

Faculty of Maritime Studies / Pomorska elektrotehnika (2017) /

Prerequisites	No prerequisites for course enrolment and attending.
Aims	Getting basic knowledge on sources, ways of transmission and impacts of electromagnetic interference on electrical and electronic ship (marine) devices. Getting acquainted with the corresponding standards, measurements and procedures for achieving electromagnetic compatibility.
Lecturer / Teaching assistant	Associate Professor Tatijana Dlabač, Phd Teaching associate Ivana Čavor
Method	Lectures, calculation exercises, homework, consultations.
Week 1, lectures	Concepts of electromagnetic compatibility (EMC), electromagnetic interference (EMI) and electromagnetic sensitivity (EMS)
Week 1, exercises	
Week 2, lectures	Electromagnetic fields and electrical circuits
Week 2, exercises	
Week 3, lectures	Sources of electromagnetic interference (EMI).
Week 3, exercises	
Week 4, lectures	Transmission of electromagnetic interference
Week 4, exercises	
Week 5, lectures	Antennas. Elementary sources of radiation. The parameters of the antenna and the expansion of electromagnetic waves.
Week 5, exercises	
Week 6, lectures	Measuring antenna.
Week 6, exercises	
Week 7, lectures	Test I
Week 7, exercises	
Week 8, lectures	Electromagnetic shielding
Week 8, exercises	
Week 9, lectures	Electromagnetic grounding
Week 9, exercises	
Week 10, lectures	Filtering
Week 10, exercises	
Week 11, lectures	Electromagnetic compatibility measurements and testing
Week 11, exercises	
Week 12, lectures	Electromagnetic compatibility (EMC) standards.
Week 12, exercises	
Week 13, lectures	Standards for harmful impacts of electromagnetic field on ship crew and fuel
Week 13, exercises	
Week 14, lectures	Principles of designing electromagnetically compatible devices
Week 14, exercises	
Week 15, lectures	Test II
Week 15, exercises	
Student obligations	Students are required to attend classes, do homeworks and make final exam(s).
Consultations	
Workload	Per week 6 credits x 40/30 = 8 hours Structure: 2 hours of lectures 1 hours of practice exercises 5 hour of individual work including consultations
Literature	

Examination methods	Test I, up to 20 points; Test II, up to 20 points; Homework, up to 10 points; Final exam 0 - 50 points; Positive mark requires not less than 50 points cumulatively.
Special remarks	
Comment	
Learning outcomes	Upon successful completion of the course, the student will be able to: - explain fundamental terms of electromagnetic compatibility; - be familiar with sources and ways of transmission of electromagnetic interference; - understand and explain the principles of operation of antennas, antenna parameters and expansion of electromagnetic waves; - understand the basic principles of electromagnetic protection and earthing; - be familiar with electromagnetic compatibility standards.