



Computing Accreditation Commission
Version 2.0

CRITERIA FOR ACCREDITING
COMPUTING PROGRAMS

Optional for Reviews During the 2018-2019 Accreditation Cycle
Mandatory for Reviews During the 2019-2020 Accreditation Cycle
Incorporates all changes approved by the ABET Board of Delegates
Computing Area Delegation as of October 20, 2017

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Criteria for Accrediting Computing Programs

Effective for Reviews as an **OPTION** during the 2018-2019 Accreditation Cycle

Introduction

This document contains three sections:

The first section includes important definitions used by all ABET commissions.

Definitions

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I. GENERAL CRITERIA

Criterion 1. Students

Student performance must be evaluated. Student progress must be monitored to foster success in attaining student outcomes, thereby enabling graduates to attain program educational objectives. Students must be advised regarding curriculum and career matters.

The program must have and enforce policies for accepting both new and transfer students, awarding appropriate academic credit for courses taken at other institutions, and awarding appropriate academic credit for work in lieu of courses taken at the institution. The program must have and enforce procedures to ensure and document that students who graduate meet all graduation requirements. (293.52 571.32 Tr

The library services and the computing and information infrastructure must be adequate to support the scholarly and professional activities of the students and faculty.

Criterion 8. Institutional Support

Institutional support and leadership must be adequate to ensure the quality and continuity of the program.

Resources including institutional services, financial support, and staff (both administrative and technical) provided to the program must be adequate to meet program needs. The resources available to the program must be sufficient to attract, retain, and provide for the continued professional development of a qualified faculty. The resources available to the program must be sufficient to acquire, maintain, and operate infrastructures, facilities and equipment appropriate for the program, and to provide an environment in which student outcomes can be attained.

**PROGRAM CRITERIA FOR COMPUTER SCIENCE
AND SIMILARLY NAMED COMPUTING PROGRAMS**

Lead Society: CSAB

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

3. Student Outcomes

In addition to outcomes 1 through 5, graduates of the program will also have an ability to:

6. Apply computer science theory and software development fundamentals to produce computing-based solutions. [CS]

5. Curriculum

The curriculum requirements specify topics, but do not prescribe specific courses.

These requirements are:

- (a) Computer science: At least 40 semester credit hours (or equivalent) that must include:
 1. Substantial coverage of algorithms and complexity, computer science theory, concepts of programming languages, and software development.
 2. Substantial coverage of at least one general-purpose programming language.
 3. Exposure to computer architecture and organization, information management, networking and communication, operating systems, and parallel and distributed

**PROGRAM CRITERIA FOR INFORMATION SYSTEMS
AND SIMILARLY NAMED COMPUTING PROGRAMS**

**PROGRAM CRITERIA FOR INFORMATION TECHNOLOGY
AND SIMILARLY NAMED COMPUTING PROGRAMS**

Lead Society: CSAB

These program criteria apply to computing programs using information technology or similar terms in their titles.

3. Student Outcomes

In addition to outcomes 1 through 5, graduates of the program will also have an ability to:

6. Identify and analyze user needs and to take them into account in the selection, creation, integration, evaluation, and administration of computing-based systems. [IT]

5. Curriculum

The curriculum requirements specify topics, but do not prescribe specific courses. The curriculum must include coverage of fundamentals and applied practice in the following:

- (a) The core information technologies of human-computer interaction, information management, programming, web systems and technologies, and networking.
- (b) System administration and system maintenance.
- (c) System integration and system architecture.

**PROGRAM CRITERIA FOR
CYBERSECURITY
AND SIMILARLY NAMED COMPUTING PROGRAMS**

Lead Society: CSAB

These program criteria apply to computing programs using cybersecurity, computer security, cyber operations, information assurance, information security, or similar terms in their titles.

3. Student Outcomes

In addition to outcomes 1 through 5, the following outcomes are required:

6. An ability to apply security principles and practices to the environment, hardware, software, and human aspects of a system. [CY]
7. An ability to analyze and evaluate systems with respect to maintaining operations in the presence of risks and threats. [CY]

5. Curriculum

The curriculum requirements specify topics, but do not prescribe specific courses. These requirements include:

- (a) At least 45 semester credit hours (or equivalent) of computing and cybersecurity course work. The course work must cover:
 1. Application of the crosscutting concepts of confidentiality, integrity, availability, risk, and adversarial thinking.
 2. Fundamental topics from each of the following:
 - (a) Data Security: protection of data at rest and in transit.
 - (b) Software Security: development and use of software that reliably preserves the security properties of the information and systems it protects.
 - (c) System Security: establishing and maintaining the security properties of systems, including those of interconnected components.
 - (d) Human Security: protecting individuals' personal data and privacy; threat mitigation combined with the study of human behavior as it relates to cybersecurity.
 - (e) Organizational Security: protecting organizations from cybersecurity threats and managing risk to support successful accomplishment of the organizations' missions.
 - (f) Societal Security: aspects of cybersecurity that can broadly impact society as a whole for better or for worse.

3. Advanced cybersecurity topics that build on crosscutting concepts and fundamental topics to provide depth.

(b) At least 6 semester credit hours (or equivalent) of mathematics that must include discrete mathematics and statistics.

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