This is a preliminary report evaluating the course taught by Prof. Konstantinos Petridis in the Department of Electronic Engineering, Hellenic Mediterranean University, Crete, during the alpha phase of the iTEM project. The course was taught online due to the COVID-19 pandemic.

The report was composed by Dr. Hadas Levi Gamlieli, Dr. Jason Cooper and Dr. Ronnie Karsenty of the Weizmann Institute of Science.

This report relies on three data sources: the course Moodle site; three reflective questionnaires submitted by the lecturer; and feedback questionnaires submitted by 10 students (out of a total of ~60 registered students).

A. The lecturer clearly invested much thought and effort into building the accompanying course site, which was organized according to topics. For students with inadequate prior knowledge, he had provided a preliminary chapter with preparation resources and a preliminary quiz. The lecturer uploaded video recordings of each lecture regularly and promptly. Each Moodle section, dedicated to a particular study chapter, contained a power point lecture presentation, exercise, reference to additional resources and quizzes. The presentations were placed on the website prior to the lecture, allowing early preparation. Some topic chapters included illustrative resources such as supplemental videos and visual mathematical software (e.g., Geogebra), intended for struggling students and also as enrichment.

B. Based on the lecturer's reflective reports, it is apparent that a variety of digital pedagogies were utilized. Among these, pedagogies that were used frequently/consistently included online synchronous lectures, where the lecturer's screen was often shared and active chats took place. The lecturer often made use of a virtual whiteboard. Pedagogies that were used intermittently included online study in small groups (using breakout rooms), students sharing screens and students writing on virtual whiteboard. Less frequently, the lecturer shared files with students during the lecture. Between lectures there was email communication between students and the lecturer, focused on students' questions on the content of the lecture, on homework assignments, and on technical issues related to the Moodle platform. The lecturer assigned homework frequently, and monitored students' progress by assessing their submitted work. The lecturer reported that he did not have a chance to attend to the learning needs of students who were experiencing difficulties. He described the interaction with his students and their collaboration during the lecture tasks as a positive experience. He also noted that students enjoyed when mathematical topics were connected to their studies as electronics engineering students (e.g. complex numbers). The lecturer felt that student attendance in online lectures gradually decreased over the semester, which was disappointing compared to face-to-face lectures in previous years. He also noted that students tended not to ask questions, and as a result intended to actively encourage students to ask questions during lectures in the future. The lecturer did not make use of "flipped classroom" approaches in this course, but did state that he intended to try

this in future courses – uploading pre-recorded lectures and supplementary material before the lecture, and dedicating the online meeting to questions and practice.

C.   Based on student feedback at the end of the course, most of them (60%) did not consider the course topics to be particularly difficult, though 20% did find some (3-4 out of 12) topics to be difficult, and 20% found many topics (8 out of 12) to be difficult. Nearly all the students found the preliminary chapter helpful. All of the students reported that they sought assistance when they encountered difficulties, and 70% of students felt that their difficulties were attended to. Most of the students (70%) sought help on the website, and 30% sought assistance from the lecturer. Students felt very strongly that the instructors cared about the difficulties that they experienced and were accessible for assistance. They felt to a lesser extent that instructors provided effective learning tools, support and assistance. Only 30% of the students made frequent use of the video recorded lectures that were placed on the Moodle site. When these students encountered difficulties understanding the recorded lectures, there were two equally common resources they turned to –internet resources and the course lecturer. Regarding the students' conception of the relevance of the course, all of them (100%) felt that the course provided them with tools for solving practical problems. Nearly as many (90%) felt that the course was relevant for their specialization as electrical engineers. Much fewer (60%) felt that the course presented real-life problems. Regarding students' utilization of the course resources, the most popular were power point presentations of lectures and test quizzes. To a lesser extent students made use of videos, visualization tools and pre-lecture quizzes. To a much lesser extent students made use of links to explanatory videos.

We note that the 10 students who responded to the questionnaire may not be representative.

Based on the data we have collected and analyzed, we can summarize that digital resources made available on the Moodle course site appear to have contributed productively to the success of the course. However, low student attendance suggests that it might be possible to make more productive use of distance learning. The lecturer appears to have been reproducing familiar face-to-face pedagogies with an online medium, and acknowledged that more innovative pedagogies (such as flipped classroom) might be more effective. We support this tentative conclusion, and highly recommend that the lecturer experiment with new pedagogies that utilize affordances of digital means and resources.