



# Template for A Self-study Report

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## **INTRODUCTION**

A self-study report is one of the most important pieces of evidence for engineering education accreditation and also the material that a program must submit to demonstrate its compliance with the accreditation criteria. A program must outline in its self-study report its educational objectives and graduate outcomes in accordance with the China Engineering Education Accreditation Association (CEEAA) General Criteria and Complementary Program Criteria, objectively describe the educational and teaching systems developed and implemented to achieve the educational objectives and graduate outcomes, and describe the faculty and supporting resources provided to support the education of talent, as well as the continuous improvement mechanism to ensure the evaluation of qualified graduates outcomes.

## **REQUIREMENTS**

Based on the engineering education accreditation criteria, this template focuses on the education and training system that a degree program develops, implements, and assesses graduate outcomes. It highlights the outcomes-based internal teaching quality assessment mechanism that a program must build and implement, and suggests the basic requirements for preparing the self-study report, which is only a reference for a program and not a template for the report. The content listed in the template is the basic content required by the reviewers for accreditation; a self-study report must include this content, but is not limited to it.

The self-study report should be prepared in strict accordance with the stated criteria and with reference to the format in the template. It must be written in concise and precise language and include clear and detailed diagrams and charts. It must also contain qualitative and quantitative elements to facilitate the reviewers' review against the accreditation criteria. The self-study report must not contain content that is irrelevant to the accreditation criteria, nor list "iconic achievements" of a minority of students as evidence of meeting the criteria. To demonstrate compliance with various criteria, evidence should be consistent. For example, a program of study, its educational objectives, and its graduate outcomes should be consistent.

The self-study report consists of two parts: the body and the appendix. Please refer to the guide for the specific requirements. As for the additional materials required for each criterion, the program in question may provide the links (IP addresses) to these materials, if the conditions allow, to facilitate the accreditation of the reviewers.

## TERMS

**Supplemental materials:** relevant materials to support or evidence the content described in each chapter of the self-study report, including management documents, instructional materials, student learning portfolios, various documentation materials, cooperative agreements, or other supplemental materials. As an appendix to the self-study report, the supplemental materials should be compiled in a separate volume (for those supplemental materials that are difficult to present in the appendix, indexes may be provided to facilitate on-site review by reviewers).

**Assessment:** the work of collecting data, evidence, and materials in preparation for an evaluation. Assessment may be performed in a direct, indirect, quantitative, or qualitative way appropriate to the measured outcome. Sampling for the purpose of the assessment shall be of statistical significance.

**Evaluation:** one or more processes for interpreting the data and evidence accumulated through assessment processes. Evaluation will result in decisions and actions for continuous improvement of the program.

**Mechanism:** a set of standardized processing procedures for specific purposes, including purposes, relevant regulations, responsible personnel, methods, and procedures, which clearly define the roles and responsibilities of personnel involved in the process.

## CONFIDENTIALITY

All information supplied is for the confidential use of CEEAA and its authorized agents. It will not be disclosed without authorization of the institution concerned, except for summary data not identifiable to a specific institution or documents in the public domain.

## TEMPLATE

The template for the Self-Study Report begins on the next page. The content in bold font is the accreditation criteria, the other content is the evidence requirements.

## **COMMITMENT OF INSTITUTION**

The \*\* program of our institution has submitted its self-study report and the appendix in MM/YY. In pursuance of relevant requirements for accreditation, we hereby undertake as follows:

1. We shall follow the engineering education accreditation in strict accordance with relevant criteria, procedures, and regulations and abide by all disciplinary requirements;
2. The self-study report and the appendix that we have submitted are true, accurate, and complete, and all systems described in the report have been strictly implemented;
3. We will keep compliance with accreditation discipline and will not engage in any activity that violates the impartiality of the accreditation.

**Signature (President of the institution):**

**(Official seal of the institution)**

**Date**

## 0 BACKGROUND INFORMATION

|                     |                   |               |                     |  |
|---------------------|-------------------|---------------|---------------------|--|
| Program Information | Name              |               |                     |  |
|                     | Institution       |               |                     |  |
|                     | College           |               |                     |  |
|                     | Degree awarded    |               |                     |  |
|                     | Duration of study |               |                     |  |
|                     | Website           |               |                     |  |
| Contact Information | Name              |               | Email               |  |
|                     | telephone number  |               | Mobile phone number |  |
|                     | Mailing address   | (Postal code) |                     |  |

### **Brief introduction of the institution:**

Describe the history, affiliation, and disciplines of the institution; the number of undergraduate programs; the number of all full-time students; and the number of full-time teachers, etc.

