

JABEE Criteria Guide

for Accreditation of
Engineering Education Programs at Bachelor Level
Applicable in the year 2019 and later

Only the Japanese version of “JABEE Criteria Guide for Accreditation of Engineering Education Programs at Bachelor Level in the year 2019 and later” is official.
English translation is for informational purpose.

JABEE

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Engineering Education Programs at Bachelor Level 2019-

This document explains Accreditation Category of Engineering Education Programs at Bachelor Level as defined in the JABEE Accreditation Criteria. JABEE Accreditation Criteria consist of Common Criteria and Category- and Discipline-specific Criteria. This document provides the guide to Accreditation Criteria for Engineering Education Programs at Bachelor Level. The sentences written in italic are the transcription from other documents.

【Purpose of Accreditation】

The following four items are defined as purposes of evaluation, accreditation and publication of accredited programs for the professional education programs in 3.1 of “Framework for Professional Education Accreditation”

- (1) *Ensure the quality of Engineering Education. JABEE publishes JABEE accredited programs announcing to the society that the graduates of the programs have completed the learning outcomes to be achieved as defined by the programs.*
- (2) *Promote the introduction of outstanding educational methods and continuously develop Engineering Education.*
- (3) *Develop Evaluation methods on Engineering Education and foster experts on evaluation of Engineering Education.*
- (4) *Clarify the responsibilities of organization and the role of individual faculty toward educational activities and the promote recognition on educational contributions by the faculty.*

JABEE ensures the quality of professional education through the accreditation based on (1). It is the responsibility of program to evaluate and ensure the knowledge and abilities of individual graduates or students, not the responsibilities of JABEE. On the other hand, some programs might not meet JABEE Accreditation Criteria partially, however are excellent in education other than JABEE Accreditation Criteria and assure the quality of education. All individuals who involve in the accreditation activities should keep in mind that accreditation decisions, either accredited or not-accredited, have nothing to do with the relative of programs.

【Principle of Accreditation Criteria】

The following six items are defined as principles of evaluation, accreditation and publication of accredited programs in 4.1 of “Framework for Professional Education Accreditation”

- (1) *Accreditation is determined based on the confirmation by evaluation on whether the program meets The Accreditation Criteria.*
- (2) *Evaluation and accreditation should focus on the following (a) to (d).*
 - (a) *Whether the program establishes appropriate learning outcomes higher than the benchmark required by the society as knowledge and abilities of the graduates which the program assures.*
 - (b) *Whether the program appropriately implements education in accordance with school code, syllabi and brochure as published. Robust accordance with description is not required.*
 - (c) *Whether all the graduates of the program have acquired knowledge and abilities of the established learning outcomes.*
 - (d) *Whether the continuous improvement system of the program functions*
- (3) *Respect the autonomy of the program.*
- (4) *Support educational improvement of the program.*
- (5) *Utilize evaluation results of the third party if they sufficiently cover evaluation items.*
- (6) *All individuals who involve in the accreditation activities should implement fair evaluation and accreditation and keep the confidentiality.*

The degree of accordance of the program to the evaluation items as defined by the Accreditation Criteria are determined by the evaluation based on (1). The program shall define the profile of the autonomous engineers to be fostered based on (2) and shall define the knowledge and abilities as the learning outcomes. The program is required to implement educational activities for students to acquire the outcomes of the learning and education in which the program has promised to the graduates to acquire, at the time of completion of the program. It is important for the program including students to be always aware of the learning outcomes. Therefore, the curriculum shall be designed systematically so that students are able to achieve the learning outcomes. The students achieve the learning outcomes through normally four years of learning and education so it is necessary for students to be constantly aware of the learning outcomes from admission to graduation. It is important for the program to widely publish the learning outcomes which the program defines since they have aspect as contract with society. Giving consideration on the nature of the program as described above, the program is expected to continuously improve and

to operate taking account of the continuity.

The evaluation consists of confirmations by self-review report and by on-site visit to the program (refer "Rules & Procedures for Evaluation and Accreditation" (hereinafter referred to as "Rules & Procedures") 2.3). The evaluation team shall carefully confirm the self-review report by taking consideration on the principles (4) to (6) mentioned above. Then, it allows the evaluation team to focus on confirmation at on-site on items, specifically the facts of outcomes of learning including its achievement, which cannot be confirmed only by the self-review report. So the program is expected to include evidences and explanations on the degree of accordance to the Accreditation Criteria in self-review report as much as possible for the third party to be able to fully understand, and is expected to act in a sincere manner during the on-site visit focusing on evidences which could not be included in self-review report. On the other hand, the evaluation team is expected to confirm the self-review report in a sincere manner and is expected to fairly determine the degree of accordance by necessary confirmation at on-site visit based on the confirmation of self-review report. The evaluation team shall keep in mind that the evaluation is a mean of support for educational improvement. The evaluation team shall respect the autonomy of the program as much as possible based on principles (3) and (4).

【SWD-determination】

The degree of accordance to the Accreditation Criteria is determined by the following three levels (Rules & Procedures 2.3).

(1) *Satisfy: indicated as "S" in the Program Review Report (at exit interview & post on-site visit) & Evaluation Report*

Evaluation item or large category of review meets the Accreditation Criteria.

(2) *Weakness: indicated as "W" in the Program Review Report (at exit interview & post on-site visit) & Evaluation Report*

Mostly meets evaluation item or large category of review although immediate remedy requires to enhance the degree of accordance to the Accreditation Criteria. The program needs to enhance and accelerate further continuous improvement.

(3) *Deficiency: indicated as "D" in the Program Review Report (at exit interview & post on-site visit) & Evaluation Report*

The evaluation item or large category of review does not meet the Accreditation Criteria. The program is determined as not in accordance with the Accreditation Criteria, if "D" is included in the large category of review.

The evaluation team shall robustly implement SWD-determination mentioned above by

fully taking account of intension of the Accreditation Criteria related to each evaluation item. Guideline for SWD-determination which covers the Accreditation Criteria is as follows.

Guideline for S-determination

The program implements requirements as described in the item concerned of the Accreditation Criteria and has mechanism for continuous implementation and improvement for the next six years including year of evaluation.

The accordance of all the requirements shall be confirmed based on the self-review report or at on-site visit with evidences so that accordance to the Accreditation Criteria is comprehensively acknowledged. The acknowledgement could include ongoing continuous improvement towards enhancement of the degree of accordance to the Accreditation Criteria.

Guideline for W-determination

The program implements the requirements as described in the item concerned of the Accreditation Criteria although the following weaknesses:

- partially insufficient,
 - partially misunderstood,
 - lack of evidence partially or ambiguous,
 - relied on individual efforts not the organizational commitment,
- or has no mechanism for continuous implementation for the next six years including year of evaluation.

The evaluation team confirms weakness in the requirements as described on each criterion so immediate actions for improvement are required. Accordance with the Accreditation Criteria is required to be confirmed by the Interim Evaluation before the next six years. The evaluation team could give S-determination if the team considers the program as reliable for the continuous improvement.

