



Course Name:

Port Facilities Design

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| Course Number: - | Credit: 3 |
| Program: Graduate | Course Type: Technical Optional |
| Prerequisite: - | Corequisite: - |

Course Description (Objectives):

The general goal of this course is to enable students to design port structures. The specific objectives include teaching the design of various port facilities such as yards, docks, piers, berths, port basins, navigation channels, and breakwaters, so that students can design and develop these infrastructures while considering both technical and environmental aspects.

Course Content (outline):

- Chapter 1: Site planning and basic studies
- Chapter 2: Design of yards and docks
- Chapter 3: Design of piers and berths
- Chapter 4: Design of port basins and navigation channels
- Chapter 5: Design of breakwaters
- Chapter 6: Environmental considerations

References:

- Carl A. Thoresen, 2014. *Port Designer's Handbook*, Thomas Telford.
- John W. Gaythwaite, 2016. *Design of Marine Facilities: Engineering for Port and Harbor Structures*, American Society of Civil Engineers Press.
- Recommendations for the Design of the Maritime Configuration of Ports, Approach Channels, and Harbour Basins (ROM 3.1-99).
- OCEDI (Overseas Coastal Area Development Institute of Japan), 2009. *Technical Standards and Commentaries of Port and Harbour Facilities in Japan*.
- B. C. Gerwick, 2007. *Construction of Marine and Offshore Structures*, CRC Press.
- Robert T. Hudspeth, 2006. *Waves and Wave Forces on Coastal and Ocean Structures*, World Scientific Publishing.
- PIANC, 2001. *Seismic Design Guideline for Port Structures*.
- Gregory P. Tsinker. *Port Engineering: Planning, Construction, Maintenance, and Security*, John Wiley & Sons.