ASIIN Seal
Accreditation Report

Bachelor Degree Programmes
Communication Engineering,
Measurement and Control Technology and Instruments

Offered by

Hunan Institute of Engineering

Version: 27/03/2026

Status: *AC version*

Table of Content

A. About the Accreditation Process

Name of the degree programme (in original language)	**(Official) English translation of the name**	**Labels applied for**	**Previous accreditation (issuing agency, validity)**	**Involved Technical Committees (TC)**
通信工程,	Communication Engineering,	ASIIN Seal for degree programmes	/	02, 01
测控技术与仪器	Measurement and Control Technology and Instruments	ASIIN Seal for degree programmes	/	02, 01
Date of the contract: 09.10.2024 **Submission of the final version of the self-assessment report:** 01.10.2025 **Date of the onsite visit:** 27-28.11.2025 **at: Hunan Institute of Engineering**				
Expert panel: Prof. Dr. Harald Jacques, Former Dean at Hochschule Düsseldorf University of Applied Sciences Prof. Dr. Hui Zhang, Institute of High Energy Physics Dr. Kriegel Kai, Siemens AG Xiaoqiu Pan, Shanghai University of Engineering Science (SUES)				
Representative of the ASIIN headquarter: Dr. Xin Jiang, Project manager and consultant international, ASIIN Consult GmbH				
Responsible decision-making committee: Accreditation Commission for Degree Programmes				
Criteria used: European Standards and Guidelines as of May 15, 2015				

ASIIN General Criteria as of March 28, 2023 Subject-Specific Criteria of Technical Committee 02 – Electrical Engineering/Information Technology as of December 9, 2011 Subject-Specific Criteria of Technical Committee 01 – Mechanical Engineering/Process Engineering as of December 9, 2011	

B. Context of the Degree Programmes

B-1. Numbers and facts

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[1]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
通信工程, Communication Engineering	工学学士 B.Engineering	Electrical Engineering Information Technology	6	Full time		8 Semester	205 ECTS	Annually / 2003
测控技术与仪器, Measurement and Control Technology and Instruments	工学学士 B.Engineering	Electrical Engineering Information Technology	6	Full time		8 Semester	196 ECTS	Annually / 2000

B-2. Characteristics and features

Hunan Institute of Engineering (HIE) is a provincial higher-education institution with an application-oriented profile as described in the institutional development plan. According to the SAR, the university organises its teaching and programme management within national higher-education regulations and maintains internal procedures for curriculum development, teaching organisation, and quality assurance. The institution reports cooperation with regional industries in areas related to engineering, electronic information, manufacturing, and automation.

The Bachelor's programme Communication Engineering (CE) is offered by the College of Information Science and Engineering, while the Bachelor's programme Measurement and Control Technology and Instruments (MCTI) is offered by the College of Electrical and Information Engineering. Both programmes develop their curricula within the framework of the university's regulations for formulating and revising cultivation plans. The SAR states that information from students, teachers, employers, and alumni is collected through surveys or consultations when programmes are adjusted. Each programme has established off-campus practice bases through cooperation agreements with enterprises, which are

[1] EQF = The European Qualifications Framework for lifelong learning

used for internships and practice components. Graduate employment data indicate that students commonly work in engineering- and technology-related positions in the region.

As presented in the SAR, both programmes follow a curricular structure beginning with general education, mathematics, and basic engineering modules, followed by discipline-specific modules, laboratory work, project components, internships, and a final thesis. The university reports that outcome-based considerations are taken into account in the formulation of learning outcomes and programme planning. Academic advising and administrative support are provided through the respective colleges.

Although the two programmes share general engineering foundations, they differ in disciplinary orientation: CE focuses on communication systems and electronic information technologies, whereas MCTI focuses on measurement principles, control systems, sensors, and instrumentation in fields related to automation and manufacturing.

According to the SAR and supporting evidence, both programmes are also engaged in activities related to internationalisation and outcome-based education (OBE). Examples include cooperation initiatives listed on the programme webpages, the availability of English versions of selected public documents, and the stated intention to align learning-outcome formulation, teaching design, and assessment practices with OBE principles. These developments are described as ongoing efforts within the institution’s broader teaching reform agenda.

C. Assessment of the Expert Panel

This accreditation report is based on the preliminary evaluation report for the degree programme(s) under review. As the evaluation report strictly adheres to the relevant general and subject-specific accreditation criteria, no changes have been made to the evaluative chapters. The expert panel considered the statement and additional information of the HEI for its concluding remarks and recommended resolution.

The following sections of the report are based on the audit discussions held by the expert panel with the relevant stakeholder groups, including the rectorate and college management, programme coordinators, teaching staff, students, and industry (and alumni) representatives. At this stage of the evaluation, the focus lies on assessing the overall quality level and competence profile of the Bachelor's degree programme under review. In addition to the onsite meetings, the expert panel also relies on the documentation provided by the institute before, during, and after the audit, including programme materials and the relevant regulatory framework.

C-1. Objectives and learning outcomes of the degree programmes [ASIIN 1.1]

Description of the current status

Evidence

- SAR Section 1.1
- Appendix 05.1 Objectives
- Appendix 05.2 Learning outcomes
- Appendix 07.1 Objective-Module Matrix
- Appendix Folder 08 Study Plan or Curricular Overview onsite discussion
- webpage of the College (https://sise.hnie.edu.cn/ASIINrz.htm; https://dqxy.hnie.edu.cn/ASIIN.htm)
- Onsite visit discussion

Based on the information presented in the Self-Assessment Report (SAR Section 1.1) and the accompanying appendices (Appendix 05.1 Objectives; Appendix 05.2 Learning Out-

comes; Appendix 07.1 Objective–Module Matrix; Appendix Folder 08 Study Plan or Curricular Overview), together with the explanations provided during the onsite discussions, both programmes define their intended learning outcomes with reference to the Chinese Engineering Education Accreditation Framework. According to the SAR and the discussions held onsite, the university applies a regular revision mechanism involving teachers, students, alumni, and industry representatives through surveys or consultations. These revisions aim to ensure both the achievement of the intended learning outcomes and their continued relevance to labour-market requirements.

Both programmes emphasise the institution's application-oriented profile and refer to employer needs, graduate feedback, and cooperation with enterprises as important sources for developing the intended competence profile. The programme coordinators explained during the onsite visit that the distinction between application- and research-oriented approaches is reflected mainly in the curriculum structure rather than in the wording of the intended learning outcomes. Although stakeholder participation is mentioned, the submitted materials do not include corresponding reports or summaries.

Communication Engineering (CE)

The CE programme presents two distinct formulations of its intended learning outcomes: (1) A framework of six dimensions with 24 indicators published on the programme website; (2) The twelve graduation requirements of the national engineering accreditation framework, used in the programme handbook, the curriculum documents, and the Objective–Module Matrix.

These two sets are not cross-referenced in the submitted materials, and curriculum mapping relies exclusively on the twelve-item structure. The university submitted material intended to show a relation between CE learning outcomes and the sample descriptors of SSC02, but the content consists of side-by-side descriptions rather than a structured mapping or analysis.

Measurement and Control Technology and Instruments (MCTI)

The MCTI programme adopts the twelve graduation requirements of the national engineering accreditation framework as its intended learning outcomes, and this formulation is used consistently across the SAR, the cultivation plan, and relevant curriculum documents. Within the materials available to the panel, these learning outcomes do not appear to be publicly accessible on the university website.

The submitted documentation contains no comparison with SSC02 and no related analysis or reflection.

Analysis and assessment of the expert panel

Across both programmes, the use of the national engineering accreditation framework provides a structured basis for formulating the intended competence profile. However, the submitted materials do not explain how these formulations correspond to the institution's declared orientation as an application-oriented university. The learning outcomes emphasise the ability to analyse, design, and solve "complex engineering problems", but the documentation does not clarify how this formulation reflects the competence level expected of an application-oriented bachelor's degree, nor how it differs from the outcome models commonly used at research-oriented universities.

During the onsite visit, programme coordinators stated that the distinction between research- and application-oriented approaches is reflected mainly in curriculum structure rather than in the wording of learning outcomes. This line of reasoning, however, remains curriculum-driven and does not align with an outcomes-based approach (OBE); thus, the explanation does not fully resolve how the stated OBE philosophy is operationalised within the competence profile.