Guideline for D-determination

There are the following deficiencies in the implementation of the requirements as described in the item concerned of the Accreditation Criteria:

- not implemented or critically deficient,
- critical error(s) in the implementation,
- no evidence provided.

Deficiency confirmed on one or more of the requirements as described on each criterion by the self-review report or at the on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

【Position of Common Criteria, Category-specific Criteria and Discipline-specific Criteria】

The Accreditation Criteria consists of “Common Criteria” and “Category- and Discipline-specific Criteria”. The evaluation team shall determine the degree of accordance of the Common Criteria by taking consideration of the Category- and Discipline-specific Criteria. The Category- and Discipline-specific Criteria consist of “items for direct scope of evaluation” which are “Requirement for each Category of Accreditation” and “items not for direct scope of evaluation which provide interpretation to the Common Criteria” which are “Highly Recommended Items by each Category of Accreditation” (Framework 2.1). The Common Criteria, including requirements in the Category- and Discipline-specific Criteria, are the evaluation items in the Accreditation Criteria so the program shall mention the degree of accordance of evaluation items in the self-review report and the evaluation team shall confirm them and make determination at on-site visit if necessary based on the description. On the other hand, highly recommended items of the Category- and Discipline-specific Criteria are not evaluation items so the evaluation team neither confirm nor determine the degree of accordance to the highly recommended items of the Category- and Discipline-specific Criteria. However, the program is expected to explain how highly recommended items of Category- and Discipline-specific Criteria related to the Common Criteria are considered in the corresponding sections of the self-review report.

Consideration on the defined criteria for the discipline is required, which has multiple accreditation categories, based on consideration of highly recommended items in relation of the both criteria or benchmark defined, such as Architecture and Building Engineering of Engineering Education Programs at Bachelor Level and Architectural Design and Planning of Architectural and Architectural Engineering Education Programs at Bachelor and Master Level.

【Guide for Criterion】

【Common Criteria】

Preamble

JABEE Common Criteria are provided to accredit education programs in higher education institutions which establish, implement, evaluate and improve the education. A program seeking for accreditation shall satisfy all four criteria described below, and shall rationally demonstrate its conformity with evidence.

- Professional is defined in “Framework” 2.2(1) as mentioned below:
“Professionals” here indicate individual who is expertise engaging in specialized professions. The term “specialized profession” implies profession in designing, manufacturing, operating, maintaining and conducting research related to the hardware and software such as artifacts or system which contribute to the benefits and safety of mankind while economically utilizing resources and natural force based on the prediction of influence toward society and environment by using knowledge of mathematical science, natural science and artificial science. Professional here means work requires autonomous function based on independent code of ethics while providing highly expertise services based on knowledge and practical experiences related to the specific tasks expected by the society therefore discriminated from simple profession.
*“Professionals” here include “Engineer” as defined in the international education accord such as Washington Accord, “Computing & IT-related professional” and Architect.
- The program is defined in “Framework” 2.2(2) as mentioned below and program becomes under the scope of accreditation should apply one mentioned in “Rules & Procedures”2.1.1.
- The “program” means not only curriculum of the departments or courses in the higher education institutions but also includes all educational processes and environments from admission to graduation including evaluation and judgement on eligibility of completion of “learning outcomes to be achieved” by all the graduates which are established based on “professionals to be fostered”. The “program” is a comprehensive term of department or course and equivalent with “educational program”.
- “Rational demonstration” means the combination of the Self-review Report which describes the degree of accordance with the Criteria based upon accurate evidences and the on-site visit which is essential part of accreditation.
- “Profile of the professionals to be fostered” is the role model of graduates who are produced based on the educational objectives of the higher education institutions and is

the way they should engage with activities in the society as experts (engineers) (refer Framework for Accreditation 2.2(5)).

Criterion 1 Learning Outcomes

1.1 Profile of Autonomous Professionals

The program shall define and publish the profile of autonomous professionals to be fostered and make well-known to the faculty and students. The program shall take account of traditions, resources and fields of graduates to define the profile of professionals while giving consideration to the requirements of the society and the demands of the students.

- Appropriate publish and make well-known of the “profile of autonomous professionals to be fostered” which is a basis of learning and education of the program is reviewed in this criterion. The program is expected to review on appropriateness of publish and make well-known based on the fact such as time and methods of releasing the profile of professionals or time and methods of releasing the profile of professionals to the faculty and the students including students considering to admit to the program of students considering to admit to the higher education institution in which program belongs.
- The profile of professionals is the model to be achieved by the graduates sometime after they have been produced to the society so the strict definition or achievement at the time of graduation is not expected in this criterion. On the other hand, accordance with this criterion is not approved if neither profile of the professional is defined nor “profile of autonomous professional” is inappropriately defined even it is defined. Inappropriate definition of profile of autonomous professionals include not giving consideration to the requirements of the society and the demands of the students or not taking account of traditions, resources and fields of graduates. The requirements of the society and the demands of the students are not necessarily need to be included into profile of the professionals although it is expected to give consideration to define the profile of professionals.
- “Publish” in the Accreditation Criteria indicates “maintaining accessibility to the information from within or without higher education institution.” So if the information is only released within the higher education institution, it is not considered as “publish”. The degree of or ease of publish is a source of determination on the degree of accordance.
- “Make-well known” in the Accreditation Criteria means “to widely inform to the subject”. Review on whether it is actually known or its review results are the source of determination on the degree of accordance.
- “Students related to the program” in this criterion includes students who are considering to admit to the program other than students who have already enrolled to the program. The degree of delivering information is not necessarily required to be identical as far as

the scope is within a reasonable range.

- The program is expected to indicate result of self-review on the degree of accordance to the accreditation criteria based on all of the guidance given, methods of publish as well as confirmation status of how the profile of autonomous professionals made well-known and evidences of summary of procedures to define the profile of professionals which the program published before or after the students in final year of the program admitted to the program at the year of accreditation evaluation in the self-review report correspond to this criterion.

- Guideline for SWD-determination

S-determination: Accordance of all of the following items confirmed by self-review report or by on-site visit.

- Profile of autonomous professionals are appropriately established, published and made well-known.
- Well considered to define profile of professionals.
- Most likely continue for the next six years.

W-determination: profile of autonomous professionals are defined and one of the following could be confirmed by the Self-review Report or at on-site visit.

- To establish, to publish and to make well-known the profile of autonomous professionals are partially insufficient so immediate remedy is required.
- Consideration to define expected profile of professionals are partially insufficient so immediate remedy is required.
- Less likely to be implemented continuously.

D-determination: One of the following items confirmed by self-review report or by on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

- No profile of autonomous professionals are defined.
- Profile of autonomous professionals are not published or made well-known or critically deficient.
- No expected consideration or critically deficient to define profile of professionals including case deviant from “profile of professional” in the social norm.