### **History of the program:**

Describe the history of the program; the educational system and degree of the program, institution location, the number of students currently enrolled, and the annual enrollment scale; the overview of the program faculty; disciplines underlying the program and basic conditions of the program.

### **Accreditation of the program:**

Provide the year of the initial accreditation and the time of the most recent

accreditation; describe the continuous improvement made since last accreditation, and attach the report of last accreditation in the appendix, if this is not the initial accreditation.

# GENERAL CRITERIA

## 1 STUDENT

### **1.1 The program must have policies and procedures to attract outstanding students.**

Describe the requirements and process of the institution for student admission (providing indexes of relevant regulations).

Describe the measures for attracting excellent students into the program and improve the literacy of students based on the requirements of the institution as well as the characteristics and advantages of the program.

Provide student information enrolled in the program in the last three years (the number of students admitted, admission rate, and the entry score of the institution and the program in each province). For the programs that admit students by a larger category, please explain the enrollment and program division.

Describe the status and changes of students in the last three years and the main reasons.

#### **Supplemental materials:**

Documents of student admission system

Publicity materials of the program for student admission

Documents of scholarships and grants for freshmen, and the information about the students of the program who have won them.

### **1.2 The program must have enforced policies and procedures on learning advising, career planning, employment guidance and psychology counseling for students.**

Describe the main systems, organizations and persons of the program to offer students learning guidance, career planning, employment guidance, and psychological counseling (tabular statement only).

Summarize main contents, methods, and effects of learning guidance, with a focus on how the program guides students to create a good learning environment; to help them understand the educational objectives and graduate outcomes of the program, as well as the relations between course learning and attainment of graduate outcomes; and how the faculty guides students to understand the course learning outcomes, master learning methods, and check against the learning effects in the course teaching.

Describe the main content, methods, and results of career planning, employment guidance, and psychological counseling.

#### **Supplemental materials:**

Documentation of learning guidance, career planning, employment guidance, and psychological counseling, etc.

The name list and the documentation of the advising and guiding activities listed in a tabular form (providing document indexes in the appendix)

Records of inspection and supervision on the activities (providing document indexes in the appendix)

**1.3 The program must track and evaluate student's outcomes throughout the learning process, and to ensure and document that students achieve the graduate outcomes through formative evaluation.**

Describe regulations of the program for graduation and degree awarding.

Describe the systems and measures of the program to track, evaluate, and advise academic achievements of students at school to ensure their graduation on time, and formative evaluation by teachers on students' learning.

Describe measures and effects of the program to help students with difficulties in learning.

Provide graduation rate and the rate of degrees awarded in the last three years.

**Supplemental materials:**

Regulations of the program on student graduation and degree awarding

Documents and regulations of the program for tracking and evaluating students throughout their learning process

Materials and data of the program for formative evaluation and academic assistance for students (providing document indexes in the appendix)

**1.4 The program must have specific requirements and processes for awarding appropriate academic credits of transfer students.**

Provide documents of the institution and program concerning credit recognition of transfer students (just listing the name and number of the documents).

Summarize requirements, processes, and responsible person of the program for accepting transfer students and transfer credit, especially the requirements for judging the equivalence of credits (If they are clearly provided in the existing systems and documents, list and quote them directly).

Provide the list of transfer students of the program in the last three years (including the name and their previous program), and cases of transfer credit recognition.

**Supplemental materials:**

Documentation of institution and program transfer

Process data of transfer students and transfer credit in the last three years (providing document indexes in the appendix).

## **2 EDUCATIONAL OBJECTIVES**

**2.1 The program must have published educational objectives consistent with the**



**mission of the institution and the needs of social and economic development.**

Describe the missions and educational objectives of the institution

List the program educational objectives.

Describe how the program educational objectives are consistent with the mission of the institution, social and economic development needs, and the talent training characteristics of the program.

Describe the extent to which the program educational objectives are known among students, faculty, and the general public.

**Supplemental materials:**

Regulations of the mission and objectives of the institution

Educational programs used during the accreditation period

Reports of formulation/revision of the program educational objectives, including survey reports of social and economic development needs in connection with the program and the original records of the survey data.

**2.2 The program must periodically review the educational objectives to ensure they remain consistent with the institutional mission and social & economic development. The review process must involve experts from industry or enterprises.**

Describe the process that periodically reviews the program educational objectives including results of the last evaluation and revision and how industry experts are involved in this process.

Describe how this process is systematically utilized to ensure that the program's educational objectives remain consistent with the institutional mission, the program stakeholders' needs and these Criteria.