Furthermore, the materials do not sufficiently present a correspondence between the intended learning outcomes and the sample descriptors of SSC02. No justification is offered for potential similarities or differences, making it difficult to determine the academic classification of the intended competence profile. Although stakeholder involvement in programme revision was mentioned during the onsite discussions, the panel did not receive supporting documentation such as reports, records of consultations, or summaries of feedback. As a result, it is not possible to trace how stakeholder input informed the latest revisions.

The objectives (Appendix 05.1) and learning outcomes (Appendix 05.2) also do not include information on when they became effective or were last revised. This absence indicates that, even where revision processes may exist, they are not sufficiently documented or made transparent.

Communication Engineering (CE)

In the CE programme, two parallel sets of learning outcomes coexist: one published online (six dimensions and 24 indicators) and another used internally (twelve graduation requirements). This duality makes it difficult for students and external readers to identify the authoritative formulation and weakens the consistency of the competence framework. Although one of the two sets was mapped against SSC02, the submission does not explain the relationship between the two frameworks or how potential differences were interpreted.

The CE programme did provide a relatively detailed university-initiated survey report from a previous programme revision cycle. However, the materials still do not demonstrate a complete evidence chain showing how stakeholders actively contributed to the modification of learning outcomes.

Measurement and Control Technology and Instruments (MCTI)

In the MCTI programme, the intended learning outcomes are consistent across internal documents, but they are not publicly accessible within the materials available to the panel, which limits transparency. In addition, the submitted materials contain no comparison between the MCTI learning outcomes and the SSC02 sample descriptors, making it impossible to determine their academic classification.

Although stakeholder participation was mentioned during the onsite discussions, no supporting evidence – such as survey data, consultation records, or documentation of stakeholders' views – was submitted to show how such input influenced the revision process.

Final assessment of the experts after the statement of the Higher Education Institution regarding Criterion 1.1:

Based on the preliminary assessment and considering the statement of the university, the panel concluded Hunan Institute of Engineering to be *substantially fulfilled* with the standard for both the Communication Engineering programme and the Measurement and Control Technology and Instruments programme.

The panel takes note that the university has clarified the set of programme-level Intended Learning Outcomes for the Communication Engineering programme. This clarification addresses the previously identified ambiguity concerning the definition of the ILOs for this programme and is therefore considered sufficient. Consequently, the related recommendation is no longer maintained.

The panel further notes that, in response to the Initial Evaluation Report, the university has submitted additional documentation concerning the involvement of stakeholders in the process of defining and revising programme objectives and learning outcomes. The submitted materials demostrate that stakeholder participation has been taken into account in the recent revision process and are considered acceptable in addressing the experts' request for clarification in this regard.

With regard to the alignment with the sample outcomes of SSC02, the panel acknowledges that the intended learning outcomes of both programmes are formulated in accordance with the national engineering accreditation framework applied in China and that the essential competence elements of SSC02 are substantively covered. In the panel's view, the

remaining differences primarily relate to structure, aggregation and presentation, rather than to a lack of relevant learning outcome components, and are therefore considered acceptable at this stage.

In addition, the panel maintains its concern that the formulation of several Intended Learning Outcomes—especially those referring to "complex engineering problems"—may exceed the competence level typically expected of an application-oriented bachelor's degree, as declared in the institutional profile. A more careful calibration of these learning outcomes would therefore be required.

Accordingly, the panel maintains its original assessment and confirms the recommendation associated with this criterion (see below, chapter F, E1).

C-2. Name of the degree programmes [ASIIN 1.2]

Description of the current status

Evidence:

- SAR Section 1.2
- Appendix 06.1 Sample Transcript – CE
- Appendix 06.2 Sample Transcript – MCTI
- Onsite visit discussion

According to the Self-Assessment Report (SAR Section 1.2), both programmes use the official Chinese titles "通信工程" (Communication Engineering, CE) and "测控技术与仪器" (Measurement and Control Technology and Instruments, MCTI). These titles follow the terminology prescribed in the national higher education discipline catalogue and correspond to long-established naming conventions used by Chinese universities offering comparable programmes. The English titles "Communication Engineering" and "Measurement and Control Technology and Instruments" are used consistently across the SAR, the appendices, and the English webpages provided to the panel.

Appendix 06.1 and Appendix 06.2 (sample transcripts) likewise show consistent use of the programme titles in both Chinese and English in official academic records. The transcripts list the degree titles, major names, and course groupings without deviation from the terminology used elsewhere in the submitted documents.

During the onsite visit, programme coordinators and teaching staff confirmed that the titles are aligned with national regulations on programme nomenclature and that the university

does not operate alternative tracks or specialisations that would require additional differentiation in the degree titles. No concerns were raised by any stakeholder regarding possible discrepancies between the programme names and the content or focus of the curricula.

Analysis and assessment of the expert panel

Across both programmes, the naming follows Chinese national nomenclature standards, which provide clarity for students, employers, and external stakeholders. The titles are widely recognised within the Chinese engineering education landscape, reflecting conventional disciplinary boundaries. The consistent use of both Chinese and English titles across all submitted materials (including transcripts, SAR, appendices, and webpages) supports transparency and avoids potential ambiguity for applicants or international partners.

At this stage of the assessment, the panel notes that determining whether the titles fully reflect the learning outcomes and curricular content requires integration with findings under Criteria 1.1 and 1.3. These criteria address the intended competence profile and curricular alignment, which together provide the framework for assessing whether the programme names appropriately communicate the academic and professional orientation of the degrees. Based on the materials reviewed and the onsite discussions, the panel did not identify any inconsistencies or concerns regarding the adequacy of the programme titles. The onsite discussions further confirmed that no stakeholder expressed doubt about the appropriateness of the current titles.

Final assessment of the experts after the statement of the Higher Education Institution regarding Criterion 1.2:

Based on the preliminary assessment and considering the statement of the university, the panel concluded Hunan Institute of Engineering to be *fully fulfilled* with the standard for both the Communication Engineering programme and the Measurement and Control Technology and Instruments programme.

The explanations provided by the university do not affect the basis of the experts' original assessment. Accordingly, the panel confirms its previous conclusion.

C-3. Curriculum [ASIIN 1.3]

Description of the current status

Evidence:

- SAR 1.3

- Appendix 05.2 Learning Outcomes
- Appendix Folder 08 Study Plan / Curricular Overview
- Appendix 09.1 Syllabus – CE
- Appendix 09.2 Syllabus – MCTI
- Appendix 10.1 Statistics on Student Mobility
- On-site discussions with coordinators, faculty, students, and university leadership

Content & Structure

The Self-Assessment Report (SAR 1.3), together with the curricular overviews and module descriptions submitted in Appendices 05.2, 08, and 09, outlines the structure, sequencing, and intended function of the modules offered in both programmes. The curriculum of each programme is organised around the overarching competence profile defined at programme level and includes basic studies, discipline-specific modules, laboratory components, practical training, and general education modules as required by national educational regulations.

For Communication Engineering (CE), the curriculum is presented in a semester-by-semester scheme in the SAR, showing a progression from foundational modules in mathematics, physics, programming, and circuit theory toward specialised modules such as communication principles, signal processing, mobile communication technologies, and related laboratory work. Elective modules in later semesters allow students to develop a focus area in communication systems or related applied technologies. Appendix 09.1 provides module-level learning outcomes, assessment forms, and teaching arrangements that reflect a coherent build-up of engineering knowledge and skills.

For Measurement and Control Technology and Instruments (MCTI), the study plan in Appendix 08 and the module descriptions in Appendix 09.2 present a similar structure of foundational knowledge leading to discipline-specific training in measurement technologies, sensors, instrumentation circuits, automatic control, embedded systems, and applied laboratory practice. A curriculum topology diagram was not part of the initial submission but was provided during the second day of the onsite visit (28 November 2025) . This diagram illustrates the flow from fundamental courses to applied modules. The documentation shows that a number of very small modules (e.g. a 0.5-credit “Introduction to Measurement and Control”) are integrated into early semesters and that elective options are offered, although the required number of electives is not specified in the submitted materials.

Both programmes include a mandatory internship, described in SAR 1.3 as integrated into the study plan and supervised jointly by the university and cooperating enterprises. According to the onsite discussions, the internship is normally undertaken in the summer term between the third and fourth academic year and contributes to students' familiarisation with industrial engineering practice.

