(Translation Document)

Rule and Procedure for Accreditation of Engineering Education

(2nd Revision)

Guideline Document

for

Accreditation of Engineering Educational Program

Accreditation Cycle Starting Academic Year 2019 to 2024

Council of Engineers

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Document Control Table

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1. Introduction

This Rule and Procedure for Accreditation of Engineering Education (2nd revision) shall be used as a reference document for accreditation of engineering education program that offers a bachelor degree of engineering within the Kingdom of Thailand during accreditation cycle for academic year 2019 – 2024. This document is prepared and approved by The Council of Engineers Thailand (COET) according to The Council of Engineers Thailand Rule for Accreditation of Engineering Education (Year 2017).

2. Definitions, Objectives and Scope of Accreditation

2.1 Definitions

For organizations and personnel involving in accreditation of engineering education to have thoroughly understanding of related roles, functions, principles procedures, and operational framework of the accreditation of engineering educational program, the Thailand Accreditation Board of Engineering Education (TABEE), therefore, provides the explanation of definitions and terms relating to the accreditation as they are prescribed in Attachment 1 Definitions and Terms.

2.2 Objectives

The Thailand Accreditation Board of Engineering Education (TABEE), the Council of Engineers Thailand (COET), sets up the objectives of accreditation of engineering educational program as followings;

1. To evaluate program outcomes and quality of engineering education program management as prescribed by TABEE of the Council of Engineers Thailand (COET) and corresponding to recognized international educational accord.

2. To promote educational institution for providing quality education and continuous quality improvement to program students.

3. To publicize, to inform and to ensure society, students and individuals that engineering graduate from the accredited program has adequately attained program outcomes according to required graduate attributes for engineering profession and corresponding to recognized international educational accords.

2.3 Scope of Accreditation

The accreditation of engineering educational program prescribed within this document is used for recognition of engineering educational program at the bachelor degree level with equivalent to 4 years education period and graduation requirements from 120 - 150 credits in semester system.

3. Accreditation Principles

Accreditation of engineering education is an evaluation process on management of educational program that the Council of Engineers Thailand (COET) offers to educational Institutions in Thailand on a requisition for accreditation of the engineering educational program. The educational institution should voluntarily follow on rules and procedures prescribed within this

document and additional operating guidelines relating to the accreditation of engineering education of the COET.

3.1 Accreditation Procedure

Accreditation procedure, that is operated by TABEE of COET, is considered as an evaluation process on educational program outcomes and effectiveness of program management that is administrated by educational institution to confirm that graduate of the engineering program has adequately attained graduate attributes required in engineering professional practice.

3.2 Accreditation Cycle

Accreditation cycle is limited to 6 academic years starting from the COET approved academic year.

3.3 Program Curriculum Eligible to Accreditation

Program curriculum eligible to TABEE accreditation is characterized as follow.

3.3.1 Fulltime Curriculum

Full time program curriculum at bachelor degree level equivalents to 4 academic years education that has been approved by the university board for 4 years educational program with credit requirement from 120 to 150 credits in semester system specified by Office of Higher Education Commission (OHEC) or other relevant agency on curriculum specification.

The program must have curriculum structure that provides teaching and learning and application of knowledge contents on basic sciences and mathematics, basic engineering, and specific engineering to solve and design on complex engineering problems, adequately for engineering professional practice according to accreditation criteria described in the document.

3.3.2 New Curriculum

Full time program curriculum at bachelor degree level equivalents to 4 academic years education that does not yet have program graduate and has been approved by the university board for 4 years educational program with credit requirement from 120 to 150 credits in semester system specified by Office of Higher Education Commission (OHEC) or other relevant agency on curriculum specification.

The program must have curriculum structure that provides teaching and learning and application of knowledge contents on basic sciences and mathematics, basic engineering, and specific engineering to solve and design on complex engineering problems, adequately for engineering professional practice according to accreditation criteria described in the document.

3.3.3 Multi-disciplinary curriculum

In case that the full time engineering program curriculum is multi‑disciplinary program or combined engineering fields curriculum, TABEE shall accredit for only a major field of engineering.

3.3.4 Curriculum with optional courses

In case that the full time engineering curriculum provides optional courses or tracks for students to select for graduation, resulting different graduate attributes according to each option or track with different constituencies requirements. The educational institution applying for program accreditation shall provide document and evident support for every option or track. In case that the engineering program partially offers teaching and learning in some specific option of the curriculum, TABEE shall accredit only to the specific options that are presented in program Self-evaluation report and support document provided by the educational program.

3.3.5 Curriculum with several campus sites

In case that the full time engineering curriculum provides teaching and learning at different teaching campus sites, and/or different educational environments, and/or with different faculties and institutional support, TABEE should evaluate program outcomes specifically for each program in each faculty and in each campus site.

3.3.6 Curriculum under joint cooperation of educational institutions domestically and with international institutions

TABEE has not yet established accreditation procedure for the program operating under cooperation of educational institutions that offers teaching and learning in different campus system and TABEE shall consider accepting accreditation and accreditation procedure for each specific case.

3.4 Application and Preparation Prior to Program Visit

Educational institution applying for program accreditation should summit requisition letter for program accreditation together with 5 copies of program Self-evaluation report and supporting documents to COET according to accreditation schedule described within this document or according to COET announcement on changing of the schedule. In case that the program Self-evaluation report does not follow report template, insufficient quality, or lack of contents and support documents as they are described in this document, TABEE shall notify rejection of accreditation application to the educational institution and the educational institution should re-submit application for program accreditation with revised program Self-evaluation report for the next academic year.

The educational institution should submit additional support documents requested by COET in time according to the schedule. In case of delay submission of document in due time, the program evaluator team may consider postponing or cancelling the program visit accordingly.

3.5 Program Evaluation

Program evaluation shall be carried out by a team of program evaluator, appointed by COET under nomination of TABEE, to evaluate program outcomes and effectiveness of program quality management according to accreditation criteria prescribed within this document.

A program evaluator team shall consist of 3 evaluators selected from academia, industrial advisory and professional practitioners relating to the specific engineering of the program. One designated program evaluator of the team shall be appointed to review program interim report for program monitoring during the accreditation cycle.

3.6 Consideration for Accreditation Result

Program evaluator team and a designated TABEE committee member for coordinating the program visit meet together for consideration of program accreditation result and accreditation reporting according to the report template. The accreditation report is then further reviewed by an intervenor workgroup for reduction of any courses that may lead to conflict of interest.

The program evaluator team leader shall present the reviewed accreditation report during the TABEE Decision Meeting. The meeting should consist of TABEE committee member, other program evaluator team leaders, and the intervenor workgroup. (This Decision Meeting may be arranged by program discipline or by educational institution, whichever is appropriate.) The list of accreditation results which are approved during the decision meeting shall be consequently an agenda seeking for approval during the TABEE committee meeting and later is sent to COET board meeting for acknowledgement.

The program evaluator team may consider program accreditation results as follows;

1) Full accreditation for accreditation cycle of 6 years.
2) Accreditation with requirements for a period not exceeding 3 years. Review report on program improvement is required for program monitoring.
3) Provisional accreditation (For the new program curriculum which does not have program graduate.). The provisional accredited program must submit program Self-evaluation report after completing 2 classes of program graduation.
4) Defer accreditation.
5) Decline accreditation or revoke accreditation.

Detailed description of accreditation result and conditions is tabulated in accreditation result table demonstrated in Chapter 11 Accreditation Result and Reporting.

3.7 Revision of Accredited Program Curriculum

In case of minor revision of program curriculum and no change in program educational objectives and program graduate attributes, the educational institution should notify TABEE of such revision of program curriculum and remain program accreditation result until completion of accreditation cycle.

In case of revision of program educational objectives and changes in program outcomes or graduate attributes, the educational institution should re-apply for program accreditation within the starting year of that program curriculum.

3.8 Appeal Request

In case of decline accreditation or revoke accreditation, the educational institution may wish to file appeal request for revision of accreditation result, Chapter 12 Appeals describes step procedure for appeal of accreditation result.

3.9 Publicizing of Accredited Program

TABEE secretariat is responsible for updating registration of accredited engineering program and publicize list of accredited program on COET website at www.coe.or.th.

3.10 Confidentiality

TABEE committee, intervenor workgroup, and TABEE secretariat shall consider document and reports used for program evaluation and program accreditation as confidential matter and shall not disclose or publicize such documents without written permission from educational institution or from appropriate owner.

3.11 Accreditation Cost

Educational institution is responsible for cost and expenditures of preparation of program Self-evaluation report and support documents, accreditation requisition fee, and program visit fee according to announcement of COET upon reception of acceptance letter for application of program accreditation.

During preliminary document review, program visit, and accreditation reporting, COET shall bear all expenses and costs taken place upon program evaluators and TABEE coordinating staff and other team members.

3.12 Conflict of Interest

TABEE committee, workgroups, program evaluator teams, and accreditation secretariat and coordinating staff shall consider prevention all courses that may lead to conflict of interest among constituencies, occurring during accreditation activities.

4. Appointments and Functions of Subcommittee, Workgroup, Program Evaluator Team, and Coordinating Staff

4.1 TABEE committee

COET Board appoints TABEE committee according to Rule on Accreditation of Engineering Education (2017).

4.1.1 Functions and Responsibilities of TABEE committee

1) To accredit engineering program domestically according to criteria and guides prescribed by the Council of Engineers Thailand.
2) To administrate and develop work systems for accreditation of engineering education to attain the international recognition of quality engineering education and engineering profession.
3) To propose amendment of rules and regulations relating to the accreditation of engineering education.
4) To prepare operational plan and budget for development of work system relating to the accreditation of engineering education.
5) To train human resources and program evaluators for the accreditation of engineering education.
6) To publicize, to coordinate and experiences transfer of international activities relating to accreditation of engineering education to educational institution, professional practitioner, and corresponding constituencies.
7) To prepare documents for recognition of accreditation system according to international accord on accreditation of engineering education.
8) To publicize list of engineering education program which are accredited by the Council of Engineers Thailand (COET).
9) To give recommendation for educational quality improvement to educational institution in accordance with graduate attributes for engineering profession.
10) To propose Board of the Council of Engineers Thailand the appointment of workgroup as it is necessary to assist the work of accreditation.
11) To operational report to the Board of the Council of Engineers Thailand.
12) To operate on other COET assigned functions.

4.2 Intervenor Workgroup

TABEE committee nominates Intervenor workgroup to COET board for appointment.

4.2.1 Functions and Responsibilities of Intervenor Workgroup

1) Initial reviews on program Self-evaluation report and support documents for quality and contents conforming to Self-evaluation report template and reports to TABEE committee for consideration acceptance of the program accreditation application.

2) Reviews accreditation reports which are prepared by program evaluator teams for the conformity and prevention all courses that may lead to conflict of interest.

3) Attends Decision Meeting.

4.3 Program Evaluator Team

The 3-program evaluator Team, appointed by TABEE of The Council of Engineers Thailand, shall consist of a team chair and 2 program evaluators. The program evaluator team should consist of an academia, professional practitioner relating to the specific engineering of the program to be accredited.

The evaluator team shall be coordinated by TABEE secretariat for the related accreditation activities, appointment for program visit, and additional request for documents from educational institution.

During the program visit, with permission from the educational institution, there may be Observer(s) attaching to the evaluator team.

4.3.1   Functions and Responsibilities of Program Evaluator Team

1) **Preliminary Document Review:** During preliminary review of program Self-evaluation report, the program evaluator team may acquire for some clarifications and request for additional documents from educational institution. In case that the educational institution is not able to provide the appropriate document as requested or delay submission of the requested document in due time, the evaluator team may consider postponing or cancelling the program visit.

