NEW CRITERIA LABELS

Criterion 1. Students
Criterion 2. Program Educational Objectives
Criterion 3. Student Outcomes
Criterion 4. Continuous Improvement
Criterion 5. Curriculum
Criterion 6. Faculty
Criterion 7. Facilities
Criterion 8. Support
Program Criteria
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.
Criterion 1. Students (continued)

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.
Criterion 2. Program Educational Objectives

The program must have published program educational objectives

• that are consistent with
  
  • the mission of the institution,
  
  • the needs of the program’s various constituencies,
  
  and

• these criteria.
Criterion 2. Program Educational Objectives (continue)

[Assessment]

There must be a

- documented,
- systematically utilized, and
- effective

process,

- involving program constituencies,
- for the periodic review of these program educational objectives
- that ensures they remain consistent with
  - the institutional mission,
  - the program’s constituents’ needs,
  and
- these criteria.
Criterion 3. Student Outcomes

The program must have
- documented student outcomes
- that prepare graduates to attain the program educational objectives.

There must be a
- documented
  and
- effective process

for the periodic review and revision of these student outcomes.
Criterion 3. Student Outcomes (Continued)

The program must enable students to attain, by the time of graduation:

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

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

(c) An ability to
   • design,
   • implement, and
   • evaluate
   a computer-based
   • system,
   • process,
   • component, or
   • program
   to meet desired needs
Criterion 3. Student Outcomes (Continued)

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

(e) An understanding of
  • professional,
  • ethical,
  • legal,
  • security and
  • social
  issues and responsibilities

(f) An ability to communicate effectively with a range of audiences
Criterion 3. Student Outcomes (Continued)

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

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

(i) An ability to use current
    • techniques,
    • skills,
    and
    • tools
    necessary for computing practice.
Criterion 4. Continuous Improvement

The program must regularly use
• appropriate,
• documented
processes for
• assessing and
• evaluating
the extent to which the student outcomes are being attained.

The results of these evaluations must be
systematically utilized as input
for the continuous improvement of the program.

Other available information
may also be used
to assist in the continuous improvement of the program.
Criterion 5. Curriculum

The program’s requirements

- must be consistent with its program educational objectives
  and
- designed in such way that each of the student outcomes can be attained.

The curriculum must combine

- technical and professional requirements with
- general education requirements and electives

to prepare students for

- a professional career and
- further study in the computing discipline associated with the program, and
- for functioning in modern society.
Criterion 5. Curriculum (continued)

The technical and professional requirements must include
   at least one year of up-to-date coverage of
       • fundamental and
       • advanced
topics in the computing discipline associated with the program.

In addition, the program must include
   • mathematics appropriate to discipline beyond the pre-calculus level.

For each course in the major required of all students, its
   • content,
   • expected performance criteria,
   and
   • place in the overall program of study
must be published.
Criterion 6. Faculty

Each faculty member teaching in the program must have expertise and educational background consistent with the contributions to the program expected from the faculty member.

The competence of faculty members must be demonstrated by such factors as

- education
- professional credentials and certifications
- professional experience,
- ongoing professional development,
- contributions to the discipline,
- teaching effectiveness, and
- communication skills.

Collectively, the faculty must have the breadth and depth to cover all curricular areas of the program.
Criterion 6. Faculty (continued)

The faculty serving in the program must be of sufficient number to maintain

- continuity,
- stability,
- oversight,
- student interaction, and
- advising.

The faculty must have sufficient responsibility and authority to improve the program through definition and revision of

- program educational objectives and
- student outcomes

as well as through the implementation of a program of study that fosters the attainment of student outcomes.
Criterion 7. Facilities

- Classrooms,
- offices,
- laboratories, and
- associated equipment

must be adequate
- to support attainment of the student outcomes and
- to provide an atmosphere conducive to learning.
Criterion 7. Facilities (continued)

Modern tools, equipment, computing resources, and laboratories appropriate to the program must be available, accessible, systematically maintained and upgraded, to enable students to attain the student outcomes and to support program needs.
Criterion 7. Facilities (continued)

- Students must be provided appropriate guidance regarding the use
  of the
tools, equipment, computing resources, and laboratories
available to the program.

- 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.
Criterion 8. Institutional Support (continued)

The resources available to the program must be sufficient to

• attract,

• retain, and

• provide for the continued professional development

of a qualified faculty.
Criterion 8. Institutional Support (continued)

The resources available to the program must be sufficient

- to

- acquire,

- maintain,

- and operate

[the]

- infrastructures,

- facilities and

- equipment

appropriate for the program,

and

- to provide an environment

in which student outcomes can be attained.
Program Criteria

All programs seeking accreditation from the Computing Accreditation Commission of ABET must demonstrate that they satisfy all of the specific Program Criteria implied by the program title.
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 -- Computer Science

The program must enable students to attain, by the time of graduation:

(j) An ability to 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.

(k) An ability to

apply design and development principles

in the construction of software systems of varying complexity.
5. Curriculum -- Computer Science

Students have the following amounts of course work or equivalent educational experience:

a. Computer science: One and one-third years that must include:
   1. coverage of the fundamentals of
      • algorithms,
      • data structures,
      • software design,
      • concepts of programming languages and
      • computer organization and architecture.
   2. an exposure to a variety of programming languages and systems.
   3. proficiency in at least one higher-level language.
   4. advanced course work that builds on the fundamental course work to provide depth.
5. Curriculum -- Computer Science (continued)

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.

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.
6. Faculty Qualifications -- Computer Science

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