Criterion 1 Learning Outcomes

1.2 Learning Outcomes

The program shall define its learning outcomes which all the graduates are required to acquire at the time of completion of the program and shall publish them and make well-known to the faculty and students. The learning outcomes shall be the milestones towards the autonomous professionals (criterion 1.1) and shall include knowledge and abilities defined in (a) to (i) listed below with benchmarks. The contents of (a) to (i) shall also give consideration to the items related to the knowledge and abilities as defined in the Category- and Discipline-specific Criteria:

- (1) An ability of multi-dimensional thinking with knowledge from global perspective
- (2) An ability of understanding of effects and impacts to the society and to the nature of professional activities, and understanding of professionals' social contributions and responsibilities
- (3) Knowledge of mathematics, natural science and information technology, and ability to apply
- (4) Knowledge of the related professional fields, and ability to apply
- (5) Design ability to meet the requirements of the society by utilizing various sciences, technologies and information
- (6) Communication skills including logical writing, presentation and debating
- (7) An ability of learning independently and continuously
- (8) An ability to manage and accomplish tasks in a planned way under given constraints
- (9) An ability to work in a team

- “Learning Outcomes” are the knowledge and abilities required for the graduates of program to acquire. “Learning Outcomes” are equivalent with “Educational Outcomes” so all the graduates of the program are required to achieve (refer “Framework” 2.2(4)).
- Knowledge and abilities (a) to (i) are the knowledge and abilities required to be included into learning outcomes of the program as defined by the program or higher education institution so the accordance to this criterion would not be recognized if lacks even partially. On the other hand, it is up to program to include knowledge and abilities which are not defined in (a) to (i) into the learning outcomes.
- Knowledge and abilities (a) to (i) do not include benchmark and its contents are versatile and not specific. The program is expected to include concretized knowledge and abilities into the learning outcomes which are commonly understandable to the people in the discipline besides people form the program by referring category of accreditation or highly recommended items as defined by the discipline as well as nationally and internationally

defined various indicators if necessary to make profile of autonomous professionals as defined by the program to be a milestone.

- Unlike “Profile of Autonomous Professionals to be fostered” as expected in criterion 1.1, Learning Outcomes are the objectives which all the graduates of the programs are required to achieve at the time of completion of the program. So if the learning outcomes are ambiguous benchmark or the contents by the third-party, benchmark for quality of education which the program assures become ambiguous therefore, program has to acknowledge that it could lead failure to achieve accountability to the society.
- JABEE does not exemplify what are the appropriate benchmark as learning outcomes. This is based on belief of JABEE that accountability of what are appropriate contents and benchmark to be maintained by all the graduates at the time of completion relies on program which is expected in The Accreditation Criteria 1.1 as a milestone of “autonomous professionals”. It is useful to refer national or international benchmarking deliverables in the applicable discipline such as Reference Criteria by field as defined by the Science Council of Japan, core curriculum designed by national or international academic societies, knowledge and techniques for the professional qualification examination related to applicable discipline for the determination sample of appropriateness of contents and benchmark to design the learning outcomes.
- It is necessary for the program to consider responsibility of providing professional education which covers broad range and benchmark that correspond with wide range and benchmark of the learning outcomes defined by the program to be achieved by all the graduates. Some of the graduates may have benchmark or broader knowledge and abilities higher than one defined in learning outcomes by the program.
- The learning outcomes could be policies on the degree-granting or specified or concretized policies on the degree-granting if the program defines “policies on delivery of the degree”. The learning outcomes could be published by the higher education institution in which the program belongs if the learning outcomes are placed as policies on degree-granting.
- Successful passing of qualification examination or points should be earned especially, one provided besides applicable higher education institution should not be included into the learning outcomes. If those are included into the learning outcomes, achievement of the knowledge and abilities could not be confirmed other than successful passing of qualification examination or points which is earned by the examination and could defect autonomy and innovation of the education.
- (a) An ability of multi-dimensional thinking with knowledge from global perspective

This item indicates education and intellect required for the independent globally active individuals who take leading role to structure sustainable and changing society emphasized on spiritual value shifting from the materialized society. The program is expected to establish concretized learning outcomes by referring the following items as defined in the Category- and Discipline-specific Criteria.

- Knowledge of diverse culture and society of mankind as well as nature
- An ability to take appropriate actions based on the knowledge mentioned above
- (b) An ability of understanding of effects and impacts to the society and to the nature of professional activities, and understanding of professionals' social contributions and responsibilities

This item indicates code of ethics of professionals namely, social contributions and understanding of the responsibilities of the professionals and relationship of engineering with nature and society. Understanding here implies correct recognition to behave not only acquisition of the knowledge although this does not necessary mean to take such action if encounter such situation. So this could be including engineering history or encouraging students' understanding on specific area of discipline with engineering and nature or society. It is important for the program to make students prepare making responsible decision and taking actions including social contributions necessary for the autonomous professionals and provide many opportunities for students to encourage autonomous thinking to acquire understanding on practical ethics.

The program is expected to establish concretized learning outcomes by referring the following items as defined in the Category- and Discipline-specific Criteria.

- Understanding of impact of technology of related engineering disciplines on public welfare
- Understanding of implication of technology of related engineering disciplines on environmental safety and sustainable development of society
- Understanding of engineering ethics
- An ability to take actions based on the understanding mentioned above
- (c) Knowledge of mathematics, natural science and information technology, and ability to apply

This item indicates not only knowledge of natural science such as mathematics, physics chemistry, biology, geology and information technology but practical ability to apply those knowledge. Information technology here implies fundamentals of IT and ICT which are required in any kind of disciplines as foundation of specialized knowledge in the applicable discipline and ability to apply.

The program is expected to establish concretized learning outcomes by referring the

following items as defined in the Category- and Discipline-specific Criteria based on mentioned above.

- Knowledge of mathematics and natural sciences required in the related engineering disciplines
 - An ability to apply the knowledge mentioned above including the combination of the knowledge
- (d) Knowledge of the related professional fields, and ability to apply

This item indicates acquisition of knowledge required by area of specialization and its ability to apply. It is expected to establish learning outcomes including implications as defined in the highly recommended items by discipline in the Category- and Discipline-specific Criteria if there is any. It is also expected to add problem setting, ability to identify and creativity.

The program is expected to establish concretized learning outcomes by referring the following items as defined in the Category- and Discipline-specific Criteria based on mentioned above.

- Specialized knowledge required in the related engineering disciplines
 - An ability to apply the knowledge mentioned above including the combination of the knowledge
 - An ability to utilize hardware and software required in the related engineering disciplines
- (e) Design ability to meet the requirements of the society by utilizing various sciences, technologies and information

“Design” here indicates “Engineering Design”. “Design Ability” is necessary ability “to identify feasible solution to the problem with multiple possible solutions by applying various disciplines and technologies” Design education is most important feature of engineering education and its scope of problem could be hardware and software including systems.

In the actual design, it is expected to comprehensively perform conception ability, problem setting ability, comprehensive ability to apply various disciplines and technologies, creativity, ability to recognize problem from the perspective of public health & safety, culture, economy environment and ethics and ability to identify solution under the constraints produced by those problem, ability to verify result, ability to express thoughts in figures, sentences, formula and programs, communication ability, ability to work in a team and ability to continuously plan and implement although, those abilities for design covers in width and depth.