2) **Program Visit:** Program evaluator team and TABEE coordinating staff make appointment for program visit according to notified accreditation schedule. Step procedures for program visit are listed as following;

   a) Reviewing teaching and learning course portfolio relating to basic engineering and specific engineering subjects that are taught by the program teaching staff for the knowledge content, homework, assignment, term report that are given to students during classes, and the class evaluation.

   b) Meeting with Dean, program chair, program executives about schedule and activities of the program visit and listening to presentation about overview of the educational institution and program administration. Evaluators may ask for clarifying issues on program Self-evaluation report and program quality management in accordance with the prescribed TABEE program outcomes.

   c) Evaluating class teaching and learning, laboratory equipment, laboratory facilities, library, information technology support system, and academic environment as prescribed in TABEE accreditation criteria.

   d) Interviewing program chair, teaching staff, laboratory staff and supporting staff for evaluation of program quality management, program teaching and learning responding to program objectives, program outcomes, and program graduate attributes for professional practice which are prescribed in the curriculum.

e) Interviewing program students (from all classes) to ensure program outcomes and program graduate attributes for professional practices. The program evaluator team should specify the number and academic condition of students required for the interview.

f) Interviewing program graduates to ensure program graduate attributes for professional practices, the number and condition of which are to be specified by the program evaluator team.

g) Interviewing program alumni who currently practice engineering profession in the industry to ensure program graduate attributes required for professional practices, the number and condition of which are to be specified by the program evaluator team.

3) **Exit Meeting:** During exit meeting, program evaluator team must wrap up program visit and inform to institutional executive, program chair and program executives as followings;

a) Steps towards accreditation reporting.

b) List of factual findings during the program visit. Detailed explanations or suggestions are not necessary provided.

c) Overview of preliminary opinion that the evaluator team may consider necessary.

4) **Accreditation Reporting:** Program evaluator team shall prepare accreditation report as followings.

a) Evaluator team meeting to conclude the program evaluation according to program evaluation checklist and complete the accreditation report using accreditation report template.

b) Program evaluator team leader (Evaluator team members may require) carries out meeting with intervenor workgroup for report review and editing for prevention of courses that may lead to conflict of interest or appeals.

c) Program evaluator team leader (Evaluator team members may require) shall present accreditation report and suggestions in the TABEE Decision Meeting.

4.3.2 Program Evaluator Qualifications

A program evaluator, who is appointed by COET, has following qualifications.

1) Complete at least a bachelor degree of engineering in related field of engineering program to be accredited, and

2) Pass TABEE program evaluator training course, and

3) Has a good attitude towards engineering education and outcomes based accreditation of engineering education, and

4) In case of academia, he/she should have experiences in teaching and research in an institutional education which emphasis on outcome based education, or

5) In case of professional practitioner, he/she should have experiences or participation in professional practice of related field of engineering program to be accredited, or

6) Be a member of professional society relating to the field of engineering program to be accredited.

4.4 Program Evaluator Team Leader

Program Evaluator Team Leader, who is appointed by COET, functions as following;

1) Coordinate with TABEE secretariat to set up meeting with other members of program evaluator team as prescribed in Section 4.3.1 Functions and Responsibilities of Program Evaluator Team.

2) Advise team members and coordinating with TABEE secretariat about rule and procedure of accreditation of engineering education as prescribed in this document.

3) Lead program evaluator meeting to complete accreditation report according to prescribed program evaluation checklist and accreditation report template.

4) Carry out meeting with intervenor workgroup to review accreditation report for the conformity and prevention all courses that may lead to conflict of interest.

5) Present accreditation report and suggestion in the TABEE Decision Meeting.

The program evaluator team leader must have professional experiences, or have/had been an executive of accredited program or used to be TABEE program evaluator or passed TABEE program evaluator training course. The team leader must be capable to advise on rule and procedure of accreditation engineering education.

4.5 Designated TABEE committee Member for Coordinating Program Visit and Accreditation Report

In case of an educational institution with multiple-program visits on the very same campus site, TABEE shall assign a designated subcommittee member for coordinating the program visit and accreditation reporting for that specific campus site.

The designated Subcommittee member shall coordinate among program evaluator teams for program visit and preparation of accreditation reports for the conformity of the accreditation reports.

4.6 Coordinating Staff

TABEE secretariat shall be assigned to coordinate among TABEE committee, program evaluator teams, and educational institution on administrative work, appointment, documentation, and data archive to facilitate the program accreditation to attain transparency and the set forth accreditation schedule.

5. Accreditation Procedure

The accreditation of educational program is an evaluation process that the Thailand Accreditation Board of Engineering Education (TABEE), the Council of Engineers Thailand, provides to educational institution. This evaluation is for recognition of program outcomes and effective quality management of the program as they are described in program Self-evaluation report, submitted together with requisition letter for accreditation of educational program within accreditation schedule of this document or within timeframe specified in an announcement for accreditation schedule.

Upon reception of requisition letter and program Self-evaluation report, TABEE intervenor workgroup shall Initially review the program Self-evaluation report and support documents for quality and contents conforming to Self-evaluation report template and reports to TABEE committee for consideration acceptance of the program accreditation application.

TABEE thus nominates designated TABEE committee members for coordinating program visit and accreditation report (in case of multiple‒program visits), program evaluator teams and observers on program visit for COET appointment on evaluation of program outcomes and quality management of the program. The evaluation team, then, shall review program Self-evaluation report and document support relating program quality management in accordance with accreditation criteria.

The program accreditation consists of 3 work processes;

1) Document review
2) Program visit
3) Accreditation reporting

The program evaluator team shall review the program Self-evaluation report and supporting documents using program evaluation checklist provided by TABEE, then arranges the program visit to confirm program outcomes, additional clarifications, and inform program executives about factual findings in the exit meeting.

Program evaluator team later arranges team meeting for preparation of accreditation report according to report template, discusses with intervenor workgroup for report review and presents the accreditation report with suggestion in TABEE Decision Meeting. The approved accreditation result is submitted to TABEE approval and report to COET Board for later acknowledgement.

5.1 Document Review

During the review, evaluator team may need some clarifications and request for additional explanation and supporting documents from educational institution. In case of requesting for additional clarifications and supporting documents, the educational program is not able to appropriately submit the requested documents in proper due time. The program evaluator team may consider postponing or cancelling the program visit.

In case that the educational institution has properly clarify and has submitted requested document, the evaluator team shall notify TABEE coordinating staff for later appointment for program visit.

Or else, in case that the above mentioned documents is not substantial to program evaluation, the evaluator team may request the educational institution to prepare and present to the evaluator team during the program visit.

In case that the evaluation team, after the document review, considers that the program outcomes and program management does not comply with the criteria set forth by TABEE and attains the program quality insufficiently below prescribed accreditation criteria. The evaluation team may consider decline accreditation or revoke accreditation without further making appointment for program visit.

5.2 Program Visit

The program visit is a 2-days visit according to the prepared schedule and notifying letter for program visit, in case of program monitoring, program evaluator may consider only report review on progressive report or arrange 1-day program visit as it is appropriately needed. The evaluation team should perform as follows;

1) Reviewing teaching and learning course portfolio relating to basic engineering and specific engineering subjects that are taught by the program teaching staff for the knowledge content, homework, assignment, term report that are given to students during classes, and the class evaluation.

2) Meeting with Dean, program chair, program executives about schedule and activities of the program visit and listening to presentation about overview of the educational institution and program administration. Evaluators may ask for clarifying issues on program Self-evaluation report and program quality management.

3) Evaluating class teaching and learning, laboratory equipment, laboratory facilities, library, information technology support system, and academic environment as prescribed in TABEE accreditation criteria.

4) Interviewing program chair, teaching staff, laboratory staff and supporting staff for evaluation of program quality management, program teaching and learning to attain program objectives, program outcomes, and program graduate attributes for professional practice.

5) Interviewing program students (from all classes) to ensure program outcomes and program graduate attributes for professional practices. The program evaluator team should specify the number and academic condition of students required for the interview.

6) Interviewing program graduates to ensure program graduate attributes for professional practices, the number and condition of which are to be specified by the program evaluator team.

7) Interviewing program alumni who currently practice engineering profession in the industry to ensure program graduate attributes required for professional practices, the number and condition of which are to be specified by the program evaluator team.

8) During exit meeting, program evaluator team must wrap up program visit and inform to institutional executive, program chair and program executives as followings;

a) Steps towards accreditation reporting.

b) List of factual findings during the program visit. Detailed explanations or suggestions are not necessary provided.

c) Overview of preliminary opinion that the evaluator team may consider necessary.

In case of multiple-program visit on the same campus site, TABEE shall assign a designated subcommittee member to lead the program visit and meet with institutional executives for visiting schedule and activities. The appointment of multiple‑program visit should not be more than 5 programs each time.

An exemplar of program visit here below is tentatively scheduled and is given to the educational program for visiting preparation as following;

Day 0: (Prior to program visit)

Time	Activities	Venue
18.00-21.00 hr.	Program evaluator teams and designated subcommittee member have dinner together; review visiting schedule and identify clarification issues needed during the program visit.	Hotel meeting room.

Day 1: (Program visit)

Time	Activities	Venue
9.00-9.45 hr.	Meeting with Dean, program chair, program executives about schedule and activities of the program visit and listening to presentation about overview of the educational institution administration and development plan.	Faculty meeting room
9.45-10.15 hr.	Meeting with program chair, program executives for presentation on program administration and Self-evaluation report.	Department meeting room
10.15-11.00 hr.	Review on issues needed for clarification relating to Self-evaluation report.	Department meeting room
11.00-12.00 hr.	Evaluating class teaching and learning, laboratory equipment, laboratory facilities, library, information technology support system.	Faculty, Department
12.00-13.00 hr.	Lunch break	Department
13.00-13.15 hr.	Drafting list of questions for institution and program	Department
13.15-14.45 hr.	Review course portfolio and support documents	Department
14.45-15.15 hr.	Interviewing alumni and constituencies from industries	Department
15.15-15.45 hr.	Interviewing program graduates	Department
15.15-17.00 hr.	Interviewing program students	Department
17.00-18.00 hr.	Back to Hotel	

Time	Activities	Venue
18.00-21.00 hr.	Dinner and team meeting; exchanging/summary on factual findings, drafting exit meeting statement, other contingency of exit meeting	Hotel meeting room

Day 2: (Program visit)

Time	Activities	Venue
9.00-10.00 hr.	Meeting with institutional executive, program chair, program executives	To be arranged by Faculty
10.00-11.00 hr.	Interviewing program faculty staff, questioning on program, course outcomes improvement and curriculum review	Department
11.00-11.40 hr.	Review, examine course portfolio and support documents relating to Self-evaluation report	Department
11.40-12.00 hr.	Interview program chair/ program executives and finalize on clarification issues with program chair/program executives	Department
12.00-13.00 hr.	Lunch break	Department
13.00-15.00 hr.	Visiting team meeting to conclude on exit meeting/statement and other contingencies	Department
15.00-15.30 hr.	Exit meeting with institutional executives, program chair, program executives; designated TABEE committee member or evaluator team leader(s)reads exit statement	Department

In case of program monitoring or program re-evaluation, an exemplar of 1-day program visit here below is given to the educational program for visiting preparation as following;

Time	Activities
9.00-9.30 hr.	Meeting with program chair/program executives about visiting objectives/mission, schedule, and activities.
9.30-10.00 hr.	Listening to presentation on program progressive report and improvements. Question/Answer session.
10.00-12.00 hr.	- Program evaluator(s) or reviewer examine course portfolio and documents, and/or - Visiting laboratory equipment, laboratory facilities, library, information technology support system, or other educational facilities, that is required for improvement.
12.00-13.00 hr.	Lunch break
13.00-14.00 hr.	Visiting team meeting to conclude on exit meeting/statement and other contingencies

Time	Activities
14.00-14.30 hr.	Exit meeting with program chair, program executives; visiting team leader reads exit statement

5.3 Accreditation Reporting

Program evaluator teams meet together with designated TABEE committee member for coordinating program visit and accreditation report to conclude factual findings, weakness, concern, observation, and suggestion for improvement and prepare accreditation report according to prescribed report template.

