

**JABEE Criteria for Accrediting
Computing & IT-related Education Programs
Leading to Bachelor's Degree**

Applicable in the years 2010 -

Approved by the JABEE Board of Directors

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**Criteria for Accrediting Computing & IT-related
Education Programs Leading to Bachelor's Degree
Applicable in the years 2010 -**

Preamble

These Criteria shall be stipulated to accredit programs of Computing & IT-related education in higher educational institutions. A program seeking for accreditation shall satisfy all six criteria and supplementary criteria described below, and shall be required to demonstrate its conformity with evidence.

Criterion 1: Learning Outcomes

- (1) For the purpose of fostering autonomous computing professionals, distinctive learning outcomes of the program shall be established covering the benchmark learning outcomes (a) to (h) below and shall be broadly disclosed. Also, the learning outcomes shall be made well-known to the students and faculty of the program:
 - (a) An ability of multidimensional thinking with knowledge from global perspective
 - (b) An ability to assess local and global impacts of computing on individuals, organizations and society and understanding of professional, ethical, legal and social responsibilities, and of responsibilities of information security
 - (c) Knowledge and an ability to apply mathematics (including discrete mathematics and statistics) and natural sciences.
 - (d) Knowledge of science and technology for the discipline, and an ability to apply it to solve problems
 - (e) An ability to analyze a problem, identify and define the computing requirements applicable to its solution, and design, implement and evaluate a computer-based system, process, component, or program to satisfy requirements under various constraints
 - (f) Communication skills including logical writing, presentation and debating and fundamental communication skills on the international scene
 - (g) An ability of independent and life-long learning
 - (h) An ability to function effectively on teams to accomplish a common goal.
- (2) The learning outcomes shall be established by taking account of tradition and resources of the program, disciplines of the graduates, and also shall take account of requirements of the society and demands of the students.

Criterion 2: Student Workload

- (1) The length of program shall be four years - full time or equivalent. The graduates shall have obtained bachelor's degree with more than 124 credits.
- (2) The program shall contain more than 1,600 course hours in total to complete the program. The program total hours shall include more than 450 course hours in human sciences, social sciences, language education, mathematics and natural sciences, and more than 900 course hours in science and technology for the discipline.
- (3) The program shall encourage active learning of the students and shall commit to ensure sufficient self-learning hours for the students.

Criteria 3: Educational Process

3.1 Curriculum and Syllabus

- (1) The curriculum of the program shall be designed for the students to achieve the learning outcomes and shall be disclosed to the students and faculty of the program. The curriculum shall provide a set of courses, each of which shall be designed in clear relation to the learning outcomes of the program.
- (2) For each course of the program, the syllabus shall be prepared in accordance with the curriculum, be disclosed to the students and faculty of the program and be implemented as described. For each course, the syllabus shall clearly describe its position in the curriculum, its educational components and methods, its learning outcomes, and its evaluation methods and criteria. The course hour shall be specified either in its syllabus or in a related document.
- (3) The program shall let students regularly review the degree of achievement for each learning outcome to reflect it to their learning.

3.2 Educational Institution

- (1) The educational institution shall provide a sufficient number of faculty members able to realize the curriculum with applicable educational methods and to improve the educational result of the program, and shall provide the faculty with institutional support.
- (2) The educational institution shall have suitable communications network among faculty for close collaboration among courses set in the curriculum to obtain educational results. The activities of the suitable communications network shall be implemented.
- (3) The educational institution shall provide Faculty Development (FD) to increase the faculty's educational abilities and disclose them to the faculty of the program.

- (4) The educational institution shall institutionally evaluate faculty's educational activities and shall disclose the evaluation methods to the faculty.

3.3 Process of Admission

- (1) The educational institution shall establish concrete student admission policies and procedures in order to admit students with proper knowledge and abilities to take course curriculum designed for the achievement of the learning outcomes of the program. The admission policies and procedures shall be disclosed. The students' admission shall be implemented in accordance with its policies and procedures.
- (2) In case the program consists of two tiers, the first of which is common to some number of programs, and the second of which is specific to the program, and the selective admission of students to the second tier takes place on their completion of the first tier, the educational institution shall establish concrete admission policies and procedures for this selective admission as well. The policies and procedures shall be disclosed to the students and faculty concerned with the program. The students' selective admission shall be implemented in accordance with its policies and procedures.
- (3) In case the educational institution admits student transfer into the program, the educational institution shall establish concrete policies and procedures of students' transfer. The policies and procedures shall be disclosed. The students' transfer shall be implemented in accordance with its policies and procedures.
- (4) In case the educational institution transfers students of the program to other programs, the educational institution shall establish concrete policies and procedures. The policies and procedures shall be disclosed to the students and faculty of the program. Students' leaving the program shall be implemented in accordance with its policies and procedures.

