http://www.abet.org/accreditation-criteria-policies-documents/

2015-2016 Criteria for Accrediting Programs

EAC COMMISSION

General Criteria 3. Student Outcomes

(a) an ability to apply knowledge of **(a1)** mathematics, **(a2)** science, and engineering

(b) an ability to **(b1)** design and conduct experiments, as well as to **(b2)** analyze and interpret data

(c) an ability to **(c1)** design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability

(d) an ability to **(d1)** function on multidisciplinary teams

(e) an ability to **(e1)** identify, formulate, and solve engineering problems

(f) an understanding of **(f1)** professional and **(f2)** ethical responsibility

(g) an ability to **(g1, g2)** communicate effectively

(h) the broad education necessary to understand the **(h1)** impact of engineering solutions in a global, economic, environmental, and societal context

(i) a recognition of the need for, and an ability to **(i1)** engage in life-long learning

(j) a knowledge of **(j1)** contemporary issues

(k) an ability to **(k1)** use the techniques, skills, and modern engineering tools necessary for engineering practice.

CAC COMMISSION

General Criterion 3. Student Outcomes

(a) An ability to apply knowledge of **(a3)** computing and **(a1)** mathematics appropriate to the discipline

(b) An ability to **(e2)** analyze a problem, and identify and define the computing requirements appropriate to its solution

(c) An ability to **(c1)** design, implement, and **(c2)** evaluate a computer-based system, process, component, or program to meet desired needs

(d) An ability to **(d1)** function effectively on teams to accomplish a common goal

(e) An understanding of **(f1)** professional, **(f2)** ethical, **(f3)** legal, **(f4)** security and **(f5)** social issues and responsibilities

(f) An ability to **(g1, g2)** communicate effectively with a range of audiences

(g) An ability to analyze the local and global **(h2)** impact of computing on individuals, organizations, and society

(h) Recognition of the need for and an ability to **(i1)** engage in continuing professional development

(i) An ability to **(k2)** use current techniques, skills, and tools necessary for computing practice.

Program Criteria for Computer Science

(j) An ability to apply **(L1)** mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. [CS]

(k) An ability to **(m1)** apply design and development principles in the construction of software systems of varying complexity. [CS]

2016-10-27

UCI
The Henry Samueli School of Engineering
Computer Science and Engineering
Student Outcomes

Student Outcomes for undergraduate students in Computer Science and Engineering:
(a) An ability to apply knowledge of **(a3)** computing, **(a1)** mathematics, **(a2)** science, and engineering appropriate to Computer Science and Engineering.
(b) An ability to **(b1)** design and conduct experiments, as well as to **(b2)** analyze and interpret data.
(c) An ability to **(c1)** design, implement, and **(c2)** evaluate a computer-based system, component, process, or program to meet desired needs within realistic constraints, such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability constraints.
(d) An ability to **(d1)** function effectively on multidisciplinary teams to accomplish a common goal.
(e) An ability to **(e1)** identify, formulate, and solve engineering problems and **(e2)** to analyze a problem, and identify and define the computing requirements appropriate to its solution.
(f) An understanding of **(f1)** professional, ethical, **(f2)** legal, **(f3)** security, and social issues and responsibilities.
(g) An ability to **(g1,g2)** communicate effectively with a range of audiences.
(h) An ability to understand the **(h1)** impact of engineering solutions in a global, economic, environmental, and societal context; and **(h2)** to analyze the impact of computing on individuals, organizations, and society.
(i) Recognition of the need for and ability to **(i1)** engage in continuing professional development and life-long learning.
(j) A knowledge of **(j1)** contemporary Computer Science and Engineering issues.
(k) An ability to use current techniques, skills, and tools necessary for **(k2)** computing practice and **(k1)** engineering practice.
(l) An ability to **(L1)** apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
(m) An ability to **(m1)** apply design and development principles in the construction of software systems of varying complexity.

(a1) – Red refers to EAC or sometimes both EAC and CAC
(a3) – Blue refers to CAC only

ABET: http://www.abet.org/
Criteria for Engineering Programs Only: http://www.abet.org/forms.shtml#For_Engineering_Programs_Only
http://www.abet.org/Linked%20Documents-UPDATE/Criteria%20and%20PP/E001%2010-11%20EAC%20Criteria%201-27-10.pdf

2010-2011 Criteria for Accrediting Engineering Programs

Criteria for Accrediting Engineering Programs

Effective for Evaluations during the 2010-2011 Accreditation Cycle

[October 31, 2009, E1: 1/27/10]

GENERAL CRITERIA FOR BACCALAUREATE LEVEL PROGRAMS

Criterion 3. Program Outcomes

Engineering programs must demonstrate that their students attain the following outcomes:
(a) an ability to apply knowledge of **(a1)** mathematics, **(a2)** science, and engineering
(b) an ability to **(b1)** design and conduct experiments, as well as to **(b2)** analyze and interpret data
(c) an ability to **(c1)** design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
(d) an ability to **(d1)** function on multidisciplinary teams
(e) an ability to **(e1)** identify, formulate, and solve engineering problems
(f) an understanding of **(f1)** professional and **(f2)** ethical responsibility
(g) an ability to **(g1, g2)** communicate effectively
(h) the broad education necessary to understand the **(h1)** impact of engineering solutions in a global, economic, environmental, and societal context
(i) a recognition of the need for, and an ability to **(i1)** engage in life-long learning
(j) a knowledge of **(j1)** contemporary issues
(k) an ability to **(k1)** use the techniques, skills, and modern engineering tools necessary for engineering practice.