**Supplemental materials:**

Documents of evaluation and revision of program educational objectives

Original evaluation and revision materials of the program educational objectives in the last three years (providing indexes in the appendix).

### **3 GRADUATE OUTCOMES**

**The program must have clearly documented, published and assessable graduate outcomes. The documented graduate outcomes prepare graduates to attain the program educational objectives. The documented graduate outcomes must include:**

**(1) Engineering Knowledge: Apply knowledge of mathematics, natural science, engineering fundamentals, and engineering specialization to solve complex**

engineering problems.

**(2) Problem Analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using basic principles of mathematics, natural sciences, and engineering sciences.

**(3) Design/development of solutions:** Design solutions for complex engineering problems and design systems, components, or processes that meet specified needs with appropriate societal, public health and safety, legal, cultural, and environmental considerations.

**(4) Investigation:** Conduct investigations of complex problems using research-based knowledge and research methods, including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**(5) Modern Tool Usage:** Create, select and apply appropriate techniques, resources, and modern engineering and IT tools for complex engineering problems, including prediction and modeling of complex engineering problems, with an understanding of the limitations.

**(6) Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solutions to complex engineering problems.

**(7) Environment and Sustainability:** Understand and evaluate the sustainability and impact of professional engineering work in solving complex engineering problems in societal and environmental contexts.

**(8) Professional Ethics:** Have humanities and social science qualities, social responsibility, apply ethical principles, and commit to professional ethics and responsibilities and norms of engineering practice.

**(9) Individual and Team work:** Function effectively as an individual, team member, and principal in a multi-disciplinary team.

**(10) Communication:** Communicate effectively on complex engineering activities 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. Have a particular international perspective, communicate and exchange in the cross-cultural context.

**(11) Project Management:** Understand and master engineering management principles and economic decision-making methods, and apply them in a multi-disciplinary environment.

**(12) Lifelong learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of

**technological change.**

List the graduate outcomes of the program.

List the graduate outcome indicators if it has been formulated.

Describe how the graduate outcomes prepare graduates to attain the program educational objectives.

Map graduate outcomes of the program to general criteria.

Describe how graduate outcomes are known and understood by students and teachers.

**Supplemental materials:**

Documents, regulations of the formulation of graduate outcomes, as well as records of the analysis and formulation processes (with original records or document indexes provided in the appendix)

Statement where the graduate outcomes may be found by the general public.

## 4 CONTINUOUS IMPROVEMENT

**4.1 The program must establish regulations and mechanism to monitor teaching quality. There must be clear quality standards of main teaching process. The program must periodically evaluate curriculum and its quality. The program must establish regular, appropriate, documented process and mechanism to assess and evaluate the extent to which the graduate outcomes are being attained.**

Describe the improvements made to the teaching quality monitor mechanism in recent years for the purpose of attaining graduate outcomes; list indexes of documents or evidence testifying the improvement made.

Describe quality requirements and monitor measures of main teaching process in a tabular form or by other means, including the process of educational programs and course syllabus design, course teaching and assessment, experiments, practice, design, graduation theses, and other teaching process.(See Reference table 1)

**Reference table 1 Quality requirements for main teaching process**

| Teaching process | Main quality Requirements | Responsible person for quality monitor | Measures for quality monitor | Relevant materials |
|------------------|---------------------------|--|------------------------------|--------------------|
| .....            | .....                     | .....                                  | .....                        |                    |

Note: The "Main quality requirements" column in the Table 1 should be filled in with a brief description of quality requirements, not regulations, and the documents from which quality requirements are derived shall be filled out in the "Relevant materials."

Describe the process of internal evaluation. It shall include but be not limited to evaluations on how curriculum consistent with graduate outcomes, the extent to which course learning outcomes and graduate outcomes are being attained. (Note: The above valuation mechanisms should include: 1) The organization responsible for evaluation, the responsible person, and its main responsibilities; 2) The evaluation object and period; 3) The evaluation process (including the content and sources of evaluation data collected as well as collecting methods; measures to confirm that these evaluation data are related to evaluation purposes); 4) Evaluation methods; 5) Requirement for using evaluation results for continuous improvement).

