SHIPMARTECH

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The Erasmus+ KA2 strategic partnership project SHIPMARTECH aims at upgrading and harmonisation of Master's-level courses in Marine Engineering and Naval Architecture through cooperation of four universities: Tallinn University of Technology in Estonia, University of Zagreb in Croatia, University of the Aegean in Greece, and University of Naples Federico II in Italy.

INTENSIVE STUDY PROGRAMME FOR TESTING COURSES AND THEIR COMPONENTS

For testing and piloting of the upgraded and harmonised course components, SHIPMARTECH partnership organized an international **Intensive Study Programme (IP)** for students of the partner universities in Tallinn on 14-18 November 2022. There were 24 students (15 BSc and 9 MSc students) and 6 professor/lecturers at the IP.

The IP contained four mini-courses: Hydrodynamics, Optimization of structures, Materials and structures, and Automation, each of which lasted for one day each (8-9 academic hours). Each mini-course was taught by one or two professors of different partner universities. They combined different teaching methods, technical solutions and group work assignments or mini-projects.

During visits to the School of Engineering, students and teachers could see the labs and get an overview of the R&D done at the faculty. Teachers had a chance to meet and have a discussion with the staff of TalTech Engineering Pedagogy Centre.

On the last day of the IP, we visited the Estonian Maritime Museum and had a workshop with representatives of the industry on marine engineering education, green marine technologies, and skills needs.

After each mini-course, students were asked to complete an anonymous feedback questionnaire. On the last day of the IP, students completed a final report form reflecting their overall feedback and satisfaction with the Intensive Study Programme. The overall evaluation to the mini-courses tested was positive - the mean total assessment grade given by students was 4.2 (out of max. 5). The judgement of the overall academic/ learning outcomes of the IP was positive (mean grade 4.04), and judgement of achieving personal outcomes was even higher (4.27).

Students were asked to assess on a 5-point scale how well they had achieved the learning outcomes (competences) stated in the course description. The total average of all four mini-courses was 3.85. The scores for this aspect were almost equal for each course.

Scorers for other aspects assessed were:

(1) Course content/study materials (average of all courses 4.4)
(2) Significance of the topics (total average 4.5)
(3) Topics being interesting and exciting (total average 4.1)
(4) Assignments being stimulating and challenging (total average 4.1)

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(5) Clarity of description of assignments and exercises (total average 3.9)
(6) Amount and complexity of assignments (total average 4.1)
(7) Teaching methods and communication with the professor (total average 4.3)
(8) Group work and communication with other students (total average 4.4).

Students were asked to describe also their difficulties or challenges in each course. Shortage of time, lack of previous knowledge, not understanding the topic or new software well enough were the challenges that they mentioned more often. Some students admitted that it was difficult to study and communicate in English in a specific field. In their comments, they suggested that more time could be reserved for introduction of the topics and the new software. There could be examples and tasks that are more practical, and the assignments could be described better. Work could be less intense and the workdays could be shorter. However, last but not least, several students wrote that the IP could have lasted longer, not one but two weeks.

Students, supervised by Mikloš Lakatoš, doing their group work assignment in Experimental Hydrodyamics.

The SHIPMARTECH IP team – students and teachers – after the mini-course in Automation.

Next steps: Completion of course upgrading and compilation of a teaching guide (by end of May 2023). Dissemination events in Greece and Estonia (May-August 2023). Final project meeting in Saaremaa, Estonia (July 2023).