In the item (e), the program is expected to establish appropriate and concretized learning outcomes by referring the following items as defined in the Category- and

Discipline-specific Criteria while taking account of intention of social requirements if it is defined in highly recommended items based on mentioned above.

- An ability to recognize problems to be solved
- An ability to specify constraints from public welfare, environmental safety, and economy to be taken in account
- An ability to logically specify, organize and analyze problems
- An ability to prepare detailed plans toward problem-solving by taking account of various constraints and applying systematic knowledge of mathematics, natural sciences and technology in the related engineering disciplines
- An ability to solve problems in accordance with the plan

- (f) Communication skills including logical writing, presentation and debating

This item indicates communication ability in broad sense. Communication ability in foreign language means English most of the time although it is not always the case. The item also does not require fluent conversation. Able to communicate on technical issue by having some training after the completion of program.

The program is expected to establish concretized learning outcomes by referring the following items as defined in the Category- and Discipline-specific Criteria based on mentioned above.

- An ability to deliver information and opinions to others
- An ability to deliver information and opinions to others
- An ability to exchange information and opinions by utilizing foreign languages such as English

- (g) An ability of learning independently and continuously

In the rapidly changing globalized information society, ability on voluntary continuous learning is necessary by acquiring new knowledge and appropriate information all life long.

The program is expected to establish concretized learning outcomes by referring the following items as defined in the Category- and Discipline-specific Criteria based on mentioned above.

- Understanding of necessity of continuous professional development for a life-long engineer
- An ability to acquire necessary information and knowledge

- (h) An ability to manage and accomplish tasks in a planned way under given constraints

This item indicates ability to accomplish tasks as planned systematically under given constraints including time. The program is expected to establish concretized learning outcomes by referring the following items as defined in the Category- and Discipline-specific Criteria based on mentioned above.

- An ability to accomplish tasks as planned systematically under given constraints including time and cost
- An ability to understand the progress of the plan and modify as required
- (i) An ability to work in a team

This item indicates ability to work with others including people from the different disciplines. Professionals may have occasions for problem-solving with cooperation of professionals besides his/her area of expertise and non-professionals. In the engineering education at bachelor level, program is required to make students acquire fundamental knowledge and abilities to work in a team by not only gaining experiences from engaging experiments by the group but also recognizing importance of work with others including people from different disciplines or acquisition of knowledge on methods to work in a team as well as learn out of practices with others under limited disciplines or limited number of people.

So the program is expected to establish concretized learning outcomes by referring the following items as defined in the Category- and Discipline-specific Criteria.

- An ability to precisely determine own work and carry out during collaborative work
 - An ability to appropriately determine what others should do and to encourage the involvement of others during collaborative work
- The program is expected to indicate result of self-review on the degree of accordance to the accreditation criteria based on evidences which could determine summary of procedures for establishing learning outcomes, confirmation status and methods to make well-known the learning outcomes as well as documents that include knowledge and abilities (a) to (i) with benchmark to the learning outcomes and learning outcomes which are applied to the final year students of the program at the time of their admission in the year of evaluation in the self-review report correspond to this criterion.
 - Guideline for SWD-determination

S-determination: Accordance of all of the following items confirmed by self-review report or by on-site visit.

 - Learning outcomes are appropriately defined as milestone toward profile of autonomous professionals.
 - Knowledge and abilities (a) to (i) are specifically included with appropriate benchmark into the learning outcomes.
 - Given consideration on highly recommended items defined in Category- and Discipline-specific Criteria.

- Learning outcomes are established published and publicized at appropriate time period prior to the admission of 4th year students to the program or not interfering implementation of education at the year of evaluation.
- Implementation most likely continues for the next six years.

W-determination: All or some of following items confirmed by self-review report or by on-site visit.

- Uncertainty or ambiguity found in the learning outcomes so immediate remedy is required.
- Reflection of knowledge and abilities (a) to (i) to the learning outcomes are insufficient so immediate remedy is required.
- Concreteness in knowledge and abilities (a) to (i) correspond to some of leaning outcomes are partially insufficient so immediate remedy is required.
- Rationale of the correspondence to the highly recommended Items defined in Category- and Discipline-specific Criteria are partially insufficient so immediate remedy is required.
- Insufficiency or incorrectness found in establishing, publishing and publicizing the learning outcomes so immediate remedy is required.
- Less likely to be implemented continuously.

D-determination: One of the following items confirmed by self-review report or by on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

- Learning outcomes are not defined.
- Learning outcomes are not determined as milestone for the profile of autonomous professionals.
- Critical insufficiency, including concreteness, to reflect knowledge and abilities (a) to (i) to the leaning outcomes.
- No consideration given to the highly recommended items as defined in the Category- and Discipline-specific Criteria with rationales.
- The learning outcomes are neither published not publicized.

Criterion 2 Educational Methods

2.1 Curriculum Policy & Curriculum Design

The program shall define, in the curriculum which is designed based on the published curriculum policy, the criteria and methods for assessment of degree of achievement of each learning outcome. The Program shall define the correspondence of each course vis-à-vis learning outcomes, learning & educational contents and outcomes to be achieved, as well as the criteria and methods for assessment. These shall be publicized to the faculty and the students by syllabi. Required items related to the educational contents are defined in the Category-specific Criteria.

- Major focus on this criterion is whether the program appropriately design the curriculum for students to be able to achieve the learning outcomes and whether the program appropriately publicizes designed curriculum to the faculty and the students subordinate this criterion.
- “Publicize” here indicates availability to browse printed documents or documents saved in electric files by the related parties. Accessibilities are the scope of evaluation, whereas actual browsing by the related parties are not.
- Not in accordance with this criterion if no curriculum policies of the program are not published at all.
- Quantitative criteria to the curriculum is out of scope of this criterion under the premise that the higher education complies with necessary regulations.
- “Syllabus” here indicates syllabus itself or documents in hard or soft format which supplements syllabus. It is expected that documents to be published with syllabus if there is any document of such exists.
- Credit acquisition of the course based on student’s outcome and determination criteria of the faculty in charge of the course should be included into evaluation criteria of each course. It is better if evaluation criteria to achieve better grade for the course is included and recommended.
- Evaluation emphasizes on appropriate establishment of evaluation criteria by each course to avoid ambiguity in evaluation on the degree of achievement of the learning outcomes in the curriculum if knowledge and abilities evaluated by the program which student acquired through taking the course is ambiguous. Expected level of the degree of clarity on evaluation criteria for each course is that the curriculum is designed to be able to achieve the learning outcomes. So it is specifically required to clarify on the course which is critically important to achieve the learning outcomes. The degree of accordance to this criterion is determined by giving consideration on importance of the key course for

the achievement of the learning outcomes if the clarification is insufficient in some of the courses. So the evaluation team is not expected to determine or confirm clarity of all of courses by syllabus but expected to determine or confirm the clarity of comprehensive situation as a program and the degree of achievement of the learning outcomes.