### **Assessment and evaluation on course learning outcomes**

The process and results of the last curriculum evaluation (including the time, bases, methods, and results of the evaluation)

Describe the mechanism of evaluation on the extent to which course learning outcomes are being attained, including the time when the mechanism started to run, running cycle,

running frequency in the last three years, type of courses covered, the main evaluation methods adopted, as well as relevant records and documents of the implementation of the mechanism (just providing the document name); List the courses under outcome attainment evaluation (including the evaluation time, the year of the evaluated courses, the course name, and the students taught, etc.);

Provide evaluation reports of outcomes attainment of two courses (one theoretical course and one practical course). (The report shall cover: basic information of samples subject to evaluation, course outcomes, mapping between course outcomes and graduate outcomes, evaluation standards and methods, analysis of evaluation results, measures for continuous improvement, etc.).

Provide review records of two courses to evaluate how they remain consistent with graduate outcomes; and provide in the appendix the original materials for the evaluation.

**Assessment and evaluation on graduate outcomes**

Describe the mechanism for evaluating the attainment of graduate outcomes, including the time when it started to operate, running cycle, running frequency in the last three years, evaluation objects, evaluation methods for different graduate outcomes, requirements for using evaluation results, and the filing of evaluation materials.

Describe the last evaluation of the graduate outcome attainment by listing the bases for evaluating the attainment of each graduate outcome (if the evaluation is carried out against the graduate outcome indicators, please refer to Table 2; if the evaluation is carried out against graduate outcomes, please refer to Table 3 ).

Take 1-2 graduate outcomes as an example and describe the evaluation process of graduate outcomes (including evaluation objects, selection of evaluation methods, evaluation bases and methods, evaluation results, and analysis of evaluation results, etc.).

Summarize the last graduate outcomes attainment evaluation results of the program in a chart or other appropriate form, and analyze the results. Provide materials of the evaluation process and results in the appendix.

**Reference table 2 Table of bases for evaluating graduate outcome attainment of students in XXX**

| Graduate outcomes(GOs) | Indicators | Data source for evaluation | Evaluation data | Evaluation methods | Person in charge of evaluation | Relevant record |
|------------------------|------------|----------------------------|-----------------|--------------------|--------------------------------|-----------------|
| GO 1:...               | 1.1 ...    | Course                     |                 |                    |                                |                 |
|                        |            | ....                       |                 |                    |                                |                 |
|                        |            | Course                     |                 |                    |                                |                 |
|                        | 1.2 ...    | Experime                   |                 |                    |                                |                 |
|                        |            |                            |                 |                    |                                |                 |

|  |  |       |  |  |  |  |
|--|--|-------|--|--|--|--|
|  |  | nts   |  |  |  |  |
|  |  | ..... |  |  |  |  |

Note: The "Data source for evaluation" in the table may include but is not limited to the data for evaluating the course learning outcome attainment.

**Reference table 3 Basis for evaluating graduate outcome attainment of students in year XX**

| Graduate outcomes (GOs) | Data source for evaluation | Evaluation data | Evaluation methods | Person in charge of evaluation | Relevant record |
|-------------------------|----------------------------|-----------------|--------------------|--------------------------------|-----------------|
| GO 1:...                | Course                     |                 |                    |                                |                 |
|                         | ...                        |                 |                    |                                |                 |
|                         | Experiments                |                 |                    |                                |                 |
|                         | .....                      |                 |                    |                                |                 |
| GO 2:...                | .....                      | .....           | .....              | .....                          | .....           |

Note: The "Data source for evaluation" in the table may include but is not limited to the data for evaluating the course learning outcome attainment.

**Supplemental materials:**

Documents of reviewing the curriculum to ensure that it remains consistent with the course learning outcomes and is able to attain the graduate outcomes.

Original record of the teaching quality monitor process (providing the document list in the appendix)

Main materials in the last three years for evaluating professional compulsory courses (including professional introductory and professional courses) of the program, including test questions, homework, course learning outcome attainment evaluation reports, and related review records, etc. Other original documents for evaluating graduate outcomes such as course assessment materials, as well as original test papers and assignments shall be included in the document index

The materials in the last three years for evaluating the main practices (experiments, practice, comprehensive design, graduation thesis, etc.) of the program, including the requirements for developing the assignment book, reports/thesis of the practices, grading standards, and the evaluation report on the course learning outcomes attainment.

The evaluation report on the attainment of graduate outcomes in the past three years and the original documents recording the evaluation process and results (with an index provided in the appendix)

**4.2 The program must have the feedback mechanism from industry and society, including graduates and employers, to evaluate the extent to which the educational objectives are being attained.**

List the documents of the institution/program to track and get feedback from the graduates (which shall cover the responsible organizations, frequency, objects to be tracked, tracking methods, requirements for information collection and analysis, and use of the evaluation results) by providing the document name and number, time, and document index only; briefly describe the main content for tracking and evaluating graduates.

