

COAST-11 Analysis of design wave heights

- Objective:** This course is intended to introduce the general principles and considerations involved in the determination of the design wave heights. Certain tools will be introduced and demonstrated by hands-on exercises
- Contents:**
- Introduction to wave motion. Description of regular waves. Wave orbital velocity and pressure. Wave group velocity. Wave energy and wave power
 - Concept of significant wave height. Energy and directional spectra. Wind wave generation. Wave hindcasting from known wind fields
 - Estimation of extreme wave height and period
 - Wave mechanics and shoaling. Wave transformation: Refraction, diffraction, reflection. Wave breaking. Linear random waves
 - Wave reflection by coastal structures. Wave diffraction around breakwaters
- Who should attend:** Engineers and others from the public and private sector with some basic knowledge on statistics and waves
- Courseware:** Selected slides and background documents as handouts and/or electronic files
- Certification:** Attendance certificate (subject to 80 percent attendance)
- Duration:** 5 lessons (2 hours each) plus some exercises
- Schedule:** (Please enquire)
- Costs:** \$ 600 per participant (inclusive of GST)
A discount of 20 percent applies to 3 or more participants from the same organization in the same course
- Instructors:** Huang Zhenhua, PhD from Massachusetts Institute of Technology, USA. He was a Visiting Assistant Professor at Hong Kong University of Science and Technology before joining NTU in 2006. Dr Huang's expertise covers wave-structure interaction; surface wave dynamics; hydrodynamics; coastal and ocean engineering; wave energy conversion; and coastal sediment transport
- and/or
Tan Soon Keat, employed at NTU since 1984, and Director of its Maritime Research Centre since its inception in 2001. His research interests include GIS applications in water resources, numerical simulation of flow for hydraulics and coastal engineering applications. Dr Tan also provides consultancy services within surge analysis, drainage and hydraulic design, and modelling of hydraulic and coastal processes
- Enquiries and registration:** DHI Water & Environment, tel. 6777 6330, e-mail: info@dhi-ntu.com.sg