Challenges of Digitalization of Small CP courses for Large Classes

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Abstract

The paper is devoted to the development of the e-course on numerical methods for second year students of the Faculty of Computer Science and Information Technology at the Riga Technical University. The major challenges for the instructor in giving the course are: (a) large number of students (more than 400 students in Fall 2022 semester), (b) small number of credits (2 CP course), (c) the necessity to test both the knowledge of numerical algorithms and their implementation in software packages, (d) development of programming skills in Matlab. The paper describes the structure of the course, organization of lab sessions, teaching materials available for the course, methods of assessment, assignments and tests. Special attention is devoted to the assessment methods in an attempt to balance the delivered content of the course with teaching load in grading tests. The course is fully digitalized in its present form so that it can be delivered using different approaches: (a) only classroom instruction, (b) only online method or (c) blended method of teaching.

Keywords: assessment, digitalization, e-course, grading, labs