Program evaluator team chairs and designated TABEE committee member accreditation report meet together with intervenor workgroup to review accreditation report for the conformity and prevention all courses that may lead to conflict of interest and appeal issues.

The program evaluator team leader shall present the reviewed accreditation report during the TABEE Decision Meeting. The list of accreditation results which are approved during the decision meeting is consequently presented for approval during the TABEE committee meeting and COET board meeting.

The program evaluator team may consider program accreditation result as follows;

1) Full accreditation for accreditation cycle of 6 years.

2) Accreditation with requirements for a period not exceeding 3 years. Review report on program improvement is required for program monitoring.

3) Provisional accreditation (for the new program curriculum which does not have program graduate.). The provisional accredited program must submit program self-evaluation report after completing 2 classes of program graduation.

4) Defer accreditation.

5) Decline accreditation or revoke accreditation.

Detail description of accreditation result and conditions are written in format of accreditation result in Chapter 11 Accreditation Result and Reporting.

6. Accreditation Criteria for Academic Year 2019-2024

These accreditation criterions are based on evaluation of program outcomes requires that an educational program acquiring for accreditation of engineering education to submit supporting evidence, document and report, to TABEE for consideration recognition of quality education management and attainment of quality educational component in accordance with TABEE criteria. The accreditation criteria shall be described as following;

6.1 Criterion 1 Students

Quality and professional competence of program graduates are essential components of program outcomes evaluation. An educational program seeking for accreditation is required to have process for assessment of student learning outcomes with adequate student advisory on activities towards his/her profession career development. The program must have

formative and summative assessments and program monitoring throughout the education period to ensure that they have attained both quality and attributes set forth in the curriculum objectives.

An educational program seeking for accreditation must have program control procedures and admission statement for selecting student enrollment or admission of student to the program, the transfer of educational credits from other institutes to the program, and work procedures for program teaching and learning to ensure that the students are able to graduate from the program with the quality and attributes as prescribed by the program.

6.2 Criterion 2 Program Educational Objectives

An educational program seeking for accreditation of engineering education must have a program statement describing the program objectives, of which indicates that graduate of the program should attain expected program outcomes for engineering professional practice in the program discipline.

An educational program seeking for accreditation of engineering program must have the following components;

1) **Curriculum objectives** that have been published and distributed. The curriculum objectives and contents must be corresponding to institutional mission and complying with TABEE criteria.

2) **Process to establish the curriculum objectives** which are corresponding to result of assessment and periodical review of the curriculum. The curriculum objectives set forth by the program should serve societal demand for engineering profession career development from all constituents beneficiary of program outcomes.

3) **Curriculum, program teaching and learning, and program management** that serve to achieve the set forth curriculum objectives and the program outcomes.

4) **Program outcomes assessment and evaluation process** that have been used for reviewing and improvement of curriculum for program students to benefit from quality education.

6.3 Criterion 3 Program Outcomes

This program outcome used as accreditation criteria is a statement indicating that the program graduates are expected to attain knowledge, professional skills and behavioral attributes as they are required in engineering field of professional practice.

The educational program must submit evidence to TABEE; showing linkage between curriculum objectives and program outcomes.

Program outcomes as they are indicated by attributes of program graduates are as following;

1) **Knowledge of Mathematics, Science and Engineering**

Ability to apply knowledge of mathematics, natural science, engineering fundamentals and a specific engineering to conceptualize the engineering models, definitions,

and/or to respectively apply methodologies, processes, and/or engineering systems in the work place.

2) Engineering Problems Analysis

Ability to identify, formulate, research literature review, solve, and analyze complex engineering problems reaching substantiated conclusions using principles of mathematics, natural sciences and engineering sciences.

3) Design and Development Solutions for Complex Engineering

Ability to design and find solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, environmental considerations, and/or professional code of practices.

4) Investigation

Ability to conduct investigations, diagnosis, and evaluation of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

5) Modern Tool Usage

Ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems, with an understanding of the limitations.

6) Individual and Team Work

Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

7) Communication

Communicate effectively with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

8) Society, Environment, Sustainability, and Engineering Profession

Understand and responsible for engineering professional practice to societal and environmental contexts and evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental contexts.

9) Ethics

Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

10) Project Management and Finance

Demonstrate knowledge and understanding of the principles of economic, and engineering management under consideration of risk and uncertainties.

11) Lifelong Learning

Recognize the need for, and have the preparation and ability to engage in independent and life-long learning.

6.4 Criterion 4 Continuous Improvement

The program must regularly use appropriate, documented processes for monitoring, assessing and evaluating program outcomes that students and graduates of the program are attained.

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

6.5 Criterion 5 Curriculum

The curriculum must appropriately specify areas of knowledge contents to serve program educational objectives and required program outcomes for each field of professional practice.

The program curriculum structure must include following areas of knowledge contents.

1) College level mathematics and basics sciences (including experimental experiences) appropriately to the program discipline, with combined educational work load of not less than 30 credits in semester system or equivalent to educational load of one academic year.

2) Basic engineering and specific engineering topics (including experimental experiences) appropriately to the program discipline to provide a bridge between mathematics and basic sciences, and basic engineering for student to appropriately use in engineering design and solving of complex engineering problems according to engineering work requirements, with combined educational work load of not less than 45 credits in semester system or equivalent to educational load of one and a half academic years.

3) General education that complements the technical contents of the curriculum and is consistent with program educational objectives and institutional objectives, with combined educational work load of not less than 30 credits in semester system or equivalent to educational load of one academic year.

The program curriculum must provide engineering practice and engineering projects that allow students to have engineering design experiences and solving complex engineering in the final year of education which allow students to use the knowledge and skills acquired in earlier course work and incorporating appropriate engineering standards and multiple realistic constraints.

6.6 Criterion 6 Faculty

Educational institute must provide adequate number of faculty. The faculty must have the educational qualification with professional competence relevance to the program discipline. The faculty must also provide adequate student advisory relating to students' professional career development and other activities related with professional society and industry.

The program teaching staff must demonstrate, both academic and professional competence, regarding student advisory and student career development including teaching and student evaluation for the continuous quality improvement of teaching to achieve learning outcomes as prescribed in curriculum objectives.

6.7 Criterion 7 Facilities

The educational program must provide continuously support to the program with adequate facilities, including classrooms, laboratories, library, and other supporting infrastructure to accommodate academic environment, academic development, professional activities of student, as well as quality education. The program must continuously stimulate student learning opportunities by provision of modern tools and equipment, information technology and communication network for student and academic staff to serve requirements for academic development and extra-curriculum activities in accordance with curriculum educational objectives.

6.8 Criterion 8 Institutional Support

Institutional support and program leadership must be adequate to ensure the quality and continuity of the program. Institutional financial support provided to the program must be adequate to meet program needs. Resources available to the program must be sufficient to promote, retain, and provide for the continued professional development of a qualified faculty. Resources must be sufficient to acquire, maintain, and operate infrastructures, facilities and equipment appropriate for the program, so that program outcomes can be attained. In addition, the educational institution must provide adequate supporting staff and educational services for program teaching and learning and program management.

7. Schedule

TABEE set up a schedule for program accreditation as shown in table below

No.	Activities	Schedule
1	Educational institution submits requisition for accreditation application with 5 copies of program Self-evaluation.	1st week of August
2	Intervenor workgroup reviews Self-evaluation reports and notifies TABEE to issue acceptance letter for accreditation.	1st week of September
3	Educational institution makes payment to TABEE for accreditation requisition.	4th week of September

No.	Activities	Schedule
4	COET appoints program evaluator teams, designated subcommittee members for coordinating program visits.	October
5	Program evaluator teams, designated subcommittee members for coordinating program visits review Self-evaluation reports; consider issues needed for clarification and request for additional documents from the program.	November – December
6	TABEE notifies program to submit explanation on issues for clarification and supporting documents.	4th week of December
7	Program evaluator teams, designated subcommittee members for coordinating program visits review explanation on clarification issues and additional support documents from the program.	January
8	TABEE notifies appointment schedules for program visit and requests for payment on program visit fee.	4th week of January
9	Educational institution makes payment for program visit fee.	1st week of February
10	Program visit	February– March
11	Program submits requested additional explanation relating to program visit prior to accreditation reporting.	1st week of May
12	Program evaluator team submit accreditation report to intervenor workgroup for report review.	1st week of June
13	Decision meeting	June
14	Notify program for accreditation result, or else rebuttal.	June
15	TABEE approve on accreditation result and suggestion for improvement.	July
16	COET acknowledge TABEE approve on accreditation result.	August
17	COET notify educational institution for the accreditation result and suggestion for improvement.	August

8. Program Curriculum Eligible to Accreditation

Program curriculum eligible to TABEE accreditation is characterized in Section 3.3 as followings;

1) fulltime curriculum
2) new curriculum
3) multi-disciplinary curriculum
4) curriculum with optional courses
5) curriculum with several campus sites

6) curriculum under joint cooperation of educational institutions domestically and with international institutions

The full time curriculum, or equivalent to a curriculum at bachelor degree level that is approved by the educational institutional board, must be or equivalent to 4-years educational program with total credits for graduation between 120-150 credits in semester system according to curriculum specification announced by Office of Higher Education Commission, or other governing office that regulates university education.

The engineering program curriculum must have curriculum structure that includes areas of knowledge contents and application of; college level basic sciences and mathematics, basic engineering and specific engineering topics for engineering design and solving of complex engineering problems sufficiently for engineering professional practice. The program curriculum must provide engineering practice and engineering projects that allow students to have engineering design experiences and solving complex engineering in the fourth year of education which allow students to use the knowledge and skills acquired in earlier course work and incorporating appropriate engineering standards under constraints of the professional practice.

The outcomes based program curriculum must emphasis on program outcomes according to prescribed TABEE criteria and must have full time students studying in all program classes with at least 2 classes of program graduates.

9. Application, Documentation, and Preparation Prior to Program Visit

An educational institution applying for program accreditation should summit requisition letter for program accreditation together with 5 copies of program Self-evaluation report and supporting documents to COET according to accreditation schedule described within this document or according to COET announcement on changing of the schedule.

In case that the program Self-evaluation report does not follow report template, insufficient quality or lack of required contents and support documents as they are described in this document, TABEE shall notify rejection of accreditation application to the educational institution and the educational institution should re-submit application for program accreditation with revised program Self-evaluation report for the next academic year.

The educational institution should submit additional support documents requested by COET in time according to the schedule. In case of delay submission of document in due time, the program evaluator team may consider postponing or cancelling the program visit accordingly.

The educational program should carry out readiness review prior to Self-evaluation reporting and program visit as following;

1) Review the TABEE prescribed accreditation requirements and criteria for the accreditation cycle year as they are specified in "Rule and Procedure for Accreditation of Engineering Education" and establishes essential educational quality work processes for achievement of curriculum objectives and program outcomes.

2) Review and examine effectiveness of quality processes which lead to continuous quality improvement.