Mobility

The SAR states that both programmes formally allow for student mobility, and the university has policies governing the recognition of credits earned externally. In addition to the statements in the SAR, the institution submitted statistical data on student mobility for the Communication Engineering (CE) programme covering the years 2018–2022 (Appendix 10.1 Statistics on Student Mobility). The document indicates that during this five-year period, no incoming students participated in mobility activities and only one outgoing student completed an exchange semester in 2022. The supporting description refers to an exchange arrangement with the Macau University of Science and Technology, delivered in English with a recommended workload of 12 credits and a stated process for credit recognition upon return.

No mobility records, partner listings, or statistical documentation were submitted for the Measurement and Control Technology and Instruments (MCTI) programme. During the onsite discussions, staff confirmed that overall participation in mobility opportunities across both programmes remains very limited, and that mobility is not yet embedded as a regular component of the study experience.

Periodic review

The SAR refers to a four-year revision cycle for updating the cultivation plan and associated curriculum. According to SAR 1.3 and the statements provided during the onsite visit, reviews are conducted under institutional procedures that involve teachers, students, alumni, and enterprise partners. However, the curriculum documents, including the module descriptions in Appendices 09.1 and 09.2, do not contain version information, revision notes, or other indications that changes are systematically recorded at module level. No documentation tracing the most recent curriculum revision was submitted.

Analysis and assessment of the expert panel

Content and Structure

Based on the submitted documentation, both programmes present a curriculum that covers the essential components of an engineering degree and provides a structured pathway

from foundational knowledge toward specialised competence areas. The module descriptions indicate intended learning outcomes at module level; however, a more explicit demonstration of how these module-level outcomes cumulatively lead to the achievement of programme-level learning outcomes (ILO alignment) would strengthen transparency. As noted under Criterion 1.1, the effectiveness of the curriculum in supporting the intended competence profile depends on the clarity and anchoring of programme-level learning outcomes.

With respect to module sequencing, the CE curriculum reveals a generally coherent order from basic science and introductory engineering courses to intermediate modules and specialised communication engineering content. Laboratory components and the internship are positioned in later semesters, supporting the transition to application-oriented learning. A minor inconsistency was noted in the SAR where the total number of credits listed (240 CP) does not align with the official curriculum overview (205 CP). The presented curriculum structure appears to be correctly reflected on the official website; therefore, the discrepancy likely originates from the SAR rather than the curriculum document.

In the MCTI programme, the sequencing of modules is less consistent. The placement of digital electronics before analogue electronics may not reflect the typical progression of conceptual difficulty, and the function of the 0.5-credit introductory module is not clearly explained. The elective modules listed in Appendix 08.3 do not specify how many modules students are expected to complete. A discrepancy also exists between the total credits stated in the SAR (196 CP) and those listed in the curriculum table (209 CP), accompanied by an unexplained deduction of 8 credits. These inconsistencies reduce the transparency of the curriculum structure and make it difficult to confirm whether all intended competences can be achieved within the standard period of study.

From a European perspective, the presence of extensive general education modules unrelated to engineering—such as courses in politics, military training, and mental health—amounting to approximately 23 credits, is unusual. Nevertheless, after excluding these modules, the engineering-related credits amount to approximately 182 (CE) and 186 (MCTI), which is consistent with the expectations for a bachelor's degree in engineering.

The internship is integrated into both curricula; however, the documentation does not provide sufficient detail on how the university ensures the academic coherence, supervision standards, and quality assurance of the internship experience.

Mobility

While both programmes formally permit student mobility, the evidence submitted indicates that actual participation is extremely low. The statistical report for the CE programme

shows that, over five years, only one student took part in an exchange semester and no incoming students were recorded. Although an institutional arrangement with the Macau University of Science and Technology exists, its very limited uptake suggests that mobility has not been effectively integrated into the programmes or sufficiently promoted among students. The documentation outlines a process for recognising credits earned during mobility, yet the absence of "mobility windows", partner networks, or examples of implemented credit transfer indicates that the framework is not fully operational.

For the MCTI programme, no mobility data or supporting documents were submitted, preventing an assessment of its mobility practices. Across both programmes, mobility does not appear to constitute a meaningful part of the students' learning experience, limiting their opportunities for international exposure and reducing the programmes' alignment with broader objectives of higher education openness and internationalisation. Strengthening mobility structures—such as defining mobility windows, establishing active partnerships, and providing support services—would be necessary to improve student participation and the overall international profile of the programmes.

Periodic review

Although the SAR describes a general four-year revision cycle, the submitted materials contain no traceable evidence—such as meeting minutes, revision reports, or summaries of stakeholder feedback—that would allow the panel to confirm how this mechanism has been implemented in recent years. The module descriptions do not include version numbers or revision histories, which limits the visibility of continuous improvement at module level. As the curriculum revision process is closely linked to the updating of learning outcomes (Criterion 1.1) and to quality assurance processes (Criterion 4.1), the lack of transparency in the documentation restricts the assessment of its actual operation. The periodic review of the curriculum is also closely connected to the broader quality assurance mechanisms described under Criterion 5, and further observations can be found in Section C-9 of this report.

Final assessment of the experts after the statement of the Higher Education Institution regarding Criterion 1.3:

Based on the preliminary assessment and considering the statement of the university, the panel concluded Hunan Institute of Engineering to be *partially fulfilled* with the standard for both the Communication Engineering programme and the Measurement and Control Technology and Instruments programme.

The panel notes that the university's statement does not contain factual updates or additional evidence that would substantively affect the basis of the Initial Evaluation Report. In

particular, no verifiable information has been provided to demonstrate that the Intended Learning Outcomes and other essential programme information are publicly available and easily accessible to relevant stakeholders in a systematic and transparent manner.

Furthermore, while the university refers to internal review and improvement processes, these mechanisms are not reflected in the module descriptions in a way that would allow the periodic review of modules to be traced, for example through documented revision histories, versioning, or update notes.

With regard to student mobility, the panel notes that the statement does not provide concrete measures, structured support arrangements, or operational data that would indicate a strengthening of international mobility opportunities for students in either programme.

Accordingly, the panel maintains its original assessment and confirms the requirement and recommendations associated with this criterion (see below, chapter F, A1, E2 and E3).

C-4. Admission requirements [ASIIN 1.4]

Description of the current status

Evidence:

- SAR Section 1.4
- Appendix Folder 11 Admission Regulation
- Appendix Folder 12 Admission Rate Statistics
- Appendix Folder 13 Recognition of Externally Acquired Academic Qualifications
- Onsite visit discussion

According to SAR Section 1.4 and the accompanying documents, admission to both programmes follows the national framework of the Chinese higher education system. Entry is based on the National College Entrance Examination (Gaokao), with programme-specific admission scores and annual quotas published through official channels. The submitted admission statistics (Appendices 12.1–12.3) show that both programmes have maintained stable admission scores and an enrolment rate of 97–100% in recent years.

Appendix Folder 11 contains several binding university regulations governing different admission routes. The General Admissions Regulation defines the principles, procedures, and publication requirements for all undergraduate admissions. The Admission Regulation for

Foreign Students specifies requirements such as HSK Level 4 and structured interview procedures. The Admission Regulation for Top-up Degree Students outlines examination subjects, admission quotas, and internal quality-control procedures.

The institution also provides rules for student transfers and programme transfers (Appendices 11.5 and 11.6), which describe conditions, documentation requirements, and internal processes for recognising externally acquired learning. These regulations apply to students transferring from other institutions as well as internal transfers between programmes. Appendix Folder 13 contains administrative procedures related to overseas study, but it does not include regulations for recognising credits earned abroad.

During the onsite discussions, administrative staff and programme coordinators described a multi-layered supervision mechanism under the General Admission Supervision Regulation (Appendix 11.3), which involves university- and school-level oversight, including the Discipline Inspection Commission. The expert panel did not identify concerns about transparency or fairness in the admission procedures.

The materials do not provide evidence of a periodic evaluation mechanism assessing whether the admission requirements remain appropriate over time or whether the prior knowledge of newly admitted students is regularly monitored.

Analysis and assessment of the expert panel

The admission requirements and procedures for both CE and MCTI are clearly defined, binding, and publicly accessible. Admission through the Gaokao ensures a uniform national standard for student intake, and the consistently high enrolment rates indicate that both programmes attract an adequate number of applicants who meet the baseline academic requirements.

