in the ocean.

Learning Outcomes

On completion of this course, students will be able to gain sufficient knowledge about the oceans and seas. Moreover, they will be able to know how the ocean current, waves, tides and special phenomena such as tsunamis originate and what are their effects on aquatic and human life are.

Course Outline

- 1. Origin of Oceans and Seas**
 - Physical features of ocean's basin
 - Ocean deposits.
- 2. Temperature and Salinity**
 - Distribution of temperature and salinity; its causes and effects.
- 3. Oceanic Circulations**
 - Waves, currents and tides their origin, characteristics and distribution.
- 4. Oceanic Circulations**
 - The origin of Oceanic currents, distribution and characteristics.
 - Currents of Atlantic, Indian and Pacific Oceans.
- 5. Waves and Tides**
 - Types of waves and tides
 - Causes and effects.
- 6. Special Phenomena**
 - Storm surges; tsunamis

Field Visits

Coastal area for the study of oceans physical features & characteristics.

Recommended Books

1. Sverdrup, Keith, et.al. (2005) "Fundamentals of Oceanography", McGraw-Hill.
2. Pinet, P.R. (2003) "Invitation to Oceanography", Jones and Bartlett Publishers.
3. Thurman, H.V & A.P. Trujillo (2003) "Introductory Oceanography", Prentice Hall
4. Thurman, RV & A.P. Trujillo (2001) "Essentials of Oceanography", Prentice Hall.