3) Documentation and data collecting; program management plans, minute of meetings, operational guidelines, work reports, assessment and survey reports relating to program outcomes, and including student survey, alumni survey, and stakeholder survey reports. The document and filings must be prepared for document review and program evaluation.

4) Prepare 5 copies of Self-evaluation report and data disc together with support documents for the program accreditation and submits to TABEE according to accreditation schedule.

5) During the program visit, the educational program must comprehensively prepare all program course files (course portfolio) containing; course syllabus, course teaching plan, knowledge content, teaching note, references, home works, problems, assignments, study reports, course evaluation, examples of examination paper, and examples graded examination answer sheets. The document must be ready for program evaluator team to cross- check various program course learning outcomes and the program outcomes.

6) During program supporting laboratory visit, the educational program must provide, for evaluator cross-checking the evident and document support to demonstrate the usage and maintenance of laboratory equipment containing; name of responsible staff, laboratory equipment work schedule, laboratory and equipment instruction manual, safety manual, list of experiment and instruction, experiment problems, example of experiment.

7) Program must provide written explanation to all questions from evaluator.

The program evaluation team shall evaluate program outcomes and effectiveness program quality management according to the program evaluation checklist based on; program Self-evaluation report, support documents and referenced program quality evaluation reports, program reference documents, reports and program data recordings.

10. Accreditation Administration

TABEE secretariat office is responsible as administrative work of program accreditation. The office shall coordinate among program evaluator teams and the educational programs for appointment, meeting, document filing, and report forms to ensure transparency and achievement of program accreditation according to accreditation schedule.

11. Accreditation Result and Reporting

Each program evaluator team shall meet with related designated subcommittee for program visit and reporting according to Section 5.3 Accreditation Reporting.

The program accreditation results are listed as follows;

1) Full accreditation for accreditation cycle of 6 years.

2) Accreditation with requirements for a period not exceeding 3 years. Review report on program improvement is required for program monitoring.

3) Provisional accreditation (For the new program curriculum which does not have program graduate.). The provisional accredited program must submit program self-evaluation report after completing 2 classes of program graduation.

4) Defer accreditation

5) Decline accreditation or revoke accreditation

Detailed description of accreditation result and conditions is tabulated in accreditation result table as followings.

Accreditation Result Table	
Accreditation Status	Full accreditation
Period	6 years
Requirements	None
Findings	All accreditation criteria met, may have suggestions
Program Reporting Obligations	Interim report (after 3 years) on improvement and significant development
TABEE Follow-up Review	TABEE committee review interim report.
Expected Outcome Of Follow-up Review	No change to accreditation status, unless there are the major program changes in program objectives and program outcomes.

Accreditation Result Table	
Accreditation Status	Accreditation with requirements
Period	Not more than 3 years (1-3 years depending on time requirement for improvement to be addressed)

Requirements	1. Evaluator team or 1 selected evaluator reviews Self-review report and supporting documents showing requirements have been met.
	2. Report review may include,
	  1) Program visit and/or,
	  2) Follow-up review report for demonstration that requirements have been met and/or,
	  3) Program executive meeting for demonstration of program improvement on the requirements.

Findings	One or more accreditation criteria are not met, need suggest on improvement.
Program Reporting Obligations	Self-review report and supporting documents showing requirements have been met.
TABEE Follow-up Review	Program evaluator team reviews follow-up report according to requirements and report to TABEE committee for revise of accreditation result.

Accreditation Result Table	
Expected Outcome Of Follow-up Review	1. Upon completing requirements, TABEE may revise accreditation status to be 6 years from previous full program evaluation. 2. If requirements not met, TABEE may consider either defer accreditation, decline accreditation or revoke accreditation.

Accreditation Result Table	
Accreditation Status	Provisional accreditation
Period	Not more than 3 years
Requirements	N/A
Findings	1. New curriculum offered not less than 3 years and do not have program graduates 2. Development of the program outcomes is undertaken and it is likely that program can satisfy accreditation requirements by the time student graduates. 3. Evaluator team may have suggestions for improvement.
Program Reporting Obligations	N/A
TABEE Follow-up Review	N/A
Expected Outcome Of Follow-up Review	Program prepares Self-evaluation report and apply for accreditation upon completing 2 graduation classes

Accreditation Result Table	
Accreditation Status	Defer accreditation
Period	1 year
Requirements	N/A
Findings	1. One or more accreditation criteria are not met (deficiency), requires suggest on improvement 2. Do not have assessment of program outcomes, do not have or cannot confirm program outcomes (graduate attributes) on course portfolio
Program Reporting Obligations	Revise Self-evaluation report and supporting documents and improve on weaknesses.
TABEE Follow-up Review	Same program evaluator team carries out follow up review and re-program visit.
Expected Outcome Of Follow-up Review	TABEE may consider either decline accreditation or revoke accreditation or award accreditation.

Accreditation Result Table	
Accreditation Status	Decline accreditation or revoke accreditation
Period	Requires at least 2 years for improvement. Need re-application for accreditation and submission of self-evaluation report
Requirements	N/A
Findings	1. Do not have assessment of program outcomes, do not have or cannot confirm program outcomes (graduate attributes) on course portfolio. 2. Program outcomes do not match accreditation criteria. 3. Cannot improve on program deficiency after defer accreditation.
Program Reporting Obligations	N/A
TABEE Follow-up Review	N/A
Expected Outcome Of Follow-up Review	N/A

12. Appeal

An educational program that is considered declined or revoked accreditation, may appeal for the reconsideration of accreditation result by filing an appeal request with factual document to TABEE within 30 days from the stamped receiving date of accreditation result letter.

TABEE as a subcommittee shall review the appeal request by considering the additional factual documents submitted by the educational program within 60 days from the stamped date of receiving appeal request. The decision on the appealed accreditation result is considered final.

13. Publicity of Accredited Program

The TABEE secretariat office is responsible for registration TABEE accredited program. The list of accredited engineering programs shall be published on the Council of Engineers Thailand website at www.coe.or.th

14. Assistance to Educational Institution

An educational institution seeking for the Council of Engineers Thailand for assistance or advisory on development of new program curriculum or improvement of program curriculum prior to application for program accreditation, may request TABEE suggestion for professional advisor who has experiences in program accreditation to participate in program advisory panel. The nominated professional advisor by TABEE may review, comment or report to the program indicating program quality management and readiness of the program for accreditation.

The educational institution is expectedly shall be responsible for all costs associated with advisory reports and arrangements relating to the activity of nominated advisor from the Council of Engineers Thailand.

The TABEE nominated advisor on advisory panel may not be an evaluator, or serve on TABEE committee member, or workgroup relating to program accreditation.

The advisory report and guidance made by nominated advisor shall not be taken as assurance or reference for that program during the TABEE program accreditation.

TABEE does not recommend that TABEE nominated advisor be appointed as a member of industrial advisory board that may influence the program management and consequentially may lead to conflict of interest. However, TABEE may otherwise nominate professional practitioner from related industry or from related professional society that may be benefit to the program management.

15. List of Accreditation Documents

No.	Document	Used by
1	Rule And Procedure For Accreditation Of Engineering Education	educational institution, COET, TABEE committee, workgroup, program evaluator team
2	Template for Self-evaluation Report	Educational institution
3	Program Evaluation Checklist	Program evaluator team
4	Request Form for Program Clarification and Additional Document	Program evaluator team for preliminary document review
5	Appointment Form for Program Visit	Program evaluator team for program visit
6	Template for Accreditation Report	Program evaluator team for accreditation reporting

16. Attachment

1. Definition and Terms
2. Template for Program Self-evaluation Report
3. Checklist for Program Evaluation
4. Template for Accreditation Report
5. Description of Knowledge Contents for Basic Engineering and Specific Engineering
6. Council of Engineers Rule for Accreditation of Engineering Education 2017

Attachment 1

Definitions and Terms

Attachment 1 Term and Definitions
(Revised date: May 28, 2019)

#	Terms	Explanation
1	Engineering program accreditation	An evaluation process on quality of educational program outcomes and effectiveness of program management that the Council of Engineers Thailand carries out for educational institutions in Thailand upon request for program accreditation, to confirm that graduate of the engineering program has adequately attained graduate attributes required in engineering professional practice.
2	Engineering program	The engineering program includes program curriculum, curriculum structure, program courses, program management, faculty, teaching assistance, laboratory instructor, supporting staff, teaching and learning infrastructure, and the use of program resources to attain the program graduate attributes according to prescribed curriculum objectives.
3	Accreditation result	The consideration of TABEE committee given to an educational program and/or academic institution. The result of accreditation includes; full accreditation, accreditation with requirements, provisional accreditation, defer accreditation, decline accreditation or revoke accreditation.
4	Program evaluator team, program evaluator panel	A team of academia and engineering professional practitioner that have been accepted by an educational program to evaluate program outcomes and program quality management and prepare accreditation report according to accreditation criteria and report template for the accreditation of engineering educational program.
5	Assessment, Evaluation	A process of systematic monitoring and evaluation of program management includes review of work processes, operational documents, teaching documents, exercise, examination papers, teaching evaluation and reports, for consideration of program management quality, whether or not the program has attained curriculum objectives, program outcomes and continuous improvement.

#	Terms	Explanation
6	Graduate attributes	Educational program outcomes, that specify scope of knowledge, professional competence and skill, attitude and behavior of program graduates that are required for engineering professional practice.
7	Learning outcome	Outcomes that students are expected to attain from studying the program courses. The learning outcomes should conform to behavioral objectives described in course syllabus. The learning outcomes combining the extra-curriculum activities should assist students to attain program graduate attributes.
8	Self-evaluation report, self-assessment report	A documental report which an educational program seeking for accreditation has prepared and combining with factual documents according to prescribed self-evaluation report template and submit to TABEE secretariat office for the use of program evaluation. The report shows work system and quality of educational program management, learning outcomes, monitoring and assessment of the program outcomes to achieve curriculum objectives and program graduate attributes in accordance with prescribed accreditation criteria.
9	Accreditation cycle	A 6-year period of accreditation cycle. Upon completing of accreditation period, The program must request for accreditation of the next accreditation cycle according to the prescribed accreditation criteria of the next accreditation cycle.
10	Course portfolio	Program course files containing; course syllabus, course teaching plan, knowledge content, teaching note, references, home works, problems, assignments, study reports, course evaluation, examples of examination paper, and examples graded examination answer sheets.
11	Quality cycle	The Deming Cycle: Plan – Do – Check – Act; process and operational planning on activities and projects; review and assessment of activities and project outcomes; and using that of activities or projects outcome assessment requirements for correction used for continuous quality improvement.