The regulations governing foreign-student admission and top-up (lateral-entry) admission provide structured procedures that support transparency and academic readiness. Requiring HSK Level 4 and interview procedures for international applicants constitutes a reasonable safeguard for language competence and academic integration. Similarly, the rules for top-up admission maintain programme integrity by defining subject-specific examinations, quotas, and review processes.

The institution has established comprehensive rules for recognising learning previously acquired outside the programme, including student transfers and programme transfers. These allow for mobility without compromising academic standards. However, the documentation does not include procedures for recognising academic achievements from over-

seas study; Appendix 13.1 focuses solely on administrative arrangements. As such, externally acquired academic learning is recognised only within the domestic framework defined by Appendices 11.5 and 11.6.

While the overall admission framework is clear and consistently applied, the materials do not demonstrate whether the university periodically evaluates the effectiveness of its admission requirements or whether it systematically monitors the subject-specific prior knowledge of incoming students. Given the foundational importance of mathematics, physics, and basic engineering competencies, periodic review would be relevant to ensure that admission requirements continue to support student success. This issue links to the broader quality-assurance processes addressed under Criterion 5.

Final assessment of the experts after the statement of the Higher Education Institution regarding Criterion 1.4:

Based on the preliminary assessment and considering the statement of the university, the panel concluded Hunan Institute of Engineering to be *fully fulfilled* with the standard for both the Communication Engineering programme and the Measurement and Control Technology and Instruments programme.

The information provided by the university does not affect the basis of the experts' original assessment. Accordingly, the panel confirms its previous conclusion.

C-5. Workload and credits [ASIIN 1.5]

Description of the current status

Evidence:

- SAR Section 1.5
- Appendix Folder 14 Workload Verification
- Appendix Folder 15 Conversion from Credit Points to ECTS Credits
- Appendix Folder 09 Module Descriptions
- Onsite visit discussion

According to SAR 1.5 and the appended documentation, both programmes have introduced an ECTS-based workload approach that combines contact hours with student self-study time. Appendix 15.1 provides institutional rules for converting institutional credits into ECTS credits: theoretical modules generally apply a 1:1 conversion, whereas practical

modules follow a 1:2 conversion. These rules represent the current basis of credit allocation during the early stage of ECTS implementation.

Appendix 14.2 describes the university's Management Measures for Monitoring Student Workload, which include an annual workload survey, a ±10% tolerance range, and provisions for corrective actions. Appendix 14.1 contains workload statistics for the CE programme; most modules fall within the tolerance range, although deviations exist. No comparable workload data were provided for the MCTI programme. During the onsite discussions, programme coordinators confirmed that the monitoring mechanism is in place, but its implementation across programmes varies.

The total ECTS workload shown in the institutional documents is inconsistent. For the CE programme, SAR refers to a 240-ECTS workload, whereas Appendix 08.1 (curriculum overview) lists a total of 205 ECTS. For the MCTI programme, the SAR describes a 196-ECTS workload, whereas Appendix 08.3 indicates a total of 209 ECTS. The submitted materials do not explain the inconsistencies or provide institutional regulations governing the unified calculation of ECTS credits.

Students are involved in workload monitoring through regular surveys. The results are reviewed by the Academic Guidance Committee and are used for workload verification. However, documentation of the follow-up process, including adjustments made in response to deviations, is not included in the submitted materials.

Analysis and assessment of the expert panel

The institution has taken initial steps toward adopting an ECTS-based credit system. The defined conversion ratios in Appendix 15.1 offer a starting point; however, the fixed conversion of institutional credits to ECTS does not yet reflect the student-workload-based principle required by the ECTS framework. A transition from fixed ratios to data-driven workload allocation will be essential for full alignment with ASIIN Criterion 1.5.

The inconsistency of total ECTS values across official documents – 205 vs. 240 in CE and 196 vs. 209 in MCTI – indicates that ECTS implementation is not yet systematic or institutionally regulated. The absence of coherent documentation suggests a lack of binding rules governing the calculation of workload, and the discrepancies raise questions about whether the programmes follow a unified standard for determining credit allocation. These inconsistencies also imply that the workload has not been fully operationalised as an integrated component of curriculum planning.

Workload monitoring appears to be more advanced in the CE programme, where Appendix 14.1 provides module-level statistics. Some deviations exceed the ±10% tolerance, and the

documentation does not indicate whether corrective measures were taken. For the MCTI programme, no workload monitoring data were submitted, making it impossible to evaluate whether the estimated workload aligns with actual student effort. Taken together, the evidence demonstrates that workload monitoring remains uneven across programmes.

Student involvement through annual workload surveys aligns with ASIIN expectations; however, the documentation provided does not show the full cycle of evaluation, decision-making, and implementation of adjustments. The limited transparency of follow-up measures and the lack of MCTI data indicate that the feedback loop is not yet fully established. The progression toward a student-centred workload system therefore requires stronger institutional coordination and clearer procedural evidence.

Final assessment of the experts after the statement of the Higher Education Institution regarding Criterion 1.5:

Based on the preliminary assessment and considering the statement of the university, the panel concluded Hunan Institute of Engineering to be *substantially fulfilled* with the standard for both the Communication Engineering programme and the Measurement and Control Technology and Instruments programme.

The panel notes that the university explicitly accepts the recommendation related to the introduction of the ECTS system and indicates its intention to initiate corresponding improvement measures. The experts welcome this constructive attitude and the expressed willingness to further develop the relevant arrangements.

However, at this stage, the statement does not yet provide factual updates or supporting evidence demonstrating that formal institutional regulations for the application of ECTS credits have been established, nor that systematic surveys of students' actual learning time are being conducted. Consequently, the student-centred principle underlying the ECTS system is not yet sufficiently reflected in practice.

Accordingly, the panel maintains its original assessment and confirms the recommendation associated with this criterion (see below, chapter F, E4).

C-6. Didactics and teaching methodology [ASIIN 1.6]

Description of the current status

Evidence:

- SAR Section 1.6
- Appendix 08 Study Plan or Curricular Overview

- Appendix 09 Module Descriptions
- Onsite visit discussion, onsite check of the sample thesis and final exam paper

According to SAR 1.6 and the submitted module descriptions, both programmes employ a range of teaching methods, including lectures, laboratory experiments, case studies, course projects, and classroom discussions. These approaches are presented as supporting outcome-based education and student-centred learning. The study plans and module descriptions specify contact hours and self-study hours for each module, indicating an effort to balance classroom instruction with independent learning time.

The SAR states that students are gradually introduced to independent learning, with major research-oriented components concentrated in the graduation internship, design project, and final thesis. During the onsite visit, faculty members explained that course-level teaching practices also encourage autonomous learning, although these measures are not systematically documented in the module descriptions. The expert panel also received descriptions of the thesis evaluation process, which appeared structured and transparent based on the materials reviewed onsite.

The learning environment remains primarily classroom- and laboratory-based. Some modules indicate additional use of the Chaoxin Erya online platform for pre-class study or extended exercises, but the documentation does not describe a structured, programme-wide approach to blended learning.

The SAR lists several internal mechanisms for reviewing teaching quality—such as student feedback questionnaires, peer observations, and course inspections. However, the submitted materials do not illustrate how these inputs are analysed, how decisions are made, or how such processes contribute to the systematic improvement of teaching methods. No documentation of didactic training or professional development for teaching staff was included in the material provided to the panel.

Analysis and assessment of the expert panel

Across both programmes, the module descriptions show a variety of teaching methods, but their relationship to the intended learning outcomes remains insufficiently articulated. While the intended learning outcomes emphasise a progression in cognitive competence, the teaching methods listed in the modules do not explicitly correspond to levels of cognitive demand (e.g., comprehension, application, analysis, problem-solving). Without such alignment, it is difficult to assess whether the selected methods adequately support the knowledge and skills described in the intended learning outcomes.

The module descriptions rarely identify how independent learning or research skills are developed within the curriculum, except in the final-year components. This suggests that student-centred learning is recognised in principle but not consistently operationalised across teaching practices. Explicitly identifying didactic strategies for fostering independent learning at the module level would strengthen the student-centred approach described in the SAR.

Digital and face-to-face teaching formats appear to coexist but are not yet integrated into a coherent blended-learning concept. The use of Chaoxin Erya in some modules is a positive indication, though a systematic approach would enable a more intentional application of digital resources to support diverse learning needs.