List the documents of social evaluation mechanisms that are worked out by the institution/program and involve stakeholders outside the higher education system(which shall cover responsible organizations, evaluation cycle and methods, requirements for information collection and analysis, and use of the evaluation results), by providing the document name and number, issue time, and document index only; briefly describe the main content of the social evaluation.

Describe the last analysis and result of the educational objective attainment, based on the information acquired from the two mechanisms above,.

**Supplemental materials:**

Documents to track and get feedback from the graduates

Surveys and original records (with an index of original records provided in the appendix) for tracking and getting feedback from the graduates, in particular those who have graduated for about 5 years. Sufficient coverage shall be guaranteed for the graduates tracked so that surveys are of statistical significance.

Documents of the social evaluation mechanism

Original records of various social evaluation information (with the index of original records provided in the appendix)

Documents of educational objective attainment, and the records and evaluation reports of the analysis and evaluation performed in the last three years

**4.3 The results of periodical evaluation must be systematically utilized as input for program's continuous improvement actions.**

Describe mechanism ensuring the evaluation results utilized for continuous improvement of the program (listing the document name and number, and formulation time only).

Describe the last continuous improvement based on the evaluation of the attainment of educational objectives, graduate outcomes, and course learning outcomes as well as the consistency between curriculum and graduate outcomes; and attach the process records and the evidence of the improved results.

**Supplemental materials:**

Regulations to ensure the evaluation results being used for continuous improvement of the program (including the responsible organizations, channels to collect, analyze, and feed back the evaluation results, the person responsible for continuous improvement,

and measures to track the improvement effect); if they are specified in other systems already, provide the documents only

Records of last continuous improvement process and the evidence of the improved results



## 5 CURRICULUM

**The curriculum must be consistent with graduate outcomes. The design of the curriculum must involve experts from the enterprises or industry. The curriculum must include:**

List all professional courses of the program and illustrate the association of required courses in a tabular form or by other means.

Describe requirements of total credits for students to graduate, and rules (on credit hours/credits) for various courses (for example, 16 credit hours are required to gain one credit for theoretical courses).

Describe how the curriculum supports the attainment of graduate outcomes by a mapping or other appropriate forms; analyze whether the layout is reasonable.

Describe how the core courses (including the important teaching modules such as theory/experiment category, practice, comprehensive design, and graduation design (thesis)) support the attainment of graduate outcomes (see Reference table 4).

List regulations and requirements that formulate, examine, revise and implement the course syllabi.

Provide one sample of a complete course syllabi of theoretical, practical, and graduate design (thesis) curriculum, respectively. (Note: The syllabus should include: 1) Course learning outcomes; 2) mapping of course learning outcomes and graduate outcomes; 3) Supporting role played by course content and teaching methods for course learning outcomes; 4) Course assessment methods to each course learning outcomes; 4) Grading standards of different assessments to course learning outcomes)

List regulations that ensure experts from the industry and enterprises to engage in the design of the curriculum, and the role played by the industrial and enterprise experts in the last revision of the curriculum (including the list of experts as well as their input and contribution).

**Reference table 4 Supporting role by core teaching process for graduate outcomes and underlying reasons**

| Course name | Graduate outcomes supported       | Supporting role | Corresponding course learning outcomes | Course implementation                              | Main assessment methods |
|-------------|-----------------------------------|-----------------|--|--|-------------------------|
| Course A    | Connotation of graduate outcome 1 |                 | Connotation of the objective 1         | Briefly describe main teaching content and methods |                         |
|             |                                   |                 | Connotation                            |  |                         |

|          |                                   |       |                                |       |       |
|----------|-----------------------------------|-------|--------------------------------|-------|-------|
|          |                                   |       | of the objective 2             |       |       |
|          | Connotation of graduate outcome 3 |       | Connotation of the objective 3 |       |       |
|          |                                   |       | Connotation of the objective 4 |       |       |
|          |                                   |       | Connotation of the objective 5 |       |       |
|          | Connotation of graduate outcome 9 |       | Connotation of the objective 6 |       |       |
| Course B | .....                             | ..... | .....                          | ..... | ..... |

Note: Course learning outcomes should reflect the course supporting strength for graduate outcomes and the connotation of graduate outcomes, and match the teaching contents of the course.

Supporting Role: higher, middle or low support for course learning outcomes by a H, M or L.