#	Terms	Explanation
12	Program visit, site visit, on site visit	The program evaluation requires a program evaluator team to evaluate the educational program quality at program location to review classroom, the use of educational resources, academic environment, and to interview faculty, supporting staff and students to confirm the quality of education management as described in the self-evaluation report. The team of 3 program evaluators , consisting of academia and engineering professional practitioner relating to the program field of specialization, shall carry the program visit according to prescribed schedule.
13	Observer	External/ invited guests to monitor on program evaluator team during the program visit. Observer is not allowed to participate in questioning, or make comment, or participate in team decision during the program visit.
14	Complex engineering problem	Engineering problems which cannot be resolved without in-depth engineering knowledge, much of which is at, or informed by, the forefront of the professional discipline, and have some or all of the following characteristics: 1. Involve wide-ranging or conflicting technical, engineering and other issues. 2. Have no obvious solution and require abstract thinking, originality in analysis to formulate suitable models. 3. Requires research-based knowledge much of which is at, or informed by, the forefront of the professional discipline and which allows a fundamentals-based, first principles analytical approach. 4. Involve infrequently encountered issues. 5. Are outside problems encompassed by standards and codes of practice for professional engineering. 6. Involve diverse groups of stakeholders with widely varying needs. 7. Have significant consequences in a range of contexts. 8. Are high level problems including many component parts or sub-problems. (by IEA GA and Professional Competencies)

#	Terms	Explanation
15	Complex engineering activities	Complex activities mean (engineering) activities or projects that have some or all of the following characteristics: 1. Involve the use of diverse resources (and for this purpose resources includes people, money, equipment, materials, information and technologies). 2. Require resolution of significant problems arising from interactions between wide-ranging or conflicting technical, engineering or other issues, 3. Involve creative use of engineering principles and research-based knowledge in novel ways. 4. Have significant consequences in a range of contexts, characterized by difficulty of prediction and mitigation. 5. Can extend beyond previous experiences by applying principles-based approaches. (by IEA GA and Professional Competencies)
16	Broadly-Defined Problems	Engineering problems which cannot be pursued without a coherent and detailed knowledge of defined aspects of a professional discipline with a strong emphasis on the application of developed technology, and have the following characteristics: 1. Involve a variety of factors which may impose conflicting constraints. 2. Can be solved by application of well-proven analysis techniques. 3. Requires a detailed knowledge of principles and applied procedures and methodologies in defined aspects of a professional discipline with a strong emphasis on the application of developed technology and the attainment of know-how, often within a multidisciplinary engineering environment. 4. Belong to families of familiar problems which are solved in well-accepted ways. 5. May be partially outside those encompassed by standards or codes of practice. 6. Involve several groups of stakeholders with differing and occasionally conflicting needs. 7. Have consequences which are important locally, but may extend more widely.

#	Terms	Explanation
		8. Are parts of, or systems within complex engineering problems. (by IEA GA and Professional Competencies)
17	Broadly-defined Activities	Broadly defined activities means (engineering) activities or projects that have some or all of the following characteristics: 1. Involve a variety of resources (and for this purposes resources includes people, money, equipment, materials, information and technologies). 2. Require resolution of occasional interactions between technical, engineering and other issues, of which few are conflicting. 3. Involve the use of new materials, techniques or processes in non-standard ways. 4. Have reasonably predictable consequences that are most important locally, but may extend more widely. 5. Require a knowledge of normal operating procedures and processes. (by IEA GA and Professional Competencies)
18	Basic Sciences	Study of natural system and phenomena, based on systematically study of proven discovery, factual findings, and experimentation of lives and substances. Basic sciences can be categorized as physical science, biological science, and social science.
19	Mathematics	Knowledge, study, learning includes the study of such topics as quantity, structure, space and change. Mathematics seek and use pattern to formulate new conjectures, they resolve the truth or falsity of conjectures by mathematical proof. Mathematics is a tool in study of sciences and engineering.

Attachment 2

Template for Programme Self-Evaluation Report

(Translated Document)

Template for Programme Self-Evaluation Report

Document For

Application of Accreditation of Engineering Programme

Accreditation Cycle

Academic year 2019 – 2024

Prepared by

The Council of Engineers Thailand

487/1, Soi Ramkhamhaeng 39 (Thepleela 1),

Ramkhamhaeng Road, Wangthonglang District, Bangkok 13010.

Tel: +66 2 021 4747, Fax +66 2 935 6695

Website: http://www.coe.or.th

General Instruction

1. Guidelines for programme self-evaluation report are developed to assist the programme seeking for accreditation to use as a template for the self-evaluation report writing which is required by TABEE.

2. Name of the programme which is printed on the report cover page must be the same name approved for the programme degree and the same name that is given in an academic transcript and in the programme published bulletin.

3. In the case that vocabulary used in self-evaluation report differs from the vocabulary used by the educational institute, terms and definitions should be clarified for understanding.

4. In case that curriculum tables and information are changed from tables and information given in the report, footnote or remarks of the table must be given for explanation.

5. The symbol "{word}" indicates that the programme is required to prepare relevance statement or explanation replacing the symbol "{word}" on the programme report template.

6. The explanation given on the report headings is printed in italic font.

The educational programme applying for accreditation must submit 5 copies of the programme self-evaluation report together with supporting documents, a copy of data disc and a requisition letter for accreditation of engineering educational programme to TABEE, Council of Engineers at the address given below.

Thailand Accreditation Board of Engineering Education
Council of Engineers Thailand

487/1, Soi Ramkhamhaeng 39 (Thepleela 1),
Ramkhamhaeng Road, Wangthonglang District, Bangkok 13010.
Tel: +66 2 021 4747, Fax +66 2 935 6695

Supporting document for the self-evaluation report consists of

1. Programme curriculum document approved by the board of the educational institution.
2. Publicized programme curriculum or the general institution catalog covering course details and other institutional information applicable at the time of the review.
3. Official academic transcripts of recent graduates (1-2 years) and checklist completion of programme graduation. The transcript must be accompanied by the programme requirements for graduation and worksheets that the programme uses to show how the graduate has fulfilled programme requirements.
4. Supporting documents attached to the self-evaluation report.

Confidentiality Statement

The programme self-evaluation report together with supporting documents used in programme evaluation for TABEE accreditation is confidential. They are not allowed for public disclosure without written permission from the educational programme, except tables and data of general information that do not specifically refer to programme name or education institution.

Template for Programme Self-Evaluation Report

The programme may prepare self-evaluation report using report headings, tables, figures and data according to description given in the template as following;

Programme Self-Evaluation Report

For
Accreditation Cycle
Academic Year 2019 - 2024

Submitted to

Thailand Accreditation Board of Engineering Education (TABEE)
Council of Engineers Thailand

For
Accreditation of Engineering Programme

{Programme Name}

{Programme Discipline/ Major}

{University Name}

{Address}

{Date}

Confidentiality Statement

The programme self-evaluation report together with supporting documents used in programme evaluation for TABEE accreditation is confidential. They are not allowed for public disclosure without written permission from the educational programme, except tables and data of general information that do not specifically refer to programme name or education institution.

TABLE OF CONTENTS

Programme Self-Evaluation Report

{Programme Name}
{Programme Discipline/ Major}
{Degree Name}
{University Name}

Part 1. General Information

1. Programme Name

Specify programme name and engineering discipline/ major of the educational programme which offers to students correspondingly both in Thai and in English.

2. Degree Name and Programme Discipline

Specify full degree name and degree abbreviation correspondingly both in Thai and in English in accordance with university's regulation of which conforms to Education Ministerial Regulation on Educational Degree Name.

3. Programme Discipline or Programme Major Requesting for Accreditation

Specify programme discipline or programme field, branch or major or even for multidiscipline area that the programme request for accreditation.

4. Name of Responsible Staff and Contact Address

Specify name of responsible staff, address, telephone number, fax number and e-mail address for the TABEE to contact and communicate for programme visit such as Dean, Department Head and Programme Chair according to the table given below.

No.	Name	Position	Telephone	e-mail

5. Programme History

Specify when the programme was started and briefly describe list of curriculum changes and revisions by highlighting on modification that has taken place after the previous programme

evaluation. Please also indicate the university board approval date on the programme requesting for accreditation. In case that the programme has been accredited or evaluated for quality education, please specify name of organization and the date of accreditation.

6. Cooperation with other organization/ industries/or other educational Institution

Specify whether the programme requesting for accreditation is directly responsible for programme teaching or else the programme is cooperative programme between educational institution and other organization/ industry or another educational institution. Name of cooperative organization/ educational institution.

7. Campus location

Describe clearly where the programme courses and classrooms are held. In case of having cross-campus programme or having classroom arrangement in another campus, list all the campus locations that offer the programme courses and clearly indicate which programme campus is requesting for accreditation.

8. Public Disclosure

Provide information concerning all the places; where the programme objective, expected learning outcomes, programme outcomes, annual student enrollment and graduation data are posted or made accessible to the public. For information posted on the Web, please provide the URLs.

9. Summary and Suggestion(s) for Improvement from Previous Evaluation(s) and Report on Actions Taken for improvement.

Summarize issues and suggestion for improvement from previous accreditation report including; weaknesses, concerns, observations, and suggestions for improvement. Describe the actions taken for the programme improvement, including effective dates of actions. If this is an initial accreditation, please also note so.

Part 2. Criterion 1 Students

1. Criteria for Student Admission to The Programme

Explain criteria and method for student admission into the programme and admission plan for such different criteria. Plan to improve admission criteria to obtain student to match such programme requirement.

2. Evaluating Student Performance

Summarize the process by which student performance is evaluated and monitored for attainment of programme outcomes and student learning outcomes. Information on result of the student evaluation and monitoring of outcomes should be included with exemplar document and reports.

3. Student Transfer and Course Credit Transfer

In case of student transfer, summarize the requirements and process for accepting transfer students and transfer course credit from other institution.

4. Advising and Guidance Relating to Professional Activities

Summarize the process for academic advising and providing guidance to students relating to professional activity and practice. Include information on how often students are advised, who provides the advising (programme faculty, departmental, college or university advisor). The programme may also demonstrate number of student per advisor, table showing activity and participation of student in that activity including exemplar document.

5. Credit Transfer for joint academic programme between educational institution and another organization

Summarize the requirements and process for awarding/transfer credit for study in other institution or another organisation; including professional practicing, training, student exchanging programme, etc. domestically or overseas under joint cooperative project.

6. Graduation Requirements

Summarize the graduation requirements for the programme and the process for ensuring and documenting that each graduate completes all graduation requirements for the programme.

7. Transcripts of Recent Graduates

The programme will provide academic transcripts from some of the most recent graduates for each programme options or tracks along with any needed explanation of how the transcripts are to be interpreted. (These exemplar transcripts should be submitted to programme evaluator team leader separately from the self-evaluation report.)

Part. 3 Criterion 2 Programme Educational Objectives

1. Institutional Mission

Provide the institutional mission statement.

2. Programme Educational Objectives

List the programme educational objectives and state where these can be found by the general public.

3. Consistency of the Programme Educational Objectives with the Mission of the Institution

Describe how the programme educational objectives are consistent with the mission of the institution which emphasis attainment of the educational outcomes.

4. Programme Constituencies

List the programme constituencies. Describe how the programme educational objectives meet the needs of these constituencies.

5. Process for Review of the Programme Educational Objectives

Describe the process that periodically reviews the programme educational objectives including how the programme's various constituencies are involved in this process. Describe how this process is systematically utilized to ensure that the programme's educational objectives remain consistent with the institutional mission and the programme constituents' needs.

Part 4. Criterion 3 Programme Outcomes

1. Programme Outcomes

List the programme outcomes or student outcomes for the programme and indicate where the programme outcomes or student outcomes are documented. If the programme outcomes or student outcomes are stated differently than those listed in Criterion 3, provide a mapping of the programme outcomes to the programme outcomes or student outcomes listed in Criterion 3.

2. Relationship of Programme Outcomes to Programme Educational Objectives

Describe how the programme outcomes or student outcomes for the programme prepare graduates to attain the programme educational objectives.

Part 5. Criterion 4 Continuous Improvement

1. Programme Outcomes

It is recommended that a table may be used to present the following information:

1) *A listing and description of the assessment processes used to gather the data upon which the evaluation of each programme outcomes or student outcome of the programme is based. Examples of data collection processes may include, but are not limited to, specific exam questions, student portfolios, internally developed assessment exams, engineering project or senior project presentations, review exams by other agencies, oral exams, focus groups, industrial advisory committee meetings, or other processes that are relevant and appropriate to the programme.*

2) *The frequency with which these assessment processes are carried out*

3) *The expected level of attainment for each of the student outcomes*

4) *Summaries of the results of the evaluation process and an analysis illustrating the extent to which each of the student outcomes is being attained*

5) *How the results are documented and maintained?*

2. Continuous Improvement

Describe how the results of evaluation processes for the student outcomes and any other available information have been systematically used as input in the continuous improvement of the programme. Describe the results of any changes in those cases where re-assessment of the results has been completed. Indicate any significant future programme improvement plans based upon recent evaluations. Provide a brief rationale for each of these planned changes.