The SAR refers to several mechanisms for reviewing teaching practices, including student feedback, peer observations, and course inspections. However, the submitted materials do not show how such feedback is consolidated, analysed, or translated into concrete improvement measures. The absence of such documentation limits the panel's ability to assess the effectiveness of these review processes.

Furthermore, the continuous improvement of teaching methodology is an integral component of the internal quality-assurance cycle. The transparency and functioning of this cycle will be further examined under Criterion 5 (C-9), and the lack of supporting evidence in the current materials also affects the evaluation of how teaching-related feedback contributes to broader quality enhancement.

Final assessment of the experts after the statement of the Higher Education Institution regarding Criterion 1.6:

Based on the preliminary assessment and considering the statement of the university, the panel concluded Hunan Institute of Engineering to be *partially fulfilled* with the standard for both the Communication Engineering programme and the Measurement and Control Technology and Instruments programme.

The panel notes that the university acknowledges the recommendation concerning the alignment of teaching methodologies with the intended cognitive levels of the learning outcomes and expresses its intention to further reflect this alignment in teaching practice. The experts welcome this stated commitment to improving the coherence between teaching methods and learning objectives.

However, at this stage, the documentation provided does not yet demonstrate in a systematic manner how teaching methodologies are selected and applied in relation to the intended cognitive levels, for example with reference to recognised frameworks such as

Bloom's taxonomy. In particular, it remains unclear how this alignment is consistently reflected across modules and documented in a way that allows verification and periodic review.

Accordingly, the panel maintains its original assessment and confirms the requirement associated with this criterion (see below, chapter F, A2).

C-7. Exams: System, concept and organisation [ASIIN 2]

Description of the current status

Evidence:

- SAR Section 2
- Appendix 16.1 Statistics on Academic Success
- Appendix Folder 17 Examination Regulations (17.1–17.21)
- Appendix 18.1 Statistics on Grade Distribution
- Onsite inspection of archived exam papers and bachelor theses
- Onsite visit discussions

Based on SAR Section 2 and the extensive documentation provided in Appendix Folder 17, both programmes have established a formal examination system that regulates assessment planning, the administration of examinations, grade management, make-up exams, grade inquiries, the management of bachelor theses, and the assessment of internships. Institutional regulations such as Student Academic Performance Management (17.1), Course Assessment Management (17.2) and the bachelor thesis/capstone project documents (17.3–17.5) define responsibilities and the procedural framework of assessment. Module descriptions indicate the use of different assessment formats, including written examinations, laboratory reports, project assignments, oral defences, and continuous assessment elements. Students reported during the onsite discussions that exam formats and grading criteria are communicated at the start of each course.

Samples of written exam papers, exam analysis reports and course achievement reports (17.6, 17.8, 17.15, 17.16, 17.21) show how teachers document examination outcomes at the end of each course. Grade distributions (Appendix 18.1) and academic success data (16.1) supplement this information. The bachelor thesis is governed by clearly documented procedures covering topic selection, supervision, plagiarism checking, defence arrangements and grading; thesis samples from both programmes (17.7, 17.11) were reviewed

during the onsite meetings. Internship and off-campus practice components are assessed using standardised templates (17.19, 17.20) completed by company supervisors and academic advisors.

Based on the appendices and the onsite inspection of archived examination papers, the expert panel noted that many final examinations are designed in a structured format, with different sections corresponding to different course-level learning outcomes. Score distributions in several modules showed a pronounced pyramidal shape, with a notable proportion of low examination scores, while the majority of students ultimately passed once continuous assessment components were incorporated. During the onsite discussions, programme representatives explained examination rules and grading mechanisms but did not explicitly relate the structure or rationale of examinations to the intended learning outcomes.

Analysis and assessment of the expert panel

The examination framework of both programmes is formally comprehensive. Regulations clearly define exam types, organisational procedures, conditions for make-up exams, grade management and grade review processes. The module descriptions and the reviewed exam samples indicate the use of various assessment methods, and the structured layout of many written examinations suggests an emerging differentiation of competence areas. This aligns in principle with the ideas of outcome-based education.

However, the conceptual link between examinations and the intended learning outcomes is not yet made explicit in the submitted documentation or in the onsite discussions. Although assessments are associated with course objectives, the analyses presented refer primarily to class-level performance patterns rather than demonstrating the achievement of learning outcomes by individual students. The structured design of written examinations was evident to the expert panel only through the onsite inspection. Consequently, the available material does not yet demonstrate how examination results verify whether students have achieved the expected learning outcomes at the required level of the degree programme.

The observed grade distributions, in which written examinations often yield a higher proportion of low scores while final pass rates remain high due to continuous assessment, do not in themselves constitute a problem. However, they reinforce the impression that the selection, weighting and justification of assessment components are not yet presented within a clearly articulated outcome-based framework. Discussions regarding the bachelor thesis focused on procedural aspects rather than on how the thesis demonstrates attainment of the intended competence profile.

Course achievement reports and examination paper analysis reports exist at the course level; however, the submitted materials do not show how these processes are used to systematically determine whether examinations adequately measure the achievement of the programme-level learning outcomes. While such review procedures form part of the broader internal quality-assurance cycle to be discussed under Criterion 5, their current presentation does not affect the overall conclusion that the programme teams have not yet made the outcome-based rationale of examinations sufficiently explicit.

Overall, the examination systems of both programmes function in an orderly manner, yet based on the submitted materials and onsite discussions, the programmes do not yet present a clear, consistent, and demonstrable approach for showing how examinations verify students' achievement of learning outcomes at both the course level and the programme level. Strengthening the understanding of the OBE approach and its application in examination design and analysis would considerably enhance transparency and better demonstrate the alignment between assessment practices and the competence profile of the programmes.

Final assessment of the experts after the statement of the Higher Education Institution regarding Criterion 2:

Based on the preliminary assessment and considering the statement of the university, the panel concluded Hunan Institute of Engineering to be *substantially fulfilled* with the standard for both the Communication Engineering programme and the Measurement and Control Technology and Instruments programme.

The panel notes that the university did not provide specific comments or additional information addressing the recommendation related to the outcome-based orientation of examinations. The information submitted therefore does not affect the basis of the Initial Evaluation Report.

From the experts' perspective, while current examination practices generally allow the assessment of students' performance, the extent to which examinations transparently and consistently demonstrate the achievement of intended learning outcomes for individual students remains limited. A clearer and more explicit linkage between examination requirements, assessment criteria and the defined learning outcomes would further strengthen the outcome-based principle in examinations.

Accordingly, the panel maintains its original assessment and confirms the recommendation associated with this criterion (see below, chapter F, E5).

C-8. Resources [ASIIN 3]

Description of the current status

Evidence:

- SAR Sections 3.1–3.3
- Appendix Folder 19 Staff Handbook
- Appendix Folder 20 HR Plan
- Appendix Folder 03 Cooperation Agreements
- Onsite visit discussion
- Onsite campus tour

Staff and staff development [ASIIN 3.1]

Based on the information presented in SAR 3.1 and the Staff Handbooks (19.1, 19.2), both programmes have stable teaching teams with adequate academic qualifications. The CE programme lists 20 full-time teachers, including 11 PhD holders, and the MCTI programme lists 21 full-time teachers, including 9 PhD holders, with all faculty members holding at least a master's degree. The SAR, together with the HR documents in Appendix Folder 20, describes established procedures for faculty recruitment, professional development, and annual evaluation. The Faculty Development Plan includes mentoring schemes, industry training, continuing-education opportunities, and pathways for dual-qualified teachers.

During the onsite discussions, programme coordinators stated that teaching teams are sufficient for delivering all modules, laboratory sessions, thesis supervision, and guidance activities. Annual assessments, teaching observations and peer evaluations are conducted, and academic advisors and administrative staff support student supervision. The campus tour confirmed that staff offices, meeting spaces, and laboratories are adequately arranged to support teaching and supervision.

Student support and student services [ASIIN 3.2]

According to SAR 3.2 and the Student Handbook, both programmes provide students with academic and non-academic support through academic advisors, thesis supervisors, administrative assistants, and university-level counselling services. The submitted documents describe consultation procedures for course selection, internship arrangements, capstone projects, postgraduate preparation, and psychological counselling.

