inf663 - Application Area Maritime

Module label Application Area Maritime
Module code inf663
Credit points 6.0 KP
Workload 180 h
Used in course of study Master's Programme Computing Science > Angewandte Informatik
Contact person Module responsibility
  - Axel Hahn
  - Die im Modul Lehrenden
Authorized examiners
  - Axel Hahn
  - Die im Modul Lehrenden

Entry requirements

Skills to be acquired in this module

Professional competences:
The students gain knowledge about ship handling and navigation and learn to understand maritime transportation as a system of systems on board for stability, propulsion and steering as for bridge resource management. They understand the latter as a mayor contribution to organize navigation as a hierarchical team concept of a safety critical sociotechnical system. The students are aware of the special technical and physical challenges of navigation.

Methodological competences:
The students can apply system engineering methods to describe, analyse and design maritime systems. By looking on maritime transportation the gain transferable knowledge on other cyber physical systems. Students learned to how systems can deal with harsh environmental conditions in a resilient way.

Social competences:
Maritime transportation is a mayor basis of a global economy. Typically, students do not have an understanding of these transportation systems nor their technical and systemic challenges. Therefore, the student knows the concepts of maritime transportation and its role in international transportation networks after finishing this module.

Self-Competences:
Especially their competences cover an understanding as maritime transportation as a systems of system with high requirements on reliability, dependability and safety in combination with efficiency to be competitive in a global economy.

Module contents
The module consists of a lecture and an exercise part:
Lecture: Maritime Transportation in global and local supply chains, Base concepts of ship handling and navigation, maritime system dynamics, bridge resource management, eNAvigation and high automation systems.
Seminar: Covering aspects of maritime transportation

Reader's advisory
Bernhard Berking, Werner Huth (Herausgeber), Handbuch Nautik 1: Navigatorische Schiffsführung, Seehafen Verlag, 2010

Links

Language of instruction English
Duration (semesters) 1 Semester
Module frequency Once a year
Module capacity unlimited
Modullevel AS (Akzentsetzung / Accentuation)
Modulart Pflicht o. Wahlpflicht / compulsory or optional
Lern-/Lehrform / Type of program V+S
Vorkenntnisse / Previous knowledge

Examination Time of examination Type of examination
Final exam of module At the end of the lecture period Oral exam and documentation
Course type Comment SWS Frequency Workload attendance
Lecture 2.00 SuSe and WiSe 28 h
Seminar 2.00 SuSe and WiSe 28 h
Total time of attendance for the module 56 h