3. Additional Information

Copies of any of the assessment instruments or materials referenced in criterion 4 must be available for review at the time of the programme visit. Other information such as minutes from meetings where the assessment results were evaluated and where recommendations for action were made could also be included.

Part 6. Criterion 5 Curriculum

1. **Programme Curriculum**

   1. *Complete Table 5-1 that describes the plan of study for students in this programme including information on curricular structure, knowledge contents, course and credit offerings in the form of a recommended study plan by year and semester along with maximum section enrollments for all courses in the programme. If there is more than one curricular track or option for a programme, a separate Table 5-1 should be provided for each track or option. State whether the institution operates on quarters or semesters.*

   2. *Describe how the curriculum aligns with the programme educational objectives.*

   3. *Describe how the curriculum and its associated prerequisite structure support the attainment of the student outcomes. The prerequisite structure of the programme's required courses It should be illustrated in Table 5.2.*

   4. *Describe how the programme meets the requirements in terms of hours and depth of study for each subject area (Math and Basic Sciences, Engineering Topics, and General Education).*

   5. *Describe how the curriculum handle the major design experience and solving of complex engineering problem that prepares students for engineering practice using the knowledge and skills acquired in earlier coursework and incorporates with appropriate engineering standards and work constraints (Capstone design course).*

   6. *If the programme allows cooperative education to satisfy curricular requirements specifically addressed by either the general or programme criteria, describe the academic component of this experience and how it is evaluated by the faculty.*

   7. *Describe the course materials (course portfolio), that will be available for review during the programme visit to demonstrate achievement of programme teaching and learning.*

2. **Course Syllabus**

In Attachment 2 of the Self-Study Report, include a syllabus for each course used to satisfy the mathematics, science, and specific engineering requirements required by Criterion 5 or by any applicable programme criteria.

Table 5-1 Curriculum
Programme Name/ Option

Course (Course Code, Title) *List all courses in the programme by semester starting with the first semester of the first year and ending with the last semster of the final year.*	Indicate Whether Course is - Compulsory (C), - Approved Elective (A), - Free Elective (F)	Credit Hours			
		Basic Sciences & Math	Basic Engineering and Specific Engineering	General Education	Other
1st Semester					
Course code, Title					
2nd Semester					
Course code, Title					
3rd Semester					
Course code, Title					
4th Semester					
Course code, Title					
5th Semester					
Course code, Title					
6th Semester					
Course code, Title					
7th Semester					
Course code, Title					
8th Semester					
Course code, Title					
Total Credit Hours for Graduation					
Ratio of Credit Hours to Total Credit Hours					
TABEE Basic Requirements for Total Credit Hours	120	30	45	30	

Description of Course Code:

Exemplar of Table 5.2
Programme Name/ Option

Programme Outcomes	Programme Courses							
	1st Year		2nd Year		3rd Year		4th Year	
	1st Semester	2nd Semester	3rd Semester	4th Semester	5th Semester	6th Semester	7th Semester	8th Semester
Programme Outcome 1								
Programme Outcome 2								
Programme Outcome 3								
Programme Outcome 4								
Programme Outcome 5								
Programme Outcome 6-11								

Part 7. Criterion 6 Faculty

Illustrated in Attachment 3. Describe faculty qualifications including published papers, professional experiences and cooperative activity with professional society and industry.

1. **Faculty Qualifications**

   1) **Fulltime Faculty**

Complete Table 6.1.1, List of full time faculty of the programme who is responsible for programme management, teaching, academic services, and advising.

Exemplar Table 6.1.1 Fulltime Faculty

No.	Academic Rank	Name	Degree	Field of Study	Year	Experiences (Year)

   2) **Part Time Faculty**

Complete Table 6.1.2, List part time faculty who is responsible for programme teaching.

Tale 6.1.2 Part Time Faculty

No.	Academic Rank	Name	Degree	Field of Study	Year	Experiences (Year)

2. Faculty Workload

Complete Table 6-2, Faculty Workload Summary and describe this information in terms of workload expectations or requirements.

Table 6.2 Faculty Workload

No.	Academic Rank	Name	FT or PT	Programme Course	Load Hours/week			
					Admin	Teaching	Prof. Practice	Advising

3. Faculty Size

Discuss the adequacy of the size of the faculty and describe the extent and quality of faculty involvement in interactions with students, student advising and counseling, university service activities, professional development, and interactions with industrial and professional practitioners including employers of students.

4. Professional Development

Provide detailed descriptions of professional development activities for each faculty member.

5. Authority and Responsibility of Faculty

Describe the role played by the faculty with respect to course creation, modification, and evaluation, their role in the definition and revision of programme educational objectives, student learning outcomes and programme outcomes, and their role in the attainment of the programme outcomes or student outcomes. Describe the roles of others on campus, e.g., dean or institutional executives, programme chair or programme executives with respect to these areas.

Part 8. Criterion 7 Facilities

1. **Offices, Classrooms and Laboratories**

Summarize each of the programme's facilities in terms of their ability to support the attainment of the programme outcomes and to provide an atmosphere conductive to learning.

Laboratory facilities including those containing computers and software, the associated tools, and equipment that support teaching and learning, safety device and accessories used in the laboratory and instruction. Complete Attachment 4 of self-evaluation report containing a listing of the major pieces of laboratory equipment used by the programme in support of teaching and learning.

2. **Learning Center and IT System**

Describe and list computing resources, information technology system (workstations, servers, storage, networks including software) which are used by student of the programme. Include a discussion of the accessibility of university-wide computing resources available to all students via various locations such as student housing, library, student union, off-campus, etc. State the hours the various learning centers are open to students. Assess the adequacy of these facilities to support the scholarly and professional activities of the students and faculty in the programme.

3. **Guidance**

Describe how students in the programme are provided appropriate guidance regarding the use of the tools, equipment, computing resources, and laboratories.

4. **Maintenance and Upgrading of Facilities**

Describe the policies and procedures for maintaining and upgrading the tools, equipment, computing resources, and laboratories used by students and faculty in the programme.

5. **Library Services**

Describe and evaluate the capability of the library (or libraries) to serve the programme including the adequacy of the library's technical collection relative to the needs of the programme and the faculty, the adequacy of inter-library loan and book order or subscriptions, and any other library services relevant to the needs of the programme.

6. **Overall Comments on Facilities**

Describe how the programme ensures the facilities, tools, and equipment used in the programme are kept up for their intended purposes.

Part 9   Criterion 8 Institutional Support

1. Programme Leadership

Describe the leadership of the programme and discuss its adequacy to ensure the quality and continuity of the programme and how the leadership is involved in decisions that affect the programme.

2. Programme Budget and Financial Support

1) *Describe the process used to establish the programme's budget and provide evidence of continuity of institutional support for the programme. Include the sources of financial support including both permanent (recurring) and temporary (one-time) funds.*

2) *Describe how teaching is supported by the institution in terms of graders, teaching assistants, teaching workshops, etc.*

3) *To the extent not described above, describe how resources are provided to acquire, maintain, and upgrade the infrastructures, facilities, and equipment used in the programme.*

4) *Assess the adequacy of the resources described in this section with respect to the students in the programme being able to attain the student outcomes.*

3. Staffing

Describe the adequacy of the staff (administrative, instructional, and technical) and institutional services provided to the programme. Discuss methods used to retain and train staff.

4. Faculty Hiring and Retention

1) *Describe the process for hiring of new faculty.*

2) *Describe strategies used to retain current qualified faculty*

5. Support of Faculty Professional Development

Describe the adequacy of support for faculty professional development, how such activities such as sabbaticals, travel, workshops, seminars, etc., are planned and supported.

Part 10.   Programme Criteria

Describe how the programme satisfies any applicable programme criteria. If already covered elsewhere in the self-evaluation report, provide appropriate references.

Part11. Attachments

Attachment 1   Programme Curriculum

A copy of outcome based programme curriculum, approved by university board or institutional council.

Attachment 2   Programme Course Syllabus

Containing all course syllabus of the programme, demonstrating alignments of course learning outcomes and programme outcomes.

Attachment 3   Faculty Qualifications

Containing Faculty CV, list of published papers, academic services, professional development activities, professional experience, professional license, member of professional society.

Attachment 4   Classrooms, Library, Equipment and Laboratory

Containing a listing and brief description of the major pieces of laboratory equipment used by the programme in support of teaching and learning.

Attachment 5   Institutional Information

Brief information on educational institution and academic servicing units relating to teaching and learning and faculty development such as

- *Institutional administration system*
- *Registrar and evaluation system*
- *Library service*
- *Student internship and job placement*
- *Student cooperative center*
- *Information technology and computer network service center*
- *Equipment center*
- *Number of student enrollment and number of student on campus*
- *Number of faculty in the institution*
- *Number of supporting staff in the institution*

_____

Attachment 3

Checklist for Program Evaluation

Checklist for Program Evaluation

Institution Name	
Program Name	
Designated TABEE Subcommittee for Program Visit Name	
Program Evaluator Team Leader Name	
1st Program Evaluator Name	
2nd Program Evaluator Name	
Coordinating Staff Name	
Program Visit Date	