Appendix Folder 22 (student feedback and evaluation records) indicates that course and teacher evaluations are conducted each semester through student questionnaires, peer review and supervisor inspections. Graduate surveys also show generally high satisfaction with academic support and availability of guidance. During the onsite visit, students confirmed that they can easily contact advisors and teaching staff for academic assistance, and that issues are handled efficiently by programme offices.

Funds and equipment [ASIIN 3.3]

SAR 3.3 and Appendix Folder 23 (laboratory and facility documentation) indicate that the university allocates stable funding for teaching, laboratory maintenance, faculty development, and research activities. The programmes operate a range of specialised laboratories—such as communication principles, embedded systems, signal processing, measurement and control platforms—as well as general laboratories supporting mathematics, physics and basic engineering training.

During the campus tour, the peers observed well-equipped laboratories with adequate space, updated instruments, and sufficient workstation allocation (typically one workstation per student group). The university also maintains numerous long-term cooperation agreements with enterprises (Appendix 03), providing stable internship bases and practice platforms. Students expressed general satisfaction with learning spaces, laboratory conditions, and campus facilities.

Analysis and assessment of the expert panel

Staff and staff development [ASIIN 3.1]

The composition and qualification levels of the teaching staff are appropriate for the successful delivery of both programmes. The proportion of PhD holders, combined with faculty members who possess engineering practice experience, supports the application-oriented orientation of the institution. The HR Plan demonstrates transparent recruitment mechanisms, while the Staff Development Plan provides a structured framework for professional growth, including opportunities for research engagement and industry training. According to the onsite discussions, these measures are implemented consistently. Taken together, the staff resources are adequate for maintaining teaching quality, supervising projects and internships, and supporting student learning.

Student support and student services [ASIIN 3.2]

The programmes provide sufficient mechanisms for academic counselling, administrative assistance, and psychological support. The Student Handbook outlines clear pathways for

seeking help, and students confirmed during the onsite discussions that advisors and teachers are accessible. The existing evaluation tools (student feedback, peer observation, supervisor review) offer opportunities for the continuous enhancement of teaching and student services. Although the SAR does not provide detailed documentation of how feedback contributes to specific improvements, the overall system functions smoothly and supports successful study progression. Based on the evidence provided and observations made onsite, student support structures meet the expectations of the criterion.

Funds and equipment [ASIIN 3.3]

The financial resources and physical infrastructure provide a sustainable foundation for the programmes. Laboratory facilities are adequate in quantity and quality, with sufficient equipment to support experiment-based learning. The cooperation agreements with industry partners strengthen the practical components of the programmes and ensure that off-campus training is well organised. The campus tour confirmed that equipment is well maintained, and students also expressed high satisfaction with the learning environment. Overall, the available funds and equipment sufficiently support the intended learning outcomes and the pedagogical approaches of both programmes.

Final assessment of the experts after the statement of the Higher Education Institution regarding Criteria 3:

Based on the preliminary assessment and considering the statement of the university, the panel concluded Hunan Institute of Engineering to be *fully fulfilled* with the standard for both the Communication Engineering programme and the Measurement and Control Technology and Instruments programme (holistic judgment on Standard 3; 3.1: *fully fulfilled*; 3.2: *fully fulfilled*; 3.3: *fully fulfilled*).

Staff and Staff Development (ASIIN 3.1)

The information provided by the university does not affect the basis of the experts' original assessment. Accordingly, the panel confirms its previous conclusion for Criterion 3.1.

Student Support and Student Services (ASIIN 3.2)

The information provided by the university does not affect the basis of the experts' original assessment. Accordingly, the panel confirms its previous conclusion for Criterion 3.2.

Funds and Equipment (ASIIN 3.3)

The information provided by the university does not affect the basis of the experts' original assessment. Accordingly, the panel confirms its previous conclusion for Criterion 3.3.

C-9. Quality management: Quality assurance and development [ASIIN 5]

Description of the current status

Evidence:

- SAR Section 5
- Appendix Folder 02 Quality Management Handbook
- Appendix 4.1 HIE Construction and Development Plan
- Appendix Folder 22 Student Surveys and Results
- SWOT analysis of the two programmes
- Onsite visit discussion

Based on the documentation provided in SAR Section 5, the university operates an established framework for internal quality assurance at institutional and programme levels. The Quality Management Handbook (Appendix Folder 02) describes responsibilities for programme development, course inspection, teaching evaluation, and student management. Procedures covering curriculum design and revision, teaching supervision, student feedback mechanisms, and the management of internships and theses are organised through the Academic Affairs Office, the Teaching Committee, and the Student Affairs Office. The SAR indicates that lecturers undergo annual evaluations, that teaching inspections are conducted regularly, and that external stakeholders may participate in talent-development reviews.

Appendix Folder 22 contains a range of survey instruments and results, including course evaluations, satisfaction surveys, questionnaires on the rationality of cultivation plans, graduate surveys and employment reports. These surveys are conducted regularly and cover multiple stakeholder groups. According to the SAR and onsite discussions, survey data and supervision records are reported to programme coordinators and relevant offices for consideration. The university's Construction and Development Plan (Appendix 4.1) outlines strategic goals for teaching quality, staff development, and programme enhancement, and SWOT analyses for both programmes present self-identified strengths and challenges.

During the onsite discussions, programme representatives explained the general flow of quality-assurance activities, including course evaluation, analysis of teaching performance, supervision records, and mechanisms for addressing student concerns. Students reported that they complete course evaluations every semester and receive general feedback about

programme adjustments, although the specific impact of such evaluations on curriculum or teaching improvements was not always directly observable. Overall, the materials show that quality-assurance processes are in place and functioning, even if the documentation does not fully trace the complete cycle from feedback to action.

Analysis and assessment of the expert panel

The institutional framework for quality assurance, including its regulatory basis and organisational responsibilities, is clearly established. Procedures for curriculum approval, teaching evaluation, and course inspection demonstrate that the university has a system for overseeing programme delivery and supporting continuous improvement. The wide range of survey tools—course evaluations, graduate questionnaires, employer feedback, internship assessments—reflects an intention to incorporate diverse perspectives into programme development. These instruments, together with the periodic review requirements described in the Quality Management Handbook, indicate that mechanisms for gathering relevant data exist and are used to monitor the programmes on a regular basis.

However, several aspects of the documentation suggest that the operationalisation of these mechanisms has not yet been fully demonstrated. Although numerous surveys are administered, the selection of key indicators, the methods for analysing results, and the connection between findings and subsequent improvement measures are not clearly documented. The SAR mentions that course evaluations are “anonymous and mandatory,” and while such evaluations are indeed conducted, the follow-up processes—how identified issues lead to corrective or preventive actions—are not systematically presented. Similarly, survey results included in Appendix Folder 22 show positive trends and student satisfaction, but the integration of these data into programme-level decision-making is not explicitly traceable in the evidence submitted.

The university describes a PDCA-like mechanism (“evaluation → analysis → implementation → re-evaluation”), and various documents provide examples of individual components of this cycle. Course achievement reports and teaching-inspection records demonstrate reflection at the module level, and the SWOT analyses for both programmes show internal self-assessment. Nonetheless, the overall coherence of the continuous-improvement process remains difficult to evaluate based on the documentation alone. The “Act” phase—closing the loop by demonstrating the implementation of measures and evaluating their effects—was not sufficiently evident in the materials. During onsite discussions, programme staff articulated an awareness of outcome-based education (OBE) principles, but these principles are not yet consistently reflected in how quality-assurance information is synthesised or applied to programme development.

Across previous criteria, similar patterns were observed. For example, in C-6 (Didactics), C-7 (Examinations), and C-3 (Curriculum), the expert panel noted that although structures and procedures exist, the explicit linkage between learning outcomes, teaching methodologies, assessment practices, and programme revision is not yet fully articulated or documented. The same observation underlies the analysis of C-9: the quality-management framework is in place and broadly functional, but the alignment of its processes with learning-outcome orientation is not yet consistently demonstrated. Strengthening this alignment would help the programmes provide clearer evidence that improvement actions derive systematically from the quality-assurance instruments used.

Final assessment of the experts after the statement of the Higher Education Institution regarding Criterion 5:

Based on the preliminary assessment and considering the statement of the university, the panel concluded Hunan Institute of Engineering to be *substantially fulfilled* with the standard for both the Communication Engineering programme and the Measurement and Control Technology and Instruments programme.

