EE1G1 2025/2026 - Integrated Math

Introduction

Roughly 25% of the Introduction to Electrical Engineering course consists of an Integrated Math component. This component will introduce specific mathematical instruments that are of crucial importance in the interpretation and modeling of linear circuits, in particular, and, on a broader scale, for the full-spectrum of electrical engineering disciplines. The philosophy of the component combines an intuitive definition of the concepts with extended hands-on practicing via exercises. By synchronizing the progress in the integrated math component with the taught linear circuits topics, the theoretical and applicative sides of the discussed mathematical instruments will thus reinforce each other.

Education method

The Integrated Math component consists of 8 two-hour lectures. For these lectures we follow the Preparation–Participation–Post-lecture work cycle, that will also be applied in later mathematics courses in the Electrical Engineering program.

- Preparation: Students study a pre-lecture video.
- Participation: Students come to the lecture. In the lecture a new topic will be introduced by the teacher. During the lecture there will be time to do exercises. Often a practical application of the theory is discussed.
- Post-lecture work: Students do homework assignments – these contain book exercises as well as exercises in the digital environment Grasple. Each lecture features two exercise sets, one with basic exercises and one with advanced exercises.

Assessment

The Integrated Math component does not feature a written exam. **In order to pass the Introduction to Electrical Engineering course, you are required to do the following:**

- By Sunday 9 November 2025 at 23:59h, you need to
  - obtain a green check mark for each of the 8 Grasple **basic** exercise sets that correspond to one of the lectures;
  - obtain at least a yellow/orange check mark for each of the 8 Grasple **advanced** exercise sets that correspond to one of the lectures.
- A yellow/orange check mark is obtained if each question in an exercise set is answered and at least 50% of the questions was answered correctly on the first attempt.
- A green check mark is obtained if each question in an exercise set is answered and at least 80% of the questions was answered correctly on the first attempt.
- You can attempt a Grasple exercise set as often as you like, but the exercises will be slightly different each time. **Your best attempt counts for each exercise set.** (Note: sometimes, the overview page shows the results of the most recent attempt instead of the best one. In any case, the best result counts.)
- On the course page on Grasple you can see your current progress; see Figure 1 for an example.
- Note: The Grasple tutorial does not count as an exercise set and neither do the exercise sets labeled as "Optional". In particular, you do not need to complete these, although it is adviced to try them.

- Make sure you start on time with completing these exercise sets, preferably in the week of the relevant Integrated Math lecture. These exercise sets can be a lot of work, and you might need several attempts to obtain a sufficient check mark. By keeping up, you can keep the focus on your other exams instead of having to complete the Grasple exercises close to the deadline. Moreover, by practicing you will make sure you are well-prepared for the other lectures.

You must meet these requirements at the prescribed time for passing the course Introduction to Electrical Engineering. However, if you attempted these exercise sets seriously, but did not fully complete the requirements, you are allowed a repair option. More specifically:

- If, and only if, you obtained a fail for the Integrated Math component **and you obtained at least 10 yellow/orange check marks (for basic and/or advanced exercise sets) by Sunday 9 November 2025 at 23:59**, you are allowed a repair option in quarter 2.
- For this you will gain access to 3 new exercise sets in Grasple.
- If you obtain a green check mark for all 3 of these new exercise sets by the end of quarter 2, you will obtain a pass for the Integrated Math component.
- As before, you can attempt an exercise set as often as you like, but the exercises will be slightly different each time.

Upon successfully completing the repair option you will pass the Integrated Math component of Introduction to Electrical Engineering.

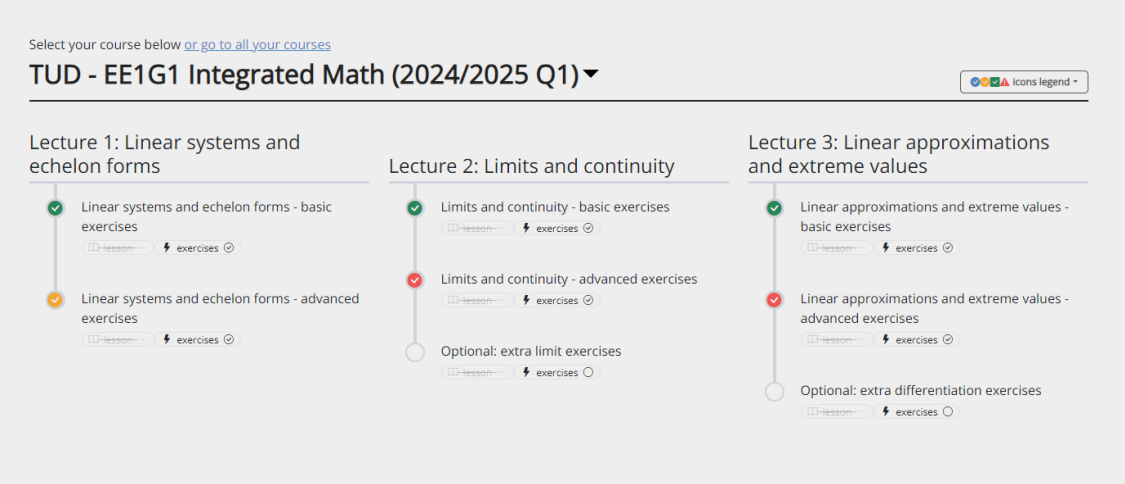

Figure 1: Example part of (last year's version of) the course page on Grasple. This student has received a green check mark for the first three basic exercise sets, a yellow/orange check mark for the first advanced exercise set and a (insufficient) red check mark for the second and third advanced exercise sets. This student has not attempted the exercise sets labeled "Optional".