Symbols used for program evaluation

Symbol	Description
D	Deficiency
W	Weakness
C	Concern
R	Issue has been resolved

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 1 Students					
1. Criteria for Student Admission to the Program *- Appropriate Admission plan for different criteria and methods* *- Have assessment on program admission for different criteria and plan to improve admission criteria.*					
2. Evaluating Student Performance *- Process by which student performance is evaluated and monitored for attainment of program outcomes and student learning outcomes.* *- Information on result of the student evaluation and monitoring of outcomes should be included.*					
3. Student Transfer and Course Credit Transfer *- The requirements and process for accepting transfer students and transfer course credit from other institution.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 1 Students					
4. Advising and Guidance Relating to Professional Activities *- Adequate academic advising and providing guidance to students relating to professional activity and practice.*					
5. Credit Transfer for joint academic program between educational institution and another organisation *- Requirements and process for awarding/transfer credit for study in other institution or another organisation; including professional practicing, training, student exchanging program*.					
6. Graduation Requirements *- The graduation requirements for the program and the process for ensuring and documenting that each graduate completes all graduation requirements for the program are illustrated.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 1 Students					
7. Transcripts of Recent Graduates *- Academic transcripts from some of the most recent graduates for each program options or tracks along with any needed explanation of how the transcripts are to be interpreted. (These exemplar transcripts should be submitted to program evaluator team leader separately from the self-evaluation report.)*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 2 Program Educational Objectives					
1. Institutional Mission *- State the institutional mission statement*					
2. Program Educational Objectives *- List the program educational objectives and program outcomes.* *- Display published documents and website.*					
3.Consistency of the Program Educational Objectives with the Mission of the Institution *- Program educational objectives are consistent with the mission of the institution which emphasis attainment of the educational outcomes.*					
4. Program Constituencies *- Program educational objectives meet the needs of these constituencies.*					
5. Process for Review of the Program Educational Objectives					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 2 Program Educational Objectives					
- The process that periodically reviews the program educational objectives including how the program's various constituencies are involved in this process. *- The process is systematically utilized to ensure that the program's educational objectives remain consistent with the institutional mission and the program constituents' needs.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 3 Program Outcomes					
1. Program Outcomes *- List the program outcomes or student outcomes for the program and indicate where the program outcomes or student outcomes are documented.* *- If the program outcomes or student outcomes are stated differently, provide a mapping of the program outcomes to the program outcomes or student outcomes.*					
1. Knowledge of Mathematics, Science and Engineering *- Ability to apply knowledge of mathematics, natural science, engineering fundamentals and a specific engineering to conceptualize the engineering models, definitions, and/or to respectively apply methodologies, processes, and/or engineering systems in the work place.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 3 Program Outcomes					
2. Engineering Problems Analysis *- Ability to identify, formulate, research literature review, solve, and analyze complex engineering problems reaching substantiated conclusions using principles of mathematics, natural sciences and engineering sciences.*					
3. Design and Development Solutions for Complex Engineering *- Ability to design and find solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, environmental considerations, and/or professional code of practices.*					
4. Investigation *- Ability to conduct investigations,*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 3 Program Outcomes					
diagnosis, and evaluation of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.					
5. Modern Tool Usage - *Ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems, with an understanding of the limitations.*					
6. Individual and Team Work - *Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.*					
7. Communication - *Communicate effectively with the*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 3 Program Outcomes					
engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.					
8. Society, Environment, Sustainability, and Engineering Profession - *Understand and responsible for engineering professional practice to societal and environmental contexts and evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental contexts.*					
9. Ethics - *Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 3 Program Outcomes					
10. Project Management and Finance - *Demonstrate knowledge and understanding of the principles of economic and engineering management under consideration of risk and uncertainties.*					
11. Lifelong Learning - *Recognize the need for, and have the preparation and ability to engage in independent and life-long learning.*					
2. Relationship of Program Outcomes to Program Educational Objectives - *Describe how the program outcomes or student outcomes for the program prepare graduates to attain the program educational objectives.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 4 Continuous Improvement					
1. Program Outcomes *- Listing and description of the assessment processes used to gather the data upon which the evaluation of each program outcomes or student outcome of the program is based, including frequency with which these assessment processes are carried out* *- The expected level of attainment for each of the student outcomes* *- Summary of the results of the evaluation process and an analysis illustrating the extent to which each of the student outcomes is being attained.*					
2. Continuous Improvement *- The results of evaluation processes for the student outcomes and any other available information are systematically used as input in the continuous improvement of the program.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 4 Continuous Improvement					
- *Future program improvement plans based upon recent evaluations.*					
3. Additional Information - *Other assessment instruments or materials referenced in criterion 4 Continuous Improvement.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 5 Curriculum					
1. Program Curriculum - *The curriculum aligns with the program educational objectives.*					
- *College level mathematics and basics sciences (including experimental experiences) appropriately to the program discipline, with combined educational work load of not less than 30 credits in semester system or equivalent to educational load of one academic year.*					
- *Basic engineering and specific engineering topics(including experimental experiences), with combined educational work load of not less than 45 credits in semester system or equivalent to educational load of one and a half academic years.*					
- *General education that complements the technical contents of the curriculum and is consistent with*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 5 Curriculum					
program educational objectives and institutional objectives, with combined educational work load of not less than 30 credits in semester system or equivalent to educational load of one academic year.					
- The curriculum handles student internship program and the major design experience and solving of complex engineering problem or engineering design during fourth year.					
2. Course Syllabus *- Course description and assessment of learning outcomes align with program outcomes and program educational objectives.*					

Items	Pre-Visit	Day 1	Day 2	Exit Statement	Comments
Criterion 6 Faculty					
1. Faculty Qualifications					
1) Fulltime Faculty *- Fulltime faculty quality and quantity are appropriate.*					
2) Part Time Faculty *- Part time faculty quality and quantity are appropriate.*					
2. Faculty Workload *- Appropriate distribution of workload.*					
3. Faculty Size *- Overall adequacy of number and quality of program faculty.*					
- Overall adequacy of number and quality of program faculty relating to student advising and counseling.					
- Overall adequacy of number and quality of program faculty relating to student guidance on professional career development.					

Items	Pre-Visit	Day 1	Day 2	Exit Statement	Comments
Criterion 6 Faculty					
- Overall adequacy of number and quality of program faculty relating to professional development, and interactions with industrial and professional practitioners.					
4. Professional Development *- Each faculty has adequate and appropriate professional development activities.*					
5. Authority and Responsibility of Faculty *- Role of the faculty with respect to course creation, modification, and evaluation, their role in the definition and revision of program educational objectives, student learning outcomes and program outcomes, and their role in the attainment of the program outcomes or student outcomes.*					
- Roles of others on campus, e.g., dean or institutional					

Items	Pre-Visit	Day 1	Day 2	Exit Statement	Comments
Criterion 6 Faculty					
executives, program chair or program executives with respect to these areas.					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 7 Facilities					
1. Offices, Classrooms and Laboratories *- Program's facilities, office and classrooms has adequately capability to support the attainment of the program outcomes and to provide an atmosphere conductive to learning.*					
2. Learning Center and IT System *- Adequate provision of computing resources, information technology system with respect to accessibility of university-wide computing resources from locations and the hours the various learning centers are open to students.*					
3. Guidance *- Students in the program are provided appropriate guidance regarding the use of the tools, equipment, computing resources, and laboratories.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 7 Facilities					
4. Maintenance and Upgrading of Facilities *- The policies and procedures for maintaining and upgrading the tools, equipment, computing resources, and laboratories used by students and faculty in the program.*					
5. Library Services *- The evaluation of the capability of the library (or libraries) to serve the program including the adequacy of the library's technical collection relative to the needs of the program and the faculty, the adequacy of inter-library loan and book order or subscriptions, and any other library services relevant to the needs of the program.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 7 Facilities					
6. Overall Comments on Facilities *- The program arrangement to ensure the facilities, tools, and equipment used in the program are kept up for their intended purposes.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 8 Institutional Support					
1. Program Leadership *- The program leader is responsible to the quality and continuity of the program* *- Program leadership involves in decisions that affect the program.*					
2. Program Budget and Financial Support *- Adequate program's budget and obtaining continuity of institutional support for the program.* *- Adequate support by the institution in terms of graders, teaching assistants, teaching workshops, maintaining, and upgrading the infrastructures, facilities, and equipment used in the program.* *- Assessment on adequacy of the resources with respect to attainment of the program outcomes or student outcomes.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Criterion 8 Institutional Support					
3. Staffing *- Adequacy of the staff* *- Institutional provision to retain and train staff.*					
4. Faculty Hiring and Retention *- The process for hiring of new faculty.* *- Strategies used to retain current qualified faculty.*					
5. Support of Faculty Professional Development *- Adequacy of support for faculty professional development, how such activities such as sabbaticals, travel, workshops, seminars, etc., are planned and supported.*					

Items	Pre-visit	Day 1	Day 2	Exit Statement	Comments
Program Criteria *- Any applicable program criteria with appropriate references.*					

Attachment 4

Template for Accreditation Report

Thailand Accreditation Board of Engineering Education
Council of Engineers Thailand

Accreditation Report

For

< Program Name>
<Educational Institution Name>
<Campus Location>

Prepared by

<Name of Program Evaluator Team Leader>

_____
Signature

<Name of Program Evaluator>

_____
Signature

<Name of Program Evaluator>

_____
Signature

<Name of Designated TABEE Subcommittee>

_____
Signature

<Date>

ACCREDITATION STATEMENT

Program Evaluator Team of Thailand Accreditation Board of Engineering Education (TABEE) have evaluated the *<Program Name >* program at *<Educational Institution Name> <Campus Location>*, and recommends accreditation result as following. *<Choose one of the following recommendations>*

- *Full accreditation for accreditation cycle of 6 years.*

- *Accreditation with requirements for a period not exceeding 3 years. Review report on program improvement is required for program monitoring.*

- *Provisional accreditation (For the new program curriculum which does not have program graduate.). The provisional accredited program must submit program self-evaluation report after completing 2 classes of program graduation.)*

- *Defer accreditation.*

- *Decline accreditation or revoke accreditation.*

In addition, accreditation result and requirements are described in accreditation result table as following. *<choose applicable accreditation result table below and complete the table appropriately.>*

Accreditation Result Table	
Accreditation Status	Full accreditation
Period	6 years
Requirements	None
Findings	*<All accreditation criteria met, may have suggestions>*
Program Reporting Obligations	*<Interim report (after 3 years) on improvement and significant development>*
TABEE Follow-Up Review	*<TABEE subcommittee review interim report>*
Expected Outcome Of Follow-Up Review	*<No change to accreditation status, unless there are the major program changes in program objectives and program outcomes.>*

Accreditation Result Table	
Accreditation Status	Accreditation with requirements
Period	*<Not more than 3 years* *(1-3 years depending on time requirement for improvement to be addressed.)>*

Requirements	*<1. Evaluator team or 1 selected evaluator reviews*
	
	self-review report and supporting documents showing requirements have been met.
	
	2. Report review may include,
	
	   1) Program visit and/or,
	
	   2) Follow-up review report for demonstration that requirements have been met and /or,
	
	   3) Program executive meeting for demonstration of program improvement on the requirements. >

Findings	*<One or more accreditation criteria are not met, need suggest on improvement.>*
Program Reporting Obligations	*<Self-review report and supporting documents showing requirements have been met.>*
TABEE Follow-Up Review	*<Program evaluator team reviews follow-up report according to requirements and report to TABEE subcommittee for revise of accreditation result.>*
Expected Outcome Of Follow-Up Review	*<1. Upon completing requirements, TABEE may revise accreditation status to be 6 years from previous full program evaluation.* *2. If requirements not met, TABEE may consider either defer accreditation, decline accreditation or revoke accreditation.>*

Accreditation Result Table	
Accreditation Status	Provisional accreditation
Period	*<Not more than 3 years>*
Requirements	N/A
Findings	*<1. New curriculum offered not less than 3 years and do not have program graduates* *2. Development of the program outcomes is undertaken and it is likely that program can satisfy accreditation requirements by the time student graduates.* *3. Evaluator team may have suggestions for improvement.>*
Program Reporting Obligations	N/A
TABEE Follow-Up Review	N/A
Expected Outcome Of Follow-Up Review	Program prepares self-evaluation report and apply for accreditation upon completing 2 graduation classes.

Accreditation Result Table	
Accreditation Status	Defer accreditation
Period	1 year
Requirements	N/A
Findings	*<1. One or more accreditation criteria are not met (deficiency), requires suggest on improvement* *2. Do not have assessment of program outcomes, do not have or cannot confirm program outcomes (graduate attributes) on course portfolio>*
Program Reporting Obligations	*<Revise self-evaluation report and supporting documents and improve on weaknesses.>*
TABEE Follow-Up Review	*<Same program evaluator team carries out follow up review and re- program visit.>*
Expected Outcome Of Follow-Up Review	*<TABEE may consider either decline accreditation or revoke accreditation or award accreditation.>*

Accreditation Result Table	
Accreditation Status	Decline accreditation or revoke accreditation
Period	Requires at least 2 years for improvement. Need re-application for accreditation and submission of self-evaluation report
Requirements	N/A
Findings	*<1. Do not have assessment of program outcomes, do not have or cannot confirm program outcomes (graduate attributes) on course portfolio.* *2. Program outcomes do not match accreditation criteria.* *3. Cannot improve on program deficiency after defer accreditation.>*
Program Reporting Obligations	N/A
TABEE Follow-Up Review	N/A
Expected Outcome Of Follow-Up Review	N/A

The recommendation of the program evaluator team is based on reviewing of educational program self-evaluation report, support document, and evidence collected during the program visit, including observation obtained the program visits.