Criterion 4: Educational Environment and Student Support

4.1 Facilities

The educational institution shall be equipped with classrooms, laboratories, exercise rooms, library services, information related equipments, self-learning and rest facilities, cafeteria, etc. to achieve the learning outcomes of the program.

4.2 Financial Resources

The educational institution shall commit to ensure necessary financial resources to maintain, improve, and operate facilities required for the achievement of the learning

outcomes of the program.

4.3 Students Support

The educational institution shall provide institutional support for educational environment and for students learning, such as helping students better understand lectures, and enhancing student learning motivation, by taking account of demands of the students. The institutional support shall be disclosed to the students, faculty and staff of the program.

Criterion 5: Achievement of Learning Outcomes

- (1) The degree of achievement of the learning outcomes for each course shall be evaluated in accordance with the evaluation methods and criteria stipulated in the syllabus.
- (2) The program shall have evaluation methods for credits, which students have earned in other higher educational institution and the credit transfer shall be accepted in accordance with the stipulated evaluation methods. The program shall also have evaluation methods for the credits earned by the transferred students in the previous educational institution and the credit transfer shall be accepted in accordance with stipulated evaluation methods.
- (3) For each learning outcome of the program, holistic evaluation methods and criteria shall be stipulated to evaluate the degree of achievement of the learning outcomes, and the students shall be evaluated in accordance with them.
- (4) All the graduates of the program shall have achieved all the learning outcomes of the program.

Criterion 6: Educational Improvement

6.1 Self-review of Education

- (1) The program shall have a system for self-reviewing its educational activities in accordance with the criteria 1 to 5 based on the evaluation results of the degree of achievement of the learning outcomes, and shall disclose the self-reviewing system to the faculty of the program. The self-reviewing shall be implemented in accordance with its system.
- (2) The system shall include structure to take account of requirements of the society and demands of the students. The system itself shall have self-checking structure.
- (3) Record of the reviewing activities, such as minutes of meetings and committee reports shall be accessible to the faculty of the program.

6.2 Continuous Improvement

The program shall have a system to continuously improve its educational activities in accordance with criteria 1 to 6 based on the self-reviewing results. The activities for continuous improvement shall be implemented in accordance with its system.

Supplementary Criteria: Program Criteria by Discipline

Program Criteria by Discipline stipulate supplementary items to accreditation criteria to apply to programs in each discipline. They mainly supplement Criterion on Learning Outcomes, such as 1 (1) (d), and Criterion on Faculty, such as 3.2 (1).

Program Criteria by Discipline
— Computer Science —

These Program Criteria by Discipline apply to the Computing and IT-related educational programs for the discipline of Computer Science in particular.

1. Knowledge and abilities to be acquired

The expected educational outcomes of the program shall include the following items:

- (1) An ability to apply mathematical fundamentals, various algorithmic principles, and computer science theories in the modeling and designing computer-based systems
- (2) An ability to apply principles of design and development to the construction of software systems with complexity.

2. Faculty

- (1) Faculty shall include multiple full-time members, who have a Ph.D. in computer science or in neighboring disciplines.
- (2) Faculty shall include sufficient numbers of full-time members, who have experience in providing information processing system made to be used by the third party in premise.

Program Criteria by Discipline
— Information Systems —

These Program Criteria by Discipline apply to the Computing and IT-related educational programs for the discipline of Information Systems in particular.

1. Knowledge and abilities to be acquired

The expected educational outcomes of the program shall include the following items:

- (1) An ability to understand the processes of planning, designing, building, operating and evaluating information systems relating to the activities of organizations and society, and an ability to solve given problems taking account of the cost - benefit efficiency.

2. Faculty

- (1) Faculty shall include multiple full-time members, who have a degree higher than Master Degree in information systems.
- (2) Faculty shall include multiple full-time members, who have experience of leading successful information system development projects for his/her organization (governmental or corporate) or information system development projects for customers.

Program Criteria by Discipline
— Information Technology —

These Program Criteria by Discipline apply to the Computing and IT-related educational programs for the discipline of Information Technology in particular.

1. Knowledge and abilities to be acquired

The expected educational outcomes of the program shall include the following items:

- (1) An ability to identify user needs accurately and an ability to administer the delivered information system assuring its appropriateness to the users' environment.

2. Faculty

- (1) Faculty shall include multiple full-time members, who have experience of leading successful information system development projects for his/her organization (governmental or corporate) or information system development projects for customers.

Program Criteria by Discipline
— Computing General —

These Program Criteria by Discipline apply to the Computing and IT-related educational programs for the non-defined discipline of Computing General or of Multi- and/or Trans-disciplinary and New-disciplinary areas.

1. Knowledge and abilities to be acquired

The expected educational outcomes of the program shall include the following items:

- (1) Knowledge of and ability of the specific domain of computing targeted by the program.

2. Faculty

- (1) Faculty shall include sufficient numbers of full-time members, who have experience in providing information processing system made to be used by the third party in premise.