

4. Bachelors in Ocean Science (Honours/Research) (FYUGP) (4 Year)

This programme is offered under the joint venture between Kerala University of Fisheries and Ocean Studies, Kochi and Indian National Centre for Ocean Information Services (INCOIS), Hyderabad. Admissions are open to students from science streams who have successfully completed Plus Two or its equivalent, as per eligibility norms. Aligned with the National Education Policy (NEP 2020), this programme offers a multidisciplinary, flexible, and skill-oriented curriculum, structured to provide a strong foundation as well as advanced knowledge in ocean sciences. The programme enables students to progressively build competencies across levels, integrating classroom learning with laboratory training, field exposure, and research-oriented activities. The curriculum follows an Outcome-Based Education (OBE) framework, focusing on competency development, analytical thinking, problem-solving, and experiential learning. Core domains include physical oceanography, marine chemistry, marine

biology, coastal ecology, fisheries oceanography, and marine environmental sciences. These are complemented by emerging areas such as climate change and ocean dynamics, marine pollution, blue economy, marine biotechnology, remote sensing, and geospatial applications.

Students exiting after the third year will receive a regular undergraduate degree, while those continuing into the fourth year will undertake advanced coursework, research projects, or internships, leading to an Honours or Honours with Research degree. The programme is integrated with the Academic Bank of Credits (ABC) system, enabling flexibility in learning pathways, credit transfer, and lifelong learning opportunities. Strong emphasis is placed on skill-based learning and field-oriented training, with components such as internships, onboard/field exposure, coastal surveys, and live projects. Well-equipped laboratories and access to coastal and marine ecosystems provide hands-on experience in analytical techniques, environmental monitoring, and marine data analysis. In the final year, students engage in research projects, dissertations, and innovation-driven activities, preparing them for higher studies, research careers, and specialized industry roles. This research orientation equips graduates to pursue postgraduate programmes, doctoral studies, or careers in R&D and academia. Graduates of this programme will be well-prepared for diverse career pathways in marine research institutes, environmental consultancies, coastal zone management, fisheries and aquaculture sectors, ocean observation systems, and blue economy initiatives. The unique strengths of KUFOS provide additional opportunities for specialization in marine resources, coastal sustainability, and ocean-based industries.

The University also promotes equity and inclusion through E-Grants and fee concessions for eligible students, including children of fishermen, contributing to inclusive and sustainable development. With its strong alignment to NEP 2020, multidisciplinary approach, and focus on employability, sustainability, and research, the Four-Year Undergraduate Programme in Ocean Sciences at KUFOS offers a future-ready academic pathway for students aspiring to build careers in ocean and coastal sciences.

Objectives of the Programme

- To provide a strong foundation in ocean sciences, including physical, chemical, and biological aspects of the marine environment
- To develop practical and analytical skills through laboratory work, field studies, and data analysis
- To promote research aptitude and scientific inquiry among students
- To address contemporary challenges such as climate change, marine pollution, and coastal sustainability
- To prepare students for higher education, research, and industry-oriented careers

Scope of the Programme

Ocean Sciences is an emerging and highly relevant field with increasing importance in the context of the blue economy and sustainable development. The programme provides exposure to:

- Oceanography, marine chemistry, and marine biology
 - Coastal ecosystem dynamics and environmental monitoring
 - Climate change and ocean processes
 - Marine pollution and resource management
 - Geospatial and remote sensing applications in ocean studies

Students gain hands-on experience through fieldwork, coastal surveys, internships, and laboratory training, enhancing their understanding of real-world marine systems.

NUMBER OF SEATS

Intake Capacity: 25 (plus 20% seats on supernumerary basis for Children of Fishermen).

ASSESSMENT AND STANDARDS OF PASSING

- Student evaluation will be based on performance in continuous assessment components such as assignments, term papers, seminars, case studies, records, class participation, and project work, along with end-semester examinations. The assessment system follows a combination of internal and external evaluation, as per University norms.