Program outcomes are outcomes (a) through (k) plus any additional outcomes that may be articulated by the program. Program outcomes must foster attainment of program educational objectives.
There must be an assessment and evaluation process that periodically documents and demonstrates the degree to which the program outcomes are attained.

Criterion 9. Program Criteria

PROGRAM CRITERIA FOR
ELECTRICAL, COMPUTER,
AND SIMILARLY NAMED ENGINEERING PROGRAMS

Lead Society: Institute of Electrical and Electronics Engineers
Cooperating Society for Computer Engineering Programs: CSAB

These program criteria apply to engineering programs that include electrical, electronic, computer, or similar modifiers in their titles.

1. Curriculum

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 program must demonstrate that graduates have: knowledge of probability and statistics, including applications appropriate to the program name and objectives; and knowledge of mathematics through differential and integral calculus, basic sciences, computer science, and engineering sciences necessary to analyze and design complex electrical and electronic devices, software, and systems containing hardware and software components, as appropriate to program objectives.

Programs containing the modifier “electrical” in the title must also demonstrate that graduates have a knowledge of advanced mathematics, typically including differential equations, linear algebra, complex variables, and discrete mathematics.
Programs containing the modifier “computer” in the title must also demonstrate that graduates have a knowledge of discrete mathematics.

ABET: http://www.abet.org/
Criteria for Computing Programs Only: http://www.abet.org/forms.shtml#For_Computing_Programs_Only
2010-2011 Criteria:
http://www.abet.org/Linked%20Documents-UPDATE/Criteria%20and%20PP/C001%2010-11%20CAC%20Criteria%2011-16-09.pdf

2010-2011 Criteria for Accrediting Computing Programs

Criteria for Accrediting Computing Programs

Effective for Evaluations during the 2010-2011 Accreditation Cycle

[October 31, 2009, C001: 11/16/09]

GENERAL CRITERIA

Criterion 3. Program Outcomes

The program has documented, measurable outcomes that are based on the needs of the program’s constituencies.

The program enables students to achieve, by the time of graduation:
(a) An ability to apply knowledge of **(a3)** computing and **(a1)** mathematics appropriate to the discipline
(b) An ability to **(e2)** analyze a problem, and identify and define the computing requirements appropriate to its solution
(c) An ability to **(c1)** design, implement, and **(c2)** evaluate a computer-based system, component, process, or program to meet desired needs
(d) An ability to **(d1)** function effectively on teams to accomplish a common goal
(e) An understanding of **(f1)** professional, **(f2)** ethical, **(f3)** legal, **(f4)** security and **(f5)** social issues and responsibilities
(f) An ability to **(g1, g2)** communicate effectively with a range of audiences
(g) An ability to analyze the local and global **(h2)** impact of computing on individuals, organizations, and society
(h) Recognition of the need for and an ability to **(i1)** engage in continuing professional development
(i) An ability to **(k2)** use current techniques, skills, and tools necessary for computing practice.

Criterion 9. Program Criteria

PROGRAM CRITERIA FOR
COMPUTER SCIENCE
AND SIMILARLY NAMED COMPUTING PROGRAMS

Lead Society: Cooperating Society for Computer Engineering Programs (CSAB)

These program criteria apply to computing programs using computer science or similar terms in their titles.

3. Program Outcomes
The program enables students to achieve, by the time of graduation:
(j) An ability to **(L1)** apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices. [CS]
(k) An ability to **(m1)** apply design and development principles in the construction of software systems of varying complexity. [CS]

5. Curriculum
Students have the following amounts of course work or equivalent educational experience:
a. Computer science: One and one-third years that includes:

1. coverage of the fundamentals of algorithms, data structures, software design, concepts of programming languages and computer organization and architecture. [CS]
2. an exposure to a variety of programming languages and systems. [CS]
3. proficiency in at least one higher-level language. [CS]
4. advanced course work that builds on the fundamental course work to provide depth. [CS]
b. One year of science and mathematics:
1. Mathematics: At least one half year that must include discrete mathematics. The additional mathematics might consist of courses in areas such as calculus, linear algebra, numerical methods, probability, statistics, number theory, geometry, or symbolic logic. [CS]
2. Science: A science component that develops an understanding of the scientific method and provides students with an opportunity to experience this mode of inquiry in courses for science or engineering majors that provide some exposure to laboratory work. [CS]

6. Faculty Qualifications
Some full time faculty members have a Ph.D. in computer science.