- Evaluation criteria of the degree of achievement of each learning outcome is required to include criteria to determine whether the learning outcome is achieved or not at the time of completion of learning and education as prescribed based on the student outcomes. Typical evaluation methods are; to confirm achievement of each learning outcome by accumulation of achievement of each course including electives, to confirm all or some of achievement of each learning outcome by capstone course i.e., undergraduate research or teamwork project, at the final academic year under the premise of accomplishment of each course, or to confirm all or some of achievement of each learning outcome by graduation examination under the premise of accomplishment of each course although, every methods have its advantages and disadvantages. So the program is expected to provide rational explanation that evaluation criteria and methods to confirm achievement of each learning outcomes of the program is appropriate.

- The program is expected to indicate result of self-review on the degree of accordance to the accreditation criteria based on the visible evidences namely, curriculum policy, curriculum, evaluation method and criteria on the degree of achievement of the learning outcome, learning outcome vis-à-vis each course, learning & educational contents, status of maintenance and publicizing situation of the evaluation methods and criteria in the self-review report correspond to this criterion.

- Guideline for SWD-determination
S-determination: Accordance of all of the following items confirmed by self-review report or by on-site visit
 - Curriculum is designed based on its policy and “evaluation method and criteria on the degree of achievement of each learning outcome” and “correspondence of learning outcome by each course, learning and educational contents, learning outcomes, and evaluation methods and criteria (all together described as “designed & established contents”)” are defined as road to achieve the learning outcomes.
 - ” Designed & established contents” is understandable to the faculty and the students.
 - ” Designed & established contents” is publicized to the faculty and the students.

- Implementation most likely continues for the next six years.

W-determination: All or some of following items confirmed by self-review report or by on-site visit.

- "Designed & established contents" defined as road to achieve the learning outcomes is partially insufficient so immediate remedy is required.
- "Designed & established contents" partially contains difficulty for faculty and students to understand so immediate remedy is required.
- "Designed & established contents" publicized to the faculty and the students by syllabi are partially insufficient so immediate remedy is required.
- Less likely to be implemented continuously.

D-determination: One of the following items confirmed by self-review report or by on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

- Little or none of curriculum policy, curriculum and "evaluation methods and criteria for the degree of achievement of each learning outcome" exists so the educational contents to achieve learning outcomes could not be or difficult to understand.
- Contents or correspondence of curriculum policy, curriculum and "evaluation methods and criteria for the degree of achievement of each learning outcome" are inappropriate so the educational contents could not be determined as continuous and stable to achieve the learning outcomes.
- Each course has no correspondence vis-à-vis learning outcomes or has critical insufficiency in correspondence therefore leaves serious doubt on achievement of the learning outcomes.
- "Designed & established contents" is critically difficult for faculty and students to understand
- All or large parts of "designed & established contents" are not publicized to the faculty and the students.
- Publicized information gives little or no understanding on educational contents toward achievement of the learning outcomes.

Criterion 2 Educational Methods

2.2 Implementation on Education based on Syllabi & Encouragement for Independent Learning

The program shall implement education based on the syllabi and operate the curriculum. The program shall encourage students' independent learning including continual self-checking of degree of achievement of the learning outcomes and its reflection.

- Implementation of education based on the designed curriculum to achieve the learning outcomes and encouragement of voluntary learning to the students are the two keys on this criterion.
- Difference between description on syllabus and contents, methods, or order are allowed within the out of scope of influence on achievement of the course outcome to be achieved as described on syllabus at the time of implementation on education by each course. It is preferable and recommended to include social or technical trend related to the course into educational contents, to correspond to students by taking consideration on the degree of understanding, or immediate implementation of the outstanding educational methods.
- "Effort on Encouragement for Independent Learning" indicates mechanism which program has and operates to encourage students' independent learning widely covering maintenance of sufficient learning hours of each subjects based on concept of CAP, to provide opportunities for faculty to improve educational methods through description of preview and review on syllabus, to provide opportunities for students to look back his/her own degree of achievement toward learning outcomes and to understand status on implementation of class questionnaire. This criterion focuses on whether the program appropriately guides students to the independent learning by its system. So this criterion requires neither the program to keep track of learning hour of each course by individual student nor investigation on detailed learning status of individual students. This effort could be maintained and operated by the higher education institution of which program belongs as long as encouraging students' independent learning.
- The program is expected to indicate result of self-review on the degree of accordance to the Accreditation Criteria based on the evidences which could determine effort to encourage students for autonomous learning and operation of the curriculum including education based on the syllabus (syllabi) in the self-review report correspond to this

criterion.

• Guideline for SWD-determination

S-determination: Accordance of all of the following items confirmed by self-review report or by on-site visit

- Education is implemented based on the curriculum designed for achievement of the learning outcomes.
- Education of each course is implemented based on syllabus including changes with good influence or changes within scope of no influence to the achievement of course objectives.
- Institutional effort on encouragement for students' independent learning is implemented and the program acknowledges the situation. Situation here indicates effort on encouragement by the program as a whole and not the individual students or independent learning by each course.
- Education is implemented based on the curriculum designed and Institutional effort on encouragement for students' independent learning most likely continue for the next six years.

W-determination: All or some of following items confirmed by self-review report or by on-site visit.

- Education which is implemented based on the curriculum designed for achievement of the learning outcomes are partially insufficient so immediate remedy is required.
- Some parts of major course required to achieve learning outcomes are not implemented in accordance with syllabus so immediate remedy is required.
- Effort on encouragement for students' independent learning is implemented however it is not necessarily sufficient or fully effective so immediate remedy is required.
- Implementation on education based on designed curriculum and encouragement for students' independent learning are less likely to be conducted continuously.

D-determination: One of the following items confirmed by self-review report or by on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

- Curriculum is not systematic to achieve the learning outcomes.
- Education is no implemented in accordance with curriculum designed to achieve learning outcomes.
- Major courses necessary to achieve learning outcomes are implemented not in accordance with syllabi therefore it leaves strong doubt on achievement of the learning outcomes.

- An institutional effort on encouragement of students' independent learning is not implemented or it is implemented but leaves strong doubt on its effect or institutional understanding.

Criterion 2 Educational Methods

2.3 Faculty & Support System

The program shall provide faculty and support system to appropriately implement education based on the curriculum as defined in criterion 2.1 and 2.2 above. The support system shall include mechanism to smoothly implement education based on the curriculum by collaboration among courses and to improve qualitative progress based on evaluating educational activities by the faculty. Additionally, the support system shall be publicized to the faculty. Highly recommended items related to the faculty and support system are defined in the Discipline-specific Criteria.