The panel notes that the information provided by the university does not substantially affect the basis of the Initial Evaluation Report with regard to the consistent implementation of a learning-outcome-oriented approach across the programmes. While elements of learning-outcome orientation can be identified at different stages of programme design and delivery, these elements are not yet coherently integrated into a comprehensive and systematic framework.

From the experts' perspective, learning-outcome orientation should be more consistently reflected across the full programme cycle, including the formulation of intended learning outcomes, the selection of teaching methodologies, the design of examinations, and the transparent presentation of each student's individual competence profile. Strengthening this internal coherence would further enhance the outcome-based character of the programmes.

Accordingly, the panel maintains its original assessment and confirms the recommendation associated with this criterion (see below, chapter E6).

C-10. Transparency and documentation [ASIIN 4]

Description of the current status

Evidence:

- SAR Sections 4.1–4.3

- Appendix Folder 09 Module Descriptions
- Appendix Folder 21 Graduation Certificates / Degree Certificates / Diploma Supplements
- Appendix Folder 22 Student Surveys and Results
- Webpage of the College (https://sise.hnie.edu.cn/ASIINrz.htm; https://dqxy.hnie.edu.cn/ASIIN.htm)
- Onsite visit discussion

Module descriptions [ASIIN 4.1]

According to SAR 4.1 and Appendix Folder 09, both programmes have compiled their module descriptions following a standard institutional template, including module title, responsible teacher, workload, credits, teaching methods, examination forms, prerequisites, content overview, and intended learning outcomes. These documents are available to students and staff on internal platforms.

During the onsite visit, the programmes reported that module descriptions are periodically checked during curriculum revisions; however, the submitted documents do not indicate version numbers or dates of last amendment. The English versions are not published on the university website.

Diploma and Diploma Supplement [ASIIN 4.2]

Appendix Folder 21 includes samples of graduation certificates, degree certificates, and diploma supplements for both CE and MCTI. The supplements are provided in English and contain basic elements describing student achievements and the national education system.

However, no institutional rules were submitted that define how diploma supplements are generated, reviewed, and issued. The samples provided do not contain statistical grade distribution tables or a clear explanation of how final grades are calculated.

Relevant rules [ASIIN 4.3]

As stated in SAR 4.3 and supported by the Student Handbook, examination regulations, and programme management documents, the rights and responsibilities of students and staff are defined and accessible in the language of instruction. The provided information covers academic progress requirements, examination procedures, supervision arrangements, and graduation conditions. Onsite discussions confirmed that these regulations are well known to students and staff.

Analysis and assessment of the expert panel

Module descriptions [ASIIN 4.1]

The structure of the module descriptions demonstrates that the university has an established system for documenting course-level requirements. The information provided is generally sufficient for understanding the basic elements of each module. However, the absence of version control – such as dates of revision or amendment – makes it difficult to track continuous improvement or assess whether updates to learning outcomes, teaching methodologies, or assessment strategies have been implemented consistently.

In addition, the lack of publicly accessible English versions limits transparency for external stakeholders, especially given that the programme is undergoing international accreditation. These issues intersect with aspects already discussed under Criteria 1.3 and 1.6, particularly the alignment of module content with intended learning outcomes and the need for systematic documentation of ongoing revisions. Accordingly, the concerns identified here are addressed through recommendations made under those criteria.

Diploma and Diploma Supplement [ASIIN 4.2]

The expert panel acknowledges that samples of diploma supplements are available in English and generally follow the EU model. During the onsite visit, programme staff confirmed that diploma supplements are issued after graduation, but the experts were unable to verify whether all graduates receive the supplements in a standardised format. However, the absence of formalised institutional procedures for their preparation and issuance raises concerns regarding consistency, completeness, and traceability. Critical elements such as the statistical distribution of grades (see ECTS Users' Guide) and transparent final-grade calculation mechanisms were not included in the samples.

Relevant rules [ASIIN 4.3]

The institution provides a comprehensive set of regulations governing teaching, learning, examinations, and student services. These documents are accessible and understood by both staff and students. The expert panel found no major inconsistencies in the regulatory framework. One observation relates to data protection: some transcript samples still contained real student names and identification numbers, suggesting a need for more consistent anonymisation practices when sharing student-related documents. Since this issue does not have a direct impact on programme quality, it does not lead to a recommendation but should be considered in future internal reviews.

Final assessment of the experts after the statement of the Higher Education Institution regarding Criterion 4:

Based on the preliminary assessment and considering the statement of the university, the panel concluded Hunan Institute of Engineering to be *partially fulfilled* with the standard for both the Communication Engineering programme and the Measurement and Control Technology and Instruments programme (holistic judgment on Standard 4; 4.1: *partially fulfilled*; 4.2: *partially fulfilled*; 4.3: *partially fulfilled*).

Module Description (ASIIN 4.1)

The panel notes that the university explicitly accepts the recommendation related to the alignment of teaching methodologies with the intended cognitive levels of learning outcomes and indicates its intention to initiate corresponding improvement measures. The experts welcome this constructive attitude.

However, at this stage, the documentation provided does not yet demonstrate how these intentions have been translated into systematically implemented and verifiable practices at module level. In particular, it remains unclear how the selection of teaching methodologies is consistently aligned with the intended cognitive levels across modules and documented in a way that allows transparency and review.

Accordingly, the panel maintains its original assessment for Criterion 4.1, which is combined with Criterion 1.6 (see below, chapter F, A2, E2).

Diploma and Diploma Supplement (ASIIN 4.2)

With regard to the Diploma Supplement, the panel notes that the university accepts the recommendation and states its intention to refine relevant regulations and to establish a formal issuance mechanism. While these statements indicate a willingness to address the identified shortcomings, the documentation provided does not yet demonstrate that the Diploma Supplement is issued on a regular and systematic basis, nor that it consistently includes information on individual student performance, such as statistical grade distributions or transparent final-grade calculations.

Accordingly, the panel maintains its original assessment for Criterion 4.2 and confirms the associated requirement (see below, chapter F, A3).

Relevant Rules (ASIIN 4.3)

The panel notes that the university accepts the recommendation concerning the publication and accessibility of programme-relevant information and outlines intended measures to improve disclosure practices. However, at this stage, essential programme information is still not made transparently and consistently available to relevant stakeholders in an English-language or bilingual format that allows verification by the expert panel.

Accordingly, the panel maintains its original assessment for Criterion 4.3, which is combined with Criterion 1.3 (see below, chapter F, A1).

D. Additionally requested documents

D 1. [ASIIN 1.1] - For both programmes: Please provide evidences of stakeholder feedback that supported the most recent revision of the programme objectives and intended learning outcomes.

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E. Comment of the Higher Education Institution (17.01.2026)

The supplementary materials and feedback submitted by the Higher Education Institution are below, and the consideration and analysis of these materials are reflected in the experts' final assessment at the end of each chapter (grey boxes).

Supplementary materials submitted by the Institution

Additionally requested documents: D 1. [ASIIN 1.1] - For both programmes: Please provide evidences of stakeholder feedback that supported the most recent revision of the programme objectives and intended learning outcomes.

Our answer: In response to the requirement for supplementary materials specified in the Initial Evaluation Report, the CE programme hereby provides a new appendix (Appendix 23.16) with this reply email. This appendix contains minutes of various meeting minutes and samples of questionnaires, which serve to demonstrate that stakeholders have provided feedback on the revision of the programme's objectives and learning outcomes and played a positive role in this process. In addition, we would like to clarify that stakeholders' opinions are also collected through other channels such as telephone surveys and email surveys. Meanwhile, the MCTI programme has also attached a series of supplementary materials with this reply email as evidence, verifying that it has solicited and incorporated stakeholders' suggestions during the revision of its objectives and intended learning outcomes.

Appendix 23.16 Evidence of Stakeholder Participation in Revision of Cultivation Plan

Statement of the Institution

Hunan Institute of Engineering (HIE) sincerely wishes to express its gratitude to the ASIIN expert panel for conducting a comprehensive, professional and constructive assessment of two of its undergraduate programmes, namely Communication Engineering (CE) and Measurement & Control Technology and Instruments (MCTI). HIE has carefully reviewed the assessment conclusions and recommendations presented in the Initial Evaluation Report, and fully adopted all the suggestions listed in Chapter D-2 of the Report. In response to the major recommendations put forward by the expert panel, HIE hereby provides the following specific explanations:

Majior recommendation R1. [ASIIN 1.1]: It is strongly recommended that the learning outcomes (and the curricula) be aligned with the sample outcomes of SSC02, with the differences clearly reflected and any gaps either reduced or appropriately explained.