**Supplemental materials:**

Regulations of the revision of educational programs (including course syllabi)

Educational programs that graduate and enrolled students used during the accreditation period (in the last three years)

The course syllabi of core courses and main practices courses of the program (other courses for evaluating graduate outcomes should provide with an index of the course syllabi in the appendix)

The course syllabi of all professional courses, including four types of courses, namely courses of engineering foundation requisite, subject foundation requisite, subject elective, engineering practice and graduate design (thesis). Other courses for evaluating graduate outcomes should provide with an index of the course syllabi in the appendix.

Statistical table of teachers of core courses for graduates in the last three years and of academic achievements of the graduates (including the excellent rate, good rate, and pass rate); all other materials for evaluating graduate outcomes shall be indexed in the appendix

Materials describing the engagement of industry and enterprise experts in the design of

the curriculum in the last three years (including the list of experts as well as their input and contribution)

**5.1 Courses on mathematics and natural sciences consistent with the graduate outcomes (accounting for at least 15% of the total credits).**

List the courses on mathematics and natural sciences of the program and requirements for their credits/credit hours, describe the compliance rate of the credit ratio, and compliance with the complementary criteria requirements of the program.

Describe requirements and measures for ensuring students to complete this type of courses of the program.

**Supplemental materials:**

The course syllabi, teaching plan, and assessment materials of this type of curriculum (with an index of the materials provided in the appendix)

**5.2 Courses on engineering fundamentals, subject fundamentals and subject courses (accounting for 30% of the total credits). The engineering fundamentals and subject fundamentals reflect the role of mathematics and basic sciences in the education of application capabilities. Subject courses can fully assume the role of training abilities in system design and operation.**

List respectively the courses on engineering fundamentals, subject fundamentals and subject courses and their requirements for credits/credit hours, and describe the compliance of their total credit ratio and the compliance with the program complementary criteria.

Give examples to show that the courses of engineering fundamentals and subject fundamentals can reflect the roles of mathematics and natural sciences in the education of application capabilities, and that subject courses can train abilities in system design and operation.

**Supplemental materials:**

The course syllabi, teaching plan, assessment materials, and evaluation of the attainment of course learning outcome of this type of curriculum (with an index of the materials provided in the appendix)

**5.3 Engineering practice and graduate design (thesis) (accounting for 20% of the total credits). The program has a well-established practice education system and cooperate with enterprises to educate students on practical and innovative abilities. The topics of graduate design (thesis) are oriented from the practical engineering problem to educate students' engineering awareness, cooperation and abilities to synthesize what they have learned to solve practical problems. The guidance and evaluation of graduation design (thesis) involve experts from industry or enterprises.**

Summarize the measures of the practical teaching system to educate students on practical and innovative abilities, based on the objectives and characteristics of the

program,

Describe the compliance of the total credit ratio of engineering practice and graduation design (thesis), as well as the compliance with the complementary program criteria. Measures of the program to cooperate with enterprises to carry out practice and training to educate students on engineering practice and innovation abilities and the results obtained.

Describe basic requirements and quality monitor measures for selection of the graduate design (thesis) topic, training process, and learning outcomes. The role of these requirements and measures in developing students' engineering awareness, cooperation, and abilities to synthesize what they have learned to solve practical problems.

Describe regulations and measures ensuring experts from the industry and enterprises to engage in the guidance and assessment of the graduate design (thesis); and participation of industry and enterprise experts in the last three years and the role they have played.

**Reference table 5 List of the practical education system of the program**

| Item | Content requirements and teaching methods | Credits/ (hours or weeks) | Methods of assessment and score evaluation |
|------|---|---------------------------|--|
|      |   |                           |  |

**Reference table 6 Design practice to be finished by each student**

| Design Name | Content and workload requirements | Credits/ (hours or weeks) | Methods of assessment and score evaluation |
|-------------|-----------------------------------|---------------------------|--|
|             |                                   |                           |  |

**Reference table 7 Industry learning experience to be finished by each student**

| Tpye | Content requirements and teaching methods | Credits/weeks | Methods of assessment and score evaluation |
|------|---|---------------|--|
|      |   |               |  |

(Note: It refers to the learning experience that a student can attain only by working in a company, excluding the activities that a student gets involved in and the learning experience at a special training base within the institution; do not provide it if there is not any)

**Reference table 8 Practical education activities completed by teams**

| Item | Content requirements and teaching methods | Credits/(hours or weeks) | Methods of assessment and score evaluation |
|------|---|--------------------------|--|
|      |   |                          |  |

(Note: extracurricular activities are not included, do not provide it if there is not any)

**Reference table 9 Types of the graduation design (thesis) in the last three years**

| Tpye | Basic description of the classification | Content requirements | This kind of theses shall account for % |                  |                  |
|------|---|----------------------|---|------------------|------------------|
|      |   |                      | xxxx school year                        | xxxx school year | xxxx school year |
|      |   |                      |   |                  |                  |

(Note: Type refers to the kind of graduation thesis of each program, such as engineering design, engineering research, etc.)