- The degree of accordance of implementation of the institutional and stable education by the appropriate faculty and educational support system are determined in this criterion. This criterion requires to maintain faculty and support system on education to be able to appropriately implement curriculum as defined in the curriculum to achieve learning outcomes and appropriately implement its curriculum as expected in criterion 2.1 and 2.2. The degree of accordance with this criterion is determined based on taking account of case of curriculum revision such as low degree of accordance of the curriculum to the criterion 2.1 and 2.2 even if faculty and support system on education are maintained to complies with required regulations.
- To comply with defined regulations related to faculty and support system on education as premise, it is required to appropriately implement education based on the curriculum to achieve learning outcomes with cooperation among courses. Under this condition, the criterion allows flexibility in faculty and support system on education and does not require standardized requirements.
- It is required for the faculty to enhance the quality to appropriately implement education based on the curriculum on the premise of complying with required regulations. Quality here includes education and research related to the engineering education and knowledge, abilities and experiences related to the practice of related technologies. The degree of related discipline or national qualification such as professional engineer, result of qualification test conducted by organization related to the discipline, history of involvement in education, research and practice of related discipline and history of taking CPD course provided by the related discipline could indicate adequacy of knowledge, abilities and experiences objectively. The program is expected to rationally explain appropriateness of faculty in comprehension on necessary qualities determined as necessary other than quality mentioned above.

It is highly recommended to refer qualifications or experiences recognized as

standard of the discipline to the quality of faculty in charge of engineering education. The program should refer highly recommended items of discipline as defined in the Category- and Discipline-specific Criteria and information publicized by the engineering society in charge of dispatching evaluation team in related discipline if there is any.

- “Support system on education” here indicates teaching assistants, volunteers including graduates, third-parties and all the other individuals who are related to the program other than full-time and part-time faculty.
- Faculty development included in support system on education indicates efforts to strengthen abilities of the faculty related to education broadly such as course design based on evaluation of educational activities, and evaluation methods and criteria other than improvement on teaching methods. So the degree of accordance is insufficient if the program is only recognizing faculty by awarding educational activities and the program is required to have system to improve quality related to education of the program.
- The program is expected to indicate result of self-review on the degree of accordance to the Accreditation Criteria based on the evidences which could determine the status of publicizing and maintenance on faculty to implement appropriate education based on curriculum and support system on education in the self-review report correspond to this criterion.
- Guideline for SWD-determination
S-determination: Accordance of all of the following items confirmed by self-review report or by on-site visit.
 - Formation of faculty and support system on education are appropriate to implement the curriculum.
 - Support system on education appropriately includes system to smoothly implement education based on the curriculum with cooperation among courses and system to strengthen the quality of faculty by recognizing their educational activities.
 - Formation or details of support system on education is appropriately publicized to the faculty related to the program.
 - Formation of faculty and support system on education, system including educational support and its publicizing to the faculty will most likely continue for the next six years.

W-determination: All or some of following items confirmed by self-review report or by

on-site visit.

- Formation of system to smoothly implement education based on the curriculum with cooperation among courses or its implementation status is partially insufficient so immediate remedy is required.
- Formation of system to strengthen the quality of faculty by recognizing their educational activities or its implementation status is partially insufficient so immediate remedy is required.
- Publicizing of the formation or details of support system on education to the faculty related to the program is partially insufficient so immediate remedy is required.
- Low degree of probability for stable formation or implementation of faculty and support system on education for the next six years.

D-determination: One of the following items confirmed by self-review report or by on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

- Faculty or Support system on education does not comply with requirements as defined in regulations.
- Faculty and support system on education failed to appropriately implement majority of curriculum.
- Formation of system to smoothly implement education based on the curriculum with cooperation among courses or its implementation status is insufficient and largely interferes implementation of the curriculum.
- Formation of system to strengthen the quality of faculty by recognizing their educational activities or its implementation status is insufficient which largely interferes implementation of the curriculum.
- Formation or details of support system on education to the faculty related to the program is either not publicized or majority is not publicized and largely interferes implementation of the curriculum.

Criterion 2 Educational Methods

2.4 Admission Policies

The program shall publish its admission policies to admit students, who have proper knowledge and abilities necessary for the education based on the curriculum. Students shall be admitted in accordance with the admission policies.

- “Admit” in this criterion indicates admission, transfer and moving in to the program the program. The program should note to have two separate policies. One applies to whole education program including applicable program at the beginning of common education and one only applies for the program if the students are enrolled to the program after completing common education.

Beginning of common education in this criterion determines at the time of admission to the regular course for the case of National Institute of Technology whose curriculum is consisted of last two years of regular course and two years of advanced course as scope of accreditation.

- Depends on the methods of admission, the quality of student necessary for the education based on the curriculum is not necessarily clarified. The program is expected to explain policies or status on admission including efforts on remedial education (development education) for such case.
- Number of students admitted by the different methods or number of students leave from the program voluntary or compulsively by rules are not questioned in this criterion. On the other hand, program should note self-review by the program and necessary improvement are included in the criterion 4 whether the admission policy and admission based on its policy are consistent with standard learning period for the achievement of the learning outcomes.
- The program is expected to indicate result of self-review on the degree of accordance to the Accreditation Criteria based on the evidences which could determine contents and publish status of admission policy and contents of methods of admission and actual admission status based on admission policy in the self-review report correspond to this criterion.
- Guideline for SWD-determination
S-determination: Accordance of all of the following items confirmed by self-review report or by on-site visit.
 - Admission policy is published.

- Admission policy and admission methods clearly indicate acceptance of students with quality which is necessary for education based on the curriculum operated by the program.
- Approve admission of the students with appropriate quality based on the admission methods as defined.
- Most likely continue for the next six years.

W-determination: All or some of following items confirmed by self-review report or by on-site visit.

- Admission policy is published insufficiently so immediate remedy is required.
- Admission policy, admission methods as well as actual situation of admission acceptance are insufficient or its description is not clarified to accept students into the program so immediate remedy is required.
- Highly probable to encounter problem within 6-year.

D-determination: One of the following items confirmed by self-review report or by on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

- Admission policy is not published or critically deficient and that highly likely to cause critical influence on decision of students to enter the program.
- Admission policy, admission methods as well as actual situation of admission acceptance are insufficient or its description is not clarified and those highly likely to cause critical influence on operation of the curriculum or achievement of the learning outcomes by the students.

Criterion 2 Educational Methods

2.5 Educational Environment & Student Support

The program or the higher education institution, to which the program belongs, shall be equipped with facilities, resources and structure required to implement the education and learning support for students and shall also implement necessary efforts to maintain, operate and update them. The efforts shall be publicized to the faculty, supporting staff and students.

- Major focus on this criterion is whether the program maintains necessary environment for education and learning support for students to appropriately implement curriculum defined to achieve the learning outcomes and its environment is sustainable. Publicizing it to the related parties subordinate this criterion.
- Initiative efforts on operation and publicizing environment for education and learning support for students as required by this criterion is not necessary required to the program if the substantive efforts made by the higher education institution, to which the program belongs, are sufficient for the program.
- Width and depth of contents publicized as required by this criterion may differ among the faculty, supporting staff and students. The key here is whether the each party could get necessary support under appropriate environment for education.
- This criterion focuses on measures for appropriate implementation of the curriculum which is designed for the achievement of the learning outcomes in addition to the measures as required by the regulations for the operation of education and learning support environment. It is fine and even recommended to utilize documents of which indicates the program meets items as required by the regulations as a result of evaluation by other accreditation agency.
- The program is expected to indicate result of self-review on the degree of accordance to the Accreditation Criteria based on the fact that the program maintains necessary environment for education and learning support for students to appropriately implement curriculum defined to achieve the learning outcomes and based on the evidences which could determine its sustainability in the self-review report correspond to this criterion.
- Guideline for SWD-determination
S-determination: Accordance of all of the following items confirmed by self-review report or by on-site visit.

- Environment for education and learning support for students are appropriately maintained and operated.
- Environment for education and learning support for students are appropriately publicized to the faculty, supporting staff and students.
- Most likely continue for the next six years.

W-determination: All or some of following items confirmed by self-review report or by on-site visit.

- Maintenance or operation of environment for education and learning support for students is insufficient so immediate remedy is required.
- Environment for education and learning support for students are publicized insufficiently to the faculty, supporting staff and students so immediate remedy is required.
- Highly probable to encounter problem within 6-year.

D-determination: One of the following items confirmed by self-review report or by on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

- Critical issue on maintenance and operation of the environment for education and learning support for students which make operation of the curriculum or achievement of the learning outcomes by the students difficult or give negative influence on its achievement.
- Environment for education and learning support for students are publicized insufficiently to the faculty, supporting staff and students which make utilization of environment difficult or give negative influence on its utilization.

Criterion 3 Achievement of Learning Outcomes

3.1 Achievement of Learning Outcomes

The program shall evaluate, on each course, the degree of achievement of the learning outcomes in accordance with the criteria and methods for assessment defined in the syllabus. The program shall also review and confirm that all the graduates of the program have achieved all the learning outcomes of the program at the time of completion of the program. The evaluation on degree of achievement shall also include recognition of the credits earned by the students from the other programs (e.g., other departments and/or other higher education institutions)

- It is expected to review and to confirm evaluation on each course, the degree of achievement of the learning outcomes and all the graduates of the program have achieved all the learning outcomes of the program at the time of completion of the program in this criterion.
- Evaluation methods and criteria of each course as well as formulation of evaluation methods and criteria of achievement of each learning outcome and its implementation on education are required in Criterion 2.1 so certain implementation of those are evaluated in this criterion.
- It is not required to indicate standardized detailed evidences of implementation status of evaluation on the degree of achievement of all courses included in the curriculum in this criterion. The point here is whether confirmation methods and its actual status are rational based on how program confirm evaluation on the degree of achievement of each learning outcome and its implementation status. Based on this perspective, the evaluation team confirms major evidences including answer sheet of the test or report, of which is on the passing grade, during the on-site visit to clarify whether the evaluation on the degree of achievement of learning outcomes of each course is implemented in accordance with methods as described in the syllabus for the major subject which contributes achievement of learning outcomes.
- The program is expected to indicate system and actual status of how the credits are evaluated and recognized from the perspective of achievement of the learning outcomes besides educational outcomes autonomously implemented by the program if program applies credits acquired by the students from other program as evidences to determine achievement of the learning outcomes.
- It is preferable for all the students to normally achieve the learning outcomes within period as prescribed learning period i.e., 4-year, although, it is not a requirement. If a student achieves all the learning outcome during period as retained in the program,

the student becomes graduate even if exceeded standard learning period. This criterion does not interfere students who cannot achieve learning outcomes to lose their qualification to study in the program voluntary or compulsorily by rules.

- The program is expected to indicate result of self-review on the degree of accordance to the Accreditation Criteria based on the evidences which could determine implementation status of evaluation on the degree of achievement of each course and implementation status of review on whether all the graduates of the program have achieved all the learning outcomes of the program at the time of completion of the program in the self-review report correspond to this criterion.

- Guideline for SWD-determination

S-determination: Accordance of all of the following items confirmed by self-review report or by on-site visit.

- Appropriate implementation of evaluation on the degree of achievement of each course in accordance with defined evaluation methods and criteria are reviewed and confirmed.
- Appropriate implementation of evaluation on the degree of achievement of learning outcomes of the students in accordance with defined evaluation methods and criteria are reviewed and confirmed.
- Achievement of learning outcomes by all the graduates of the program are reviewed and confirmed.
- Most likely continue for the next six years.

W-determination: All or some of following items confirmed by self-review report or by on-site visit.

- Evaluation on the degree of achievement of each course is partially insufficient or its review or confirmation is partially insufficient so immediate remedy is required.
- Review and confirmation on achievement of learning outcomes by all the students are partially insufficient so immediate remedy is required.
- Review and confirmation on achievement of learning outcomes by all the graduates are partially insufficient so immediate remedy is required.
- Highly probable to encounter problem within 6-year.

D-determination: One of the following items confirmed by self-review report or by on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

- Evaluation on the degree of achievement of each course is insufficient such as not

implementing evaluation by evaluation methods and criteria as defined in major courses, or its review or confirmation is insufficient and that highly likely to cause critical influence on achievement of learning outcomes by the curriculum as a whole.

- Review and confirmation on achievement of learning outcomes by all the students are insufficient and that highly likely to cause critical influence on achievement of learning outcomes by the students.
- Review and confirmation on achievement of learning outcomes by all the graduates are insufficient therefore unable to confirm its achievement.

Criterion 3 Achievement of Learning Outcomes

3.2 Review on Degree of Achievement of the Graduates from Knowledge and Abilities

The program shall review and confirm that all the graduates of the program have acquired knowledge and abilities (a) to (i) included in the learning outcomes.

- Whether the program reviews and confirms achievement of all of knowledge and abilities (a) to (i) included in the learning outcomes are subjected to evaluate through achievement of learning outcomes as reviewed and confirmed in Criterion 3.1 in this criterion.
- Knowledge and abilities (a) to (i) are defined as necessary elements in consideration of domestic and international circumstances so to indicate certain achievement of all of those by the graduates are the core for JABEE to ensure the quality of accredited programs. So this criterion requires the program to review and confirm from the perspective of knowledge and abilities (a) to (i) in addition to review and confirm the achievement of learning outcomes as voluntary defined by the program.
- In Criterion 1.2, the program is expected to include specified contents of learning outcomes (a) to (i) including benchmarks although how to include them relies on the program's autonomy. So the program is expected to review and confirm by understanding relation between learning outcomes (a) to (i) and learning outcomes of the program. It is expected to review and confirm whether the program is made for students to be able to fully achieve all of knowledge and abilities by the evaluation methods and criteria for the achievement of learning outcomes of the program if one learning outcome contains several knowledge and abilities intended to achieve. It is required to comprehensively confirm achievement of relevant learning outcomes if one knowledge or ability is divided into multiple learning outcomes to be achieved.
- This criterion does not necessary require publicizing result of review or confirmation to the graduates or related parties.
- It is required for the program to indicate that the program reviews and confirms acquisition of learning outcomes (a) to (i) by all the graduates when program structures learning outcomes which are assured by its achievement in line with knowledge and abilities (a) to (i).
- The program is expected to indicate result of self-review on the degree of accordance to the Accreditation Criteria based on the evidences which could determine status of review and confirmation on achievement of knowledge and abilities (a) to (i) included in

this criterion through achievement of learning outcomes by all the graduates in the self-review report correspond to this criterion.