Our comment: We would like to express our gratitude to the experts for their corrections and guidance. We accept all the recommendations, and in our follow-up work, we will analyze the correspondence and discrepancies between the existing learning outcomes and the requirements of SSC02, revise the expression of the Objective-Module Matrix, and drive relevant improvements, so as to ensure that the intended learning outcomes (as well as the curriculum system) are more aligned with the requirements of SSC02.

Major recommendation R2. [ASIIN 1.3 / 4.3]: It is strongly recommended that the ILOs and all essential programme information be published and made accessible to the relevant stakeholders.

Our comment: We would like to express our sincere gratitude to the experts for their valuable recommendations, which we fully accept. For the MCTI programme, we will promptly launch the online disclosure of relevant information in our follow-up work. As for the CE programme, although it already provides such content as learning outcomes, training programs and course module descriptions on the official website, we will continue to improve the timely update and disclosure of relevant revised information. In subsequent work, we will further expand the channels for disclosure—for instance, publicizing and disseminating key information at occasions including university-enterprise communication events and admission promotion sessions.

Major recommendation R3. [ASIIN 1.5]: It is strongly recommended that the introduction of the ECTS system be supported by formal institutional regulations and accompanied by systematic surveys of students' actual learning time, in order to better fulfil the student-centred principle from the credit-system perspective.

Our comment: We would like to thank the experts for their recommendations on this issue, which we fully accept. Meanwhile, we will refine the existing regulations on ECTS conversion and student workload surveys, and upgrade them into official documents at the university level. The MCTI programme will promptly initiate the establishment of a workload monitoring system. As for the CE programme, as noted in the experts' report, a workload monitoring method has already been established (see Appendix 14.2), which is in operation and has generated relevant course statistics. With this response, we supplement a new Appendix 14.3 (attached to this reply email), which will use a specific case to directly illustrate how the CE programme makes corresponding adjustments when deviations in the actual workload exceed the specified limits.

Major recommendation R4. [ASIIN 1.6 / 4.1]: It is strongly recommended that the selection of teaching methodologies be aligned with the intended cognitive levels (e.g. Bloom's taxonomy).

Our comment: We wish to express our gratitude to the experts for their corrections and guidance. We fully accept the recommendations and will promptly launch the relevant analysis and improvement work. We will also explicitly clarify the corresponding relationship between teaching methods and the hierarchical levels of course cognitive requirements in the course modules, so as to clearly present the course learning outcomes supported by the respective teaching methods.

Major recommendation R5. [ASIIN 4.2]: It is strongly recommended that HIE ensures the issuance of a Diploma Supplement on a regular basis. The DS should include information on the individual performance of the graduate, for example by providing a statistical distribution of grades and transparent final-grade calculations.

Our comment: We would like to thank all the experts for their valuable suggestions. We accept these suggestions and will promptly refine the relevant regulations, establish a issuance mechanism for diploma supplements, and ensure that the content of the diploma supplements complies with the relevant requirements of ASIIN.

Major recommendation R6. [ASIIN 1.1]: - for CE: It is strongly recommended that the authoritative programme-level Intended Learning Outcomes (ILOs) be firmly anchored and consistently communicated.

Our comment: We would like to thank all the experts for their suggestions. We accept the suggestions and would like to provide a special clarification on this issue: the learning outcomes of the CE programme were originally composed of 12 graduation requirements, which are aligned with the national engineering accreditation framework. The reason for the existence of two versions is actually due to a misunderstanding of the requirements of the SAR template during the drafting of our Self-Assessment Report (SAR). We assumed that we needed to map the 12 graduation requirements that we had actually implemented into a new framework consisting of 6 dimensions, which resulted in the formulation of the 6-dimensional intended learning outcomes (ILOs) presented in the SAR. We have already explained this situation to the relevant stakeholders, and going forward, we will correct this discrepancy by adopting the actually implemented version and ensure that the descriptions of all Intended Learning Outcomes (ILOs) are consistent. We have attached the updated appendix 5.2 (Appendix 5.2 Learning outcomes) to this reply email.

Appendix of the above statement:

CE:

05.2 Learning outcomes.pdf

14.3 Sample of Student Learning Workload Improvement Report_CE.pdf

23.16 Evidence of Stakeholder Participation in Revision of Cultivation Plan_CE.pdf

MCTI:

Attachment 1 Minutes of the Research Meeting for Revising the Undergraduate Talent Cultivation Plan of Measurement & Control Technology and Instrumentation - Hunan Institute of Engineering.pdf

Attachment 3 Research Report on the Revision of the Undergraduate Talent Cultivation Plan for Measurement & Control Technology and Instrumentation Major (2022 Edition).pdf

Attachment 5 Expert Review Comments Form for the Undergraduate Talent Cultivation Plan of the Measurement & Control Technology and Instrumentation Major, Hunan Institute of Engineering.pdf

School of Electrical Engineering + School of Mechanical Engineering.pdf

F. Recommendations of the Expert Panel

Taking into account the additional information and the statement given by institution, the experts summarize their analysis and **final assessment** as follows:

Degree Program	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Communication Engineering	With requirements for one year	30.09.2031	–	
Ba Measurement and Control Technology and Instruments	With requirements for one year	30.09.2031	–	

Requirements

For both degree programmes

A1. [ASIIN 1.3 / 4.3] It is strongly recommended that the ILOs and all essential programme information be published and made accessible to the relevant stakeholders.

A2. [ASIIN 1.6 / 4.1] It is strongly recommended that the selection of teaching methodologies be aligned with the intended cognitive levels (e.g. Bloom's taxonomy).

A3. [ASIIN 4.2] It is strongly recommended that HIE ensures the issuance of a Diploma Supplement on a regular basis. The DS should include information on the individual performance of the graduate, for example by providing a statistical distribution of grades and transparent final-grade calculations.

Minor recommendations

For both Degree programmes

E1. [ASIIN 1.1] It is recommended that the institute should carefully review whether the current formulation of its Intended Learning Outcomes—particularly ILOs 1 to 4 referring to "complex engineering problems"—appropriately reflects the competence level expected of an application-oriented bachelor's degree as declared in the institutional profile.

E2. [ASIIN 1.3 / 4.1] It is recommended that the mechanism for periodic review be reflected in the module descriptions, for example through documented update history, versioning, or revision notes.

E3. [ASIIN 1.3] It is recommended that HIE provides more support for student mobility in order to foster internationalisation and contribute effectively to the professional development of students.

E4. [ASIIN 1.5] It is recommended that the introduction of the ECTS system be supported by formal institutional regulations and accompanied by systematic surveys of students' actual learning time, in order to better fulfil the student-centred principle from the credit-system perspective.

E5. [ASIIN 2] It is recommended that the awareness of the outcome-based principle in examinations be strengthened. In particular, examinations should transparently and reasonably demonstrate to what extent each student has achieved the intended learning outcomes.

E6. [ASIIN 5] It is recommended that "learning-outcome orientation" be consistently taken into consideration in both the conceptual design and practical implementation of the programme – ranging from the formulation of outcomes, the selection of teaching methodologies, and the design of examinations, to the presentation of each student's individual competence profile.

G. Comment of the Technical Committees

Technical Committee 02 – Electrical Engineering/Information Technology (10.03.2026)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure, paying particular attention to Recommendation E1. Based on the information provided in the report, the Committee considers the issue to be more fundamental. The report states that, while the programme content is appropriate for EQF Level 6, the intended learning outcomes appear to describe a higher level of competence, which is more typical of a Master's programme. In the Technical Committee's view, this indicates a discrepancy between the level of the intended learning outcomes and the competencies actually conveyed by the programme. To ensure proper alignment between the programme level and its learning outcomes, the Committee believes that adjusting the intended learning outcomes is not optional, but necessary. The Committee therefore suggests that Recommendation E1 should be con-verted into a requirement. Furthermore, the TC recommends simplifying the wording of the final part of the sentence by referring to EQF level 6, as this is the key indicator that the ILOs must match.

The Technical Committee 02 – Electrical Engineering/Information Technology recommends the award of the seals as follows:

Degree Programme	**ASIIN Seal**	**Accredited by German Engineers**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Communