

Abdullah Gül University
Electrical-Electronics Engineering Undergraduate Program
Capsule-Based Curriculum Rules and Regulations
September 12, 2024

Definition:

A capsule is a learning unit that includes contents from subcomponents and a project that focuses on developing certain core competencies in engineering, specifically electrical and electronics engineering (EEE). A capsule might be compulsory or elective and might be worth 10 or 20 ECTS credits.

For example, EE 2100 Signal Acquisition, Processing & Analysis is a capsule and consists of four subcomponents including MATH 207 Differential Equations for Electrical-Electronics Engineering, EE 204 Signals and Systems, EE 202 Electric Circuits II, and EE 212 Electric Circuits II Lab. For this capsule, a project topic may include obtaining electrical signals originating from the heart (electrocardiography, ECG), amplification, filtering, digitization, and transferring of that signal to a personal computer, and offline and real-time analysis of the signal on the computer (ECG system development). The project is pursued as a team. The project performance directly affects each subcomponent in the capsule. Certain time slots in the weekly schedule are allocated for the project work, but pursuing the project is not limited only by that time period. During the evaluations of the project periodic demos, report submissions, presentations, peer evaluation, and project advisor's assessment are taken into consideration. Each assessment can be performed individually or as a group.

General Rules:

- 1) The capsules may or may not be composed of subcomponents. In the case that the capsule does not have any subcomponent, the project grade is worth greater or equal to 15% of the total capsule grade. In the case that the capsule is composed of multiple subcomponents, each subcomponent of a capsule is graded independently with a certain project component percentage, which is equal or more than 15%. The contribution of the project and other assessments in each subcomponent of a capsule is mentioned in the syllabus.
- 2) If you fail from one subcomponent of a capsule, you must follow/attend to that specific subcomponent, and you are responsible for all assessment types like quizzes, homework assignments, and exams. The percentage of the grade corresponding to the project will be added to the final grade of that subcomponent if it is greater than 70% (or a percentage value defined by the instructor and mentioned in the syllabus) of the project performance in the previous year or semester in that capsule. You may choose to take the project again in that semester.
- 3) If you fail (with an F or NA grade) from two or more subcomponents of a capsule (lab components in the capsules are not counted in that manner), you must repeat the courses that you have failed in the capsule along with the project when it is offered in the earliest semester.
- 4) If your GPA is less than 2.00 for two consecutive semesters, which means that you are in repeat status, you have to repeat the courses you failed in that capsule whose grades are lower than grade C (grades with C-, D+, D, F, or NA). (Problem for some students)
- 5) The department executive committee may implement certain restrictions regarding the EE 3000 and EE 4000 capsules.

- 6) As an EEE student if you are interested in other engineering courses, you may combine two ECE 5XX, IE 3XX, IE 4XX, CE 3XX, CE 4XX, COMP3XX, COMP4XX, ME3XX, ME4XX, MSNE 3XX, MSNE 4XX courses subject to advisor approval, which may serve as one 10 ECTS elective capsule. The number of such courses will be restricted to two such that both of these courses make up a single elective capsule.
- 7) Elective capsules can be replaced by two EE code technical elective courses that have ≥ 5 ECTS. There is no limitation for taking such Capsules.
- 8) The Electrical-Electronics Engineering-related classes that are taken from another university as part of the exchange programs (Erasmus) can be accepted as elective capsules upon the approval of the Erasmus coordinator and the advisor. Two such courses that are taken at the visited university will construct an elective capsule. These elective courses shall not be included in the number of elective capsules that the students can make a capsule by combining out-of-department courses as described in Item 6.

Specific Rules:

- 1) For the students who have started the capsule-based curriculum in the spring semester of the 2018-2019 academic year:
 - a. If you have failed MATH 151, PHYS 101, and COMP 101, you should take the same courses offered as common courses. You should not take MATH 153, PHYS 105, or EE 101 courses that are offered for the first time as part of the "Computation and Analysis Capsule" this semester.
 - b. If you have failed from EE 100 Integrated Project course in fall 2018, you will need to take BIO 101 or CHEM 101. EE 100 course will not be offered again.
 - c. PDP 101 course is equivalent to EDU 100, similarly PDP 300 is equivalent to EE 300. The student who has passed one of these equivalent courses is considered to have passed the corresponding equivalent course.
- 2) If you have transferred to EEE in the 2019-2020 academic year, you will be responsible for the Fall 2018 and Spring 2019 curriculum (after prep). The courses that you have already taken in your previous department/institution may be counted towards graduation if they are similar or equivalent to the ones offered at AGU EEE. The department decides whether a course is equivalent to a subcomponent of a capsule or not. You should consult with your academic advisor while choosing your courses/capsules. As the EEE department, we will encourage our transfer students to make an extra effort to synchronize their lab and project management skills with their peers who have taken EEE capsules previously.
- 3) If you are planning to attend an exchange program (Erasmus) at another institution as an exchange student, you have to consult with your exchange advisor (Dr. Dooyoung Hah for Erasmus) before the exchange about the equivalencies of the courses taken in that institution.
- 4) If you have started taking courses from our department before fall 2018, and thus are following a curriculum that does not include capsules:

- a. If you need to repeat a course or take it for the first time, and if it is defined as a subcomponent of a capsule in the new curriculum, you are responsible for the subcomponent assessments as well as the project.
 - b. If the course has been removed from the curriculum, and thus will not be offered again, by consulting with the department chair and your academic advisor you have to take a technical elective (or concentration area elective) course instead of that course after filling a petition.
 - c. If you need to take MATH 203 Linear Algebra and MATH 205 Differential Equations courses for the first time or otherwise you will take them as the common course with other departments as MATH 203 and MATH 205 not as in the capsule MATH 103 and MATH 207.
- 5) While evaluating the pre-requisites, MATH 153 will be considered equivalent to MATH 151 or MATH 101; MATH 154 will be considered equivalent to MATH 152 or MATH 102; PHYS 105 will be considered equivalent to PHYS 101 or SCI 101; PHYS 104 will be considered equivalent to PHYS 102 or SCI 102; EE 101 will be considered equivalent to COMP 101 or EE 112.