The reasons for making the above recommendation are based primarily on the following observations: *<Insert reasons if defer accreditation or decline accreditation is chosen>*

EXECUTIVE SUMMARY

During the period *<starting date to report date >*, a program evaluator team appointed by Thailand Accreditation Board of Engineering Education, The Council of Engineers Thailand, has conducted a program evaluation for accreditation of *< Program Name>* Program at *<Educational Institution Name> <Campus Location>* in accordance with TABEE prescribed accreditation criteria.

<Brief overview of educational program, including program general information, program history, and program constituents>

The review activities of the program evaluator team involved *<insert description of team activities, such as review of documentation, meetings program executives/ coordinator who provided program details and documents, and observations of program visits; include a statement explaining how the program evaluation team assured coverage of all aspects of the program visit, as well as all aspects accreditation criteria.>*

The report of the program evaluator team presents *<insert the items covered in the report, which will probably include a description of the TABEE accreditation criteria, an overview of the program visits that were observed, an assessment of program outcomes, findings, weaknesses, concerns, observations, and actions or comments for program improvement, or any other issues that the program evaluation team believes should be highlighted.>*

The program evaluator team concludes that *<include, actions or comments for program improvement, and accreditation statement indicating recommendation for accreditation result to the educational program.>*

ACKNOWLEDGEMENTS

<Insert names and roles of individuals who facilitated the program evaluation>

TABLE OF CONTENTS

1. OVERVIEW OF EDUCATIONAL PROGRAM

<Briefly describe education program to be accredited by TABEE, program general information and background are described in sub-headings>

1.1 Program General Information

<Briefly describe program general information and background that are explained in program self-evaluation report either in tabulated information or in short paragraphs.>

<background information about the educational institution, including location, type (publicly or privately funded, undergraduate only, research, etc.), when established, overall student enrolment numbers, programs / courses offered, financial situation (e.g., research funding from external sources), organizational structure, etc.>

<background information about the academic unit delivering the engineering pro-gram, including range of engineering disciplines covered by programs / courses, overall student enrolment numbers, annual number of degrees awarded, financial situation (e.g., research funding from external sources), organizational structure, etc.>

1.2 Accreditation History

<List dates and program accreditation activities, including weaknesses, concerns, observations, and actions or comments for program improvement, of which shall be monitored during the next accreditation cycle.>

Date	*Accreditation Activities*

1.3 Program Constituents

<List activities, requirements, and comments of program constituents who benefit from the program management>

2. PROGRAM EVALUATION

<Description of designated subcommittee member for coordinating program visit, program evaluator team and activities as they are provided in sub-headings. Description probably includes review of documentation, meetings program executives/ coordinator who provided program details and documents, and observations of program visits; include a statement explaining how the program evaluation team assured coverage of all aspects of the program visit, as well as all aspects accreditation criteria.>

2.1 Evaluation Team

<Information about composition, qualifications, training, how team members are selected / assigned>

No.	Name	Position	Professional Background/organisation
1		Team Leader	
2		Team Member	
3		Team Member	

2.2 Designated Subcommittee Member for Coordinating Program Visit

<Name of designated subcommittee member for coordinating program visit, role and activities>

2.3 Evaluation Activities

<List evaluation activities such as review of document, meeting, meeting with executives/program coordinator, preparation for program visit, observations of program visit, program visit, and other related activities.>

No.	Date	Activities

3. PROGRAM'S SUPPORT DOCUMENTS

<List program documents and support documents as they are used or referred to within the report and during the program evaluation>

No.	Document/ references

4. ASSESSMENT

4.1 Criterion 1 Students

<Quality and professional competence of program graduates are essential components of program outcomes evaluation.

The educational program seeking for accreditation is required to have process for assessment of student learning outcomes with adequate student advisory on activities towards his/her profession career development. The program must have formative and summative assessments and program monitoring throughout the education period to ensure that they have attained both quality and attributes set forth in the curriculum objectives.

An educational program seeking for accreditation must have program control procedures and admission statement for selecting student enrollment or admission of student to the program, the transfer of educational credits from other institutes to the program, and work procedures for program teaching and learning to ensure that the students are able to graduate from the program with the quality and attributes as prescribed by the program.>

<List findings, weaknesses, concerns, observations, and actions or comments for program improvement, or any other issues that the program evaluation team believes should be highlighted.>

	Description
Findings	
Weaknesses	
Concerns	
Observations	
Action or comments for improvement	

4.2 Criterion 2 Program Educational Objective

<An educational program seeking for accreditation must have a program statement describing the program objectives indicating expected field of engineering profession in which the graduates are going to work after the graduation.

An educational program seeking for accreditation must have the following components;

1) Curriculum objectives that have been published and distributed. The curriculum objectives and contents must relate to institutional mission and complying with TABEE prescribed criteria.

2) Process to establish the curriculum objectives which are the results of assessment and periodical review of the curriculum. The curriculum objectives set forth by the program must respond to the demand of engineering profession from all constituents beneficiary of program outcomes.

3) Curriculum, program teaching and learning, and program management that serve to achieve the set forth curriculum objectives and the program outcomes.

4) Program outcomes assessment and evaluation process that have been used for reviewing and improvement of curriculum for program students to benefit from quality education.>

<List findings, weaknesses, concerns, observations, and actions or comments for program improvement, or any other issues that the program evaluation team believes should be highlighted.>

	Description
Findings	
Weaknesses	
Concerns	
Observations	
Action or comments for improvement	

4.3 Criterion 3 Program Outcomes

<This program outcome used as accreditation criteria is a statement indicating that the program graduates are expected to attain knowledge, professional skills and behavioral attributes as they are required in engineering field of professional practice.

The educational program must submit evidence to TABEE; showing linkage between curriculum objectives and program outcomes.

Program outcomes as they are indicated by attributes of program graduates are as following;

1) Knowledge of Mathematics, Science and Engineering

Ability to apply knowledge of mathematics, natural science, engineering fundamentals and a specific engineering to conceptualize the engineering models, definitions, and/or to respectively apply methodologies, processes, and/or engineering systems in the work place.

2) Engineering Problems Analysis

Ability to identify, formulate, research literature review, solve, and analyze complex engineering problems reaching substantiated conclusions using principles of mathematics, natural sciences and engineering sciences.

3) Design and Development Solutions for Complex Engineering

Ability to design and find solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, environmental considerations, and/or professional code of practices.

4) Investigation

Ability to conduct investigations, diagnosis, and evaluation of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

5) Modern Tool Usage

Ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering problems, with an understanding of the limitations.

6) Individual and Team Work

Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.

7) Communication

Communicate effectively with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

8) Society, Environment, Sustainability, and Engineering Profession

Understand and responsible for engineering professional practice to societal and environmental contexts and evaluate the sustainability and impact of professional engineering work in the solution of complex engineering problems in societal and environmental contexts.

9) Ethics

Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

10) Project Management and Finance

Demonstrate knowledge and understanding of the principles of economic, and engineering management under consideration of risk and uncertainties.

11) Lifelong Learning

Recognize the need for, and have the preparation and ability to engage in independent and life-long learning.>

<List findings, weaknesses, concerns, observations, and actions or comments for program improvement, or any other issues that the program evaluation team believes should be highlighted.>

	Description
Findings	
Weaknesses	
Concerns	
Observations	
Action or comments for improvement	

4.4 Criterion 4 Continuous Improvement

<The program must regularly use appropriate, documented processes for monitoring, assessing and evaluating program outcomes that students and graduates of the program are attained.

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

<List findings, weaknesses, concerns, observations, and actions or comments for program improvement, or any other issues that the program evaluation team believes should be highlighted.>

	Description
Findings	
Weaknesses	
Concerns	
Observations	
Action or comments for improvement	

4.5 Criterion 5 Curriculum

<The curriculum must appropriately specify areas of knowledge contents to serve program educational objectives and required program outcomes for each field of professional practice.

The program curriculum structure must include following areas of knowledge contents.

1) College level mathematics and basics sciences (including experimental experiences) appropriately to the program discipline, with combined educational work load of not less than 30 credits in semester system or equivalent to educational load of one academic year.

2) Basic engineering and specific engineering topics (including experimental experiences) appropriately to the program discipline to provide a bridge between mathematics and basic sciences, and basic engineering for student to appropriately use in engineering design and solving of complex engineering problems according to engineering work requirements, with combined educational work load of not less than 45 credits in semester system or equivalent to educational load of one and a half academic years.

3) General education that complements the technical contents of the curriculum and is consistent with program educational objectives and institutional objectives, with combined educational work load of not less than 30 credits in semester system or equivalent to educational load of one academic year.

The program curriculum must provide engineering practice and engineering projects that allow students to have engineering design experiences and solving complex engineering in the final year of education which allow students to use the knowledge and skills acquired in earlier course work and incorporating appropriate engineering standards and multiple realistic constraints.>

<List findings, weaknesses, concerns, observations, and actions or comments for program improvement, or any other issues that the program evaluation team believes should be highlighted.>

	Description
Findings	
Weaknesses	
Concerns	
Observations	
Action or comments for improvement	

4.6 Criterion 6 Faculty

<Educational institute must provide adequate number of faculty. The faculty must have the educational qualification with professional competence relevance to the program discipline. The faculty must also provide adequate student advisory relating to students' professional career development and other activities related with professional society and industry.

The program teaching staff must demonstrate, both academic and professional competence, regarding student advisory and student career development including teaching and student evaluation for the continuous quality improvement of teaching to achieve learning outcomes as prescribed in curriculum objectives.>

<List findings, weaknesses, concerns, observations, and actions or comments for program improvement, or any other issues that the program evaluation team believes should be highlighted.>

	Description
Findings	
Weaknesses	
Concerns	
Observations	
Action or comments for improvement	

4.7 Criterion 7 Facilities

<The educational program must provide continuously support to the program with adequate facilities, including classrooms, laboratories, library, and other supporting infrastructure to accommodate academic environment, academic development, professional activities of student, as well as quality education. The program must continuously stimulate student learning opportunities by provision of modern tools and equipment, information technology and communication network for student and academic staff to serve requirements for academic development and extra-curriculum activities in accordance with curriculum educational objectives.>

<List findings, weaknesses, concerns, observations, and actions or comments for program improvement, or any other issues that the program evaluation team believes should be highlighted.>

	Description
Findings	
Weaknesses	
Concerns	
Observations	
Action or comments for improvement	

4.8 Criterion 8 Institutional Support

<Institutional support and program leadership must be adequate to ensure the quality and continuity of the program. Institutional financial support provided to the program must be adequate to meet program needs. Resources available to the program must be sufficient to promote, retain, and provide for the continued professional development of a qualified faculty. Resources must be sufficient to acquire, maintain, and operate infrastructures, facilities and equipment appropriate for the program, so that program outcomes can be attained. In addition, the educational institution must provide adequate supporting staff and educational services for program teaching and learning and program management.>

<List findings, weaknesses, concerns, observations, and actions or comments for program improvement, or any other issues that the program evaluation team believes should be highlighted.>

	Description
Findings	
Weaknesses	
Concerns	
Observations	
Action or comments for improvement	

5. ACCREDITATION DECISION

<Explanation of decision-making procedures and policies, including allowable out-comes, description of the conduct of the meeting, including processes to avoid conflicts of interest, any other issues that the program evaluation team believes should be highlighted.>

6. CONCLUSION

<include, actions or comments for program improvement, and accreditation statement indicating recommendation for accreditation result to the educational program.>

APPENDIX

<Insert documents cited / reviewed as part of program evaluation activities, such as checklist for program evaluation and request form for program additional clarification and additional document.>