

IABEE EAC: Category dependent Criteria

Electrical, Computer, Communications,
Telecommunication(s) and Similarly
Named Engineering Programs

EAC ABET Program Criteria for EE (Lead Society: IEEE/CSAB)

- The structure of the curriculum must provide both breadth and depth across the range of engineering topics implied by the title of the program.
- The curriculum must include probability and statistics, including applications appropriate to the program name; mathematics through differential and integral calculus; sciences (defined as biological, chemical, or physical science); and engineering topics (including computing science) necessary to analyze and design complex electrical and electronic devices, software, and systems containing hardware and software components.
- The curriculum for programs containing the modifier “electrical,” “electronic(s),” “communication(s),” or “telecommunication(s)” in the title must include advanced mathematics, such as differential equations, linear algebra, complex variables, and discrete mathematics.
- The curriculum for programs containing the modifier “computer” in the title must include discrete mathematics.
- The curriculum for programs containing the modifier “communication(s)” or “telecommunication(s)” in the title must include topics in communication theory and systems.
- The curriculum for programs containing the modifier “telecommunication(s)” must include design and operation of telecommunication networks for services such as voice, data, image, and video transport.

IABEE Program Criteria for EE v1

- breadth of knowledge over areas within electrical engineering i.e. electronics/microelectronics, control systems, communication systems, computer systems/architecture, power systems
- depth of knowledge in at least one area
- knowledge of probability and statistics, including applications to electrical and computer systems
- knowledge of knowledge of basic sciences, computer science, and engineering sciences (e.g. signal and linear systems, electromagnetics, circuits, electronics, digital systems) that are necessary to analyze and design complex electrical/electronic systems containing hardware and software components
- knowledge of mathematics (differential and integral calculus), advanced mathematics
- knowledge of discrete mathematics (for programs containing the modifier “computer”)

IABEE Program Criteria for EE v2

1. breadth and depth across the range of engineering topics implied by the title of the program.
2. knowledge of probability and statistics, including applications to electrical, electronic, or computer systems
3. knowledge of knowledge of basic sciences, computer science, and engineering sciences that are required/relevant to analyze and design electrical/electronic systems containing hardware and software components
4. knowledge of mathematics and advanced mathematics
5. knowledge of discrete mathematics (for programs containing the modifier “computer”)

IABEE Program Criteria for EE v3 (1)

Program (discipline-specific) Criteria,

1. breadth and depth of knowledge across the range of engineering topics implied by the title of the program.
2. knowledge of computer science, and engineering sciences that are required/relevant to analyze and design electrical/electronic systems containing hardware and software components

Guidelines for IABEE Program (discipline-specific) Criteria:

Point -1: range of engineering topics :
electronics/microelectronics/instrumentation, control systems,
communication systems, computer systems/architecture, power systems

Point-2:

- knowledge of computer science may include language and/or data-base programming
- Knowledge of engineering science must include topics in signal and linear systems, electromagnetics, circuits, electronics, and digital systems

IABEE Program Criteria for EE v3 (2)

Guidelines for IABEE (Common) Criterion 2: Learning Implementation Sub 2.1 Curriculum No.1 (a):

- knowledge of mathematics:
 - differential and integral calculus, and
 - probability and statistics with its discipline-related application, and
 - differential equations, linear algebra, complex variables, and/or
 - discrete mathematics (for programs containing the modifier “computer”)
- Knowledge of discipline-specific natural science:
 - biological, chemical, or physical science
 - At least one with experimental experience

Sub 2.1 Curriculum No.1 (e):

- Focus on Engineering design and if research is necessary it should be in the framework of engineering design
- Engineering design: to prepare students for engineering practice culminating in a major design experience