- Guideline for SWD-determination

S-determination: Accordance of all of the following items confirmed by self-review report or by on-site visit.

- The program reviews and confirms certain achievement of all the knowledge and abilities (a) to (i) through achievement of learning outcomes by all the graduates.
- Most likely continue for the next six years.

W-determination: All or some of following items confirmed by self-review report or by on-site visit.

- Review and confirmation by the program on achievement of all the knowledge and abilities (a) to (i) through achievement of learning outcomes by all the graduates are partially insufficient so immediate remedy is required.
- Highly probable to encounter problem within 6-year.

D-determination: One of the following items confirmed by self-review report or by on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

- Review and confirmation by the program on achievement of all the knowledge and abilities (a) to (i) through achievement of learning outcomes by all the graduates are not implemented.
- Highly probable that graduates include individuals who have not achieved knowledge and abilities (a) to (i) partially.

Criterion 4 Educational Improvement

4.1 Internal Quality Assurance

The program or the higher education institution, to which the program belongs, shall institutionally implement internal quality assurance to confirm that the educational activities are provided in accordance with Criteria 1 to 3. The program shall publicize to the faculty the contents of implementation of internal quality assurance. The mechanism of the internal quality assurance shall give consideration to the requirements of the society and of the demands of the students. It shall include a self-checking function to review the mechanism.

- It is expected for the program to publicize results to related parties and how program reviews educational activities including the degree of accordance with Criteria 1 to 3 to assure current quality of education based on the internal quality assurance system by the program or the higher education institution, to which the program belongs, in this criterion.
- System and contents of institutional review on educational activities are not necessary required to be independently implemented by the program and allowed to substitute with the review implemented by the higher education institution, to which the program belongs if the program could be appropriately reviewed since review on education or improvement by the internal quality assurance is also required by the institutional evaluation in recent years.
- “Institutional” in this criterion indicates what is implemented by the program or the higher education institution, to which the program belongs, with their responsibility.
- If the program institutionally implements self-review or third party accreditation to the program as a unit from the perspective of criteria 1 to 3 at the evaluation of other accreditation agencies and its contents of implementation is publicized to the faculty, the degree of accordance with this criterion could be self-reviewed based on its implementation and publicizing status. Although, it is required to avoid referring each other back-and-forth, if JABEE’s evaluation and accreditation are applied as “third party accreditation” by the other accreditation agency.
- The program is expected to indicate result of self-review on the degree of accordance to the Accreditation Criteria based on the evidences which could determine mechanism on internal quality assurance that reviews educational activities in accordance with criterion 1 to 3 and contents of its implementation as well as publicized status to the faculty in the self-review report correspond to this criterion.

- Guideline for SWD-determination

S-determination: Accordance of all of the following items confirmed by self-review report or by on-site visit.

- There is internal quality assurance system to review the educational activities of the program in accordance with Criteria 1 to 3 and its educational activities are institutionally and appropriately implemented.
- The mechanism of the internal quality assurance shall give consideration to the requirements of the society and of the demands of the students and it shall include a self-checking function to review the mechanism.
- The program appropriately publicize to the faculty the contents of implementation of internal quality assurance.
- Most likely continue for the next six years.

W-determination: All or some of following items confirmed by self-review report or by on-site visit.

- There is internal quality assurance system although contents or status of review in accordance with Criteria 1 to 3 is partially insufficient so immediate remedy is required.
- The mechanism is partially insufficient as an institution so immediate remedy is required.
- The mechanism of the internal quality assurance which shall give consideration to the requirements of the society and of the demands of the students is partially insufficient or self-checking function to review the mechanism is partially insufficient so immediate remedy is required.
- Publicizing the contents of implementation of internal quality assurance to the faculty are partially insufficient so immediate remedy is required.
- Less likely to be implemented continuously.

D-determination: One of the following items confirmed by self-review report or by on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

- There is no internal quality assurance system or substantial activities are not implemented.
- There is internal quality assurance system although contents or status of review in accordance with Criteria 1 to 3 is partially insufficient and it largely influences on achievement of the learning outcomes by all the graduates.
- Internal quality assurance system is institutionally insufficient so that review on educational activities by the program is inappropriate.

- Contents and status of review on educational activities by the program are inappropriate either by insufficient consideration given to the requirements of the society and of the demands of the students or insufficient self-checking function to review the mechanism.
- Contents and status of review on educational activities by the program are inappropriate by insufficient publicizing of the contents of implementation of internal quality assurance to the faculty.

Criterion 4 Educational Improvement

4.2 Continuous Improvement

The program shall have mechanism to continuously improve educational activities based on the results of review.

- It is expected for the program to continuously improve educational activities of the program by the internal quality assurance mechanism of the program or the higher education institution, to which the program belongs in this criterion. It is also indicated that improvement of the educational activities should be applied to the improvement of the degree of achievement of the learning outcomes by the students.
- Period of continuous improvement of the educational activities vary and term of review or improvement is not punctual by the duration of period required for improvement depending on its contents. So it is possible not to have specific outcomes of the improvement up to the timing of evaluation and accreditation. In such case, determine sufficiency of the continuous improvement activities based on the time acknowledged review result, time examined improvement plan or time specifically took measure on improvement.
- Sufficient degree of accordancy to the criterion 4.1 and to this criterion mean there is a mechanism to review, maintain and improve educational activities of the program in line with all the criterion and appropriate implementation of its related activities so the degree of accordancy to the each criterion is expected to continuously improve. The degree of accordancy to the criterion 4.1 and to this criterion could be the reference to determine the degree of accordancy of the other criterion.
- Evaluation on the degree of accordancy of other criterion will be affected if the degree of accordancy with criterion 4.1 or this criterion is insufficient. For instance, current degree of accordancy to the criteria are recognized in certain level although the program might be determine not to be able to maintain the degree of accordancy due to insufficient mechanism to maintain and to improve based on the review of current educational activities.
- The program is expected to indicate result of self-review on the degree of accordancy to the Accreditation Criteria based on the evidences which could determine system of continuous improvement on educational activities based on the result of review on education and activity status in the self-review report correspond to this criterion.

- Guideline for SWD-determination

S-determination: Accordance of all of the following items confirmed by self-review report or by on-site visit.

- There is mechanism to continuously improve educational activities based on the result of review on education in accordance with the criteria which are implemented by the program or the higher education institution, to which the program belongs.
- Based on its mechanism, activities related to the improvement are implemented accurately and up to necessity.
- Most likely continue for the next six years.

W-determination: All or some of following items confirmed by self-review report or by on-site visit.

- Mechanism to improve educational activities are partially insufficient so immediate remedy is required.
- Activities related to the improvement based on its mechanism are partially insufficient so immediate remedy is required.
- Less likely to be implemented continuously.

D-determination: One of the following items confirmed by self-review report or by on-site visit, or no rational explanation to determine S or W from the finding of self-review report or at on-site visit.

- Little or no mechanism to improve educational activities and have problem for continuous improvement of the program.
- Little or no activities related to the improvement based on its mechanism are implemented have problem for continuous improvement of the program.