



DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING
SPECIALIZATIONS REQUIREMENTS & PROCEDURE

TITLE: ECE Specialization Policy (ESP)
AMENDMENT: 21/09/2026
ECE Board approval: 01/10/2026

A. PURPOSE OF THIS DOCUMENT

Students enrolled in the Bachelor of Engineering in Electrical and Computer Engineering (ECE) program are expected to specialize in one of four specializations, according to their cohort.

Cohorts 2021 and earlier:

- a) Communications and Signal Processing (CSP)
- b) Computer Systems and Networks (CSN)
- c) Electronic Instrumentation and Control (EIC)
- d) Power Systems and Energy (PSE)

Cohorts 2022 and onward:

- a) Telecommunications and Wireless Systems (TWS)
- b) Embedded Computing and Networks (ECN)
- c) Electronic Instrumentation and Control (EIC)
- d) Power Systems and Energy (PSE)

Upon completing the degree requirements, the specialization will appear on the student's diploma upon graduation.

B. PROCEDURE FOR SPECIALIZING

- a) An announcement to the students will be made through the office of the Assistant Dean of Undergraduate Studies (ADUS) of the College of Engineering and ECE advisors during the 13th week of the Fall & Spring semesters.
- b) Any student of the ECE department shall be eligible to apply, subject to the condition that the student has completed **all four courses** stated below at the time of application:
 - MATH3171- Linear Algebra and Multivariate Calculus for Engineers.
 - ECCE3152 - Electronics I OR ECCE3153 Electronic Devices and Circuits.
 - ECCE3016 - Circuit Analysis II OR ECCE 2017-Electrical Circuit Analysis.
 - ECCE3206 – Digital Logic Design
- c) Eligible students will be asked to submit their application¹ and choices of ECE specialization via an online form² that will be shared with students in the announcement.

¹ It is the student's responsibility to ensure the correctness of the information in the submitted application.

² The form is accessible **only** from workstations in the computer labs of the College of Engineering.

- d) Students are allowed to request a transfer to another specialization, provided the following conditions:
- The student has earned not more than 96 credits from the ECE program.
 - The current GPA is greater than the minimum approved GPA for the requested specialization.
 - The student has not made a similar request in the past.

C. IMPLEMENTATION OF THE SPECIALIZATION RESULT

- The Academic Advising Committee is responsible for processing the applications.
- The ECE Department Board must approve the specialization allocation.
- The result of the ECE specialization will be announced to students after being approved by the ECE Department Board.
- The approved list will be circulated to the advisors.
- The ECE Department will forward the list of the students with their allocated specialization to the Deanship of Admissions and Registration of Sultan Qaboos University through ADUS of the College of Engineering to update the students' records.
- Students are allowed to submit grievances within a week of announcing the allocation of specialization. After that, grievances are not accepted. Decisions on grievances are final and cannot be appealed.

D. FAILURE TO REQUEST A SPECIALIZATION

Students are responsible for applying for a specialization as soon as they have fulfilled the requirements. Delaying the application will result in one or more of the following:

- Degree audit cannot be processed by the academic advisor, leading to a delay in graduation.
- Only specialized students are allowed to register in the courses listed in the tables below:

Table 1: List of the specialization courses (for cohorts 2021 and earlier)

Course Code	Course Title	Reserved for
ECCE4126	Principles of Digital Communications	CSP
ECCE5123	Optical communications	CSP
ECCE4257	Applied Algorithms for ECE	CSN
ECCE5232	Computer Architecture & Organ	CSN
ECCE4316	Power System Analysis II	PSE
ECCE5332	High Voltage Engineering	PSE
ECCE4455	Sensors and Actuators	EIC
ECCE5452	Computer-Aided Instrumentation	EIC
ENGR4006	Industrial Training (2)	CSP or CSN or EIC or PSE
ECCE5009	Project (Part I)	CSP or CSN or EIC or PSE

Table 2: List of the specialization courses (for cohorts 2022 and onward)

Course Code	Course Title	Reserved for
ECCE4127	Advanced Digital Communications	TWS
ECCE5123	Optical communications	TWS
ECCE4257	Applied Algorithms for ECE	ECN
ECCE5232	Computer Architecture & Organ	ECN

ECCE4316	Power System Analysis II	PSE
ECCE5332	High Voltage Engineering	PSE
ECCE4455	Sensors and Actuators	EIC
ECCE5452	Computer-Aided Instrumentation	EIC
ENGR4006	Industrial Training (2)	TWS or ECN or EIC or PSE
ECCE5009	Project (Part I)	TWS or ECN or EIC or PSE