**Reference table 10 Practice and training performed through cooperation with enterprises**

| Base name | Off-campus partner | Teaching tasks undertaken | Assessment method of students at the base | Number of students practicing at the base each year |                  |                  |
|-----------|--------------------|---------------------------|---|---|------------------|------------------|
|           |                    |                           |   | xxxx school year                                    | xxxx school year | xxxx school year |
|           |                    |                           |   |   |                  |                  |

**Supplemental materials:**

The course syllabi and evaluation report on the attainment of course learning outcomes of this type of curriculum;

Documents for recording the teaching process of practice and training in the last three years, including teaching plans and related records of execution, records of assessment, and related reports submitted by students) (with an index provided in the appendix)

List of graduation design (theses) completed in the last three years, including thesis title, categories, grades, whether completed in enterprises or not, and on-campus/off-campus tutors, etc.

List of the graduation project (thesis) guidance and assessment involving industry and enterprise experts in the last three years.

The composition of the practical education system of the program and requirements of each teaching module on credits/credit hours (see Table 5-10 for the reference format).

**5.4 Courses on humanities, social sciences and general education (accounting for at least 15% of the total credits) to enable students to consider the economic, environmental, legal, safety, health and ethical constraints in engineering practice.**

List this type of courses and their requirements for credits/credit hours, and describe the compliance of their total credit ratios and the compliance with the complementary program criteria.

Describe requirements and measures for ensuring students to complete this type of courses.

Explain how this kind of curriculum help students consider economic, environmental, legal, ethical, and other constraints when they engage in engineering design.

**Supplemental materials to be submitted:**

Regulations and documents that explain how students select courses

Course syllabi, teaching plans, assessment materials and evaluation report on the

attainment of course learning outcomes of this type of curriculum that are used to evaluate the attainment of graduate outcomes (with an index provided in the appendix)

## 6 FACULTY

**6.1 The faculty is sufficient and has a reasonable structure to meet the program's teaching requirements. The program must have part-time faculty members from industry or enterprises.**

List the amount of full-time faculty (including full-time experiment teachers), as well as the structure of their ranks, ages, education backgrounds, etc.

List part-time teachers from enterprises and the industry, teaching tasks they assumed, and other tasks related to teaching.

**Supplemental materials:**

List of teachers, including teachers' personal information and teaching tasks they undertake (including teaching tasks of other programs they undertake)

List of part-time teachers from enterprises and the industry, including their personal information and teaching tasks they undertake

**6.2 Each faculty member must have proper teaching, professional practice, communication, career development and engineering research abilities. The professional background of each faculty member must meet the program's teaching needs.**

Describe the main basis of the program to judge teachers' teaching ability, professional level, communication ability, and career development ability; and the basic judgment of teachers' abilities based on the above-mentioned information.

Describe the main basis of the program to judge teachers' engineering background; and the basic judgment of teachers' engineering experience based on the above-mentioned information.

Describe research on engineering practice and various academic exchanges that the faculty got involved in the last three years.

Describe compliance of teachers' professional background and engineering abilities with the complementary program criteria.

**Supplemental materials:**

Regulations and records of identification of teachers' ability

List of achievements that teachers engaged in, published, or obtained meeting the program criteria

Materials of teachers' engineering experience

**6.3 The faculty members must have sufficient time and effort devoted to undergraduate teaching and student advising and actively participate in research and reform on teaching.**



Describe regulations and measures for ensuring teachers to devote their time and efforts in undergraduate teaching and student advising (briefly describe the main points and just list the document names and original indexes of relevant regulations and measures).

Describe regulations and measures of the institution to encourage teachers to actively participate in research and reform on teaching (briefly describe the main points and just list the document names and original indexes of relevant regulations and measures).

List in a tabular form the efforts made by teachers in undergraduate teaching and student advising in the last three years.

Summarize achievements made by teachers in student training as well as research and reform on teaching in the last three years.

**Supplemental materials:**

Related documents and regulations about faculty management

Proof materials of related projects and achievements (with an index provided in the appendix)

**6.4 The faculty members must provide student advising, counseling and service activities and accommodate adequate levels of career planning and professional education to the students.**

Describe regulations, measures, and conditions for ensuring teachers to provide advising services to students (briefly describe the main points and list the document names and original indexes of relevant regulations and measures).

Describe in a tabular form of advising, counseling, and other services provided by teachers to students, in addition to course teaching.

**Supplemental materials:**

Related documents and regulations

Original records of the advising work (with a material index provided in the appendix)

**6.5 The faculty members must understand their responsibilities in the program's quality improvement and continuously improve their work.**

Describe regulations and measures of the institution or the program for making clear teachers' responsibilities in improving teaching quality and continuously improving their work (briefly describe the main points, and just list the document names and original indexes of relevant regulations and measures).

Summarize main measures for pushing teachers to perform their duties, the accountability mechanism for teaching quality problems, and status of implementation (briefly describe the main points, and just list the document names and original indexes of relevant regulations and measures).

**Supplemental materials:**

Related documents and regulations

Original records of teachers' performance of their duties (with a material index provided in the appendix)

## 7 SUPPORTING RESOURCES

**7.1 Classrooms, laboratories, practice and exercise workshops, associated equipment are adequate to satisfy teaching needs. The program must have well-established management, maintenance and update mechanism of the facilities enabling students to access. The program cooperates with enterprises to establish practice and exercise bases and provide the engineering practice platform for the student during the teaching process.**

Explain in a tabular form whether laboratories, experimental equipment, and software tools can meet the teaching needs in terms of quantity and function, including the arrangement and grouping of various types of student experiments.

Describe regulations and measures concerning the update, maintenance, security, and open management of classrooms and laboratory equipment, and their implementation.

Explain in a tabular form whether the main off-campus bases for practice/exercise in last three years can meet the requirements of engineering practice of students of the program (including the enterprises, practice and exercise conditions, enterprises advisers , teaching tasks, etc.).

### **Supplemental materials:**

Relevant regulations and measures

Laboratory and equipment related to the program, a list of software tools available to students, and relevant teaching tasks

A list of off-campus practice/exercise bases and teaching tasks they undertake

**7.2 Computer facilities, network conditions, books and documents sufficient to satisfy the needs of teaching and scientific research of the students and faculty. These resources are systematically maintained and accessible, and have a high degree of sharing.**

Describe the allocation, management system, and resources sharing required by the criteria.

Describe whether the shared resources can meet the needs of teachers and students of the program for learning, teaching, and scientific research.

### **Supplemental materials:**

Relevant management regulations

**7.3 Financial resources must be sufficient to meet the needs of teaching.**

Provide the statement of the main income and expenditure of teaching funds of the program in the past three years.

Describe whether the total funds meet the teaching needs, especially whether the investment in experiments, practice, and graduation per student is guaranteed, and

whether the investment in special funds meets the needs of continuous improvement of the program.

**Supplemental materials:**

Relevant regulations and standards of the institution for the budget, allocation, and use of teaching funds

The list of expenditures

**7.4 The institution must attract and retain qualified faculty and effectively support faculty development, especially the guidance and training of young faculty.**

Describe Organizations, systems, and measures of the institution to support the development of the faculty (briefly describe the main points, and just list the document names and original indexes of relevant regulations and measures).

Describe measures and effects of the institution to support and stabilize the development of the faculty of the program in the past three years.

Describe specific measures of the institution to support the professional development of the faculty, in particular for improving teaching and engineering practice abilities of young teachers (briefly describe the main points, and just list the document names and original indexes of relevant regulations and measures).

Describe training opportunities obtained by young teachers of the program for improving their teaching and engineering practice abilities in the last three years, and the effects from the training.

**Supplemental materials:**

Documents of relevant regulations and measures, as well as proof materials for the implementation effects

**7.5 The institution must have sufficient infrastructure to meet the needs of graduate outcomes and support students' practice and innovation activities. What needs to be explained:**

Describe the infrastructure provided by the institution to meet students' learning, living, sports, and cultural needs.

List Places, facilities, and management services provided by the institution to support students' practice and innovation activities, and the benefits to students.

**Supplemental materials:**

Documents demonstrating the benefits to students

**7.6 The institution must have well-established teaching management and service to support the attainment of graduate outcomes.**

Describe support and services provided by functional departments of the institution in teaching management, system construction, guarantee of conditions, quality control, and

coordination for students to meet the graduate outcomes and fulfill continuous improvement of the program.

List documents that demonstrate the institution have well-established teaching management and service

List original documents of the policies and measures introduced by the institution for the program to carry out outcome-oriented teaching reform and quality evaluation.

## **COMPLEMENTARY PROGRAM CRITERIA**

Describe how the program satisfies any applicable program criteria. If already covered elsewhere in the Self-Study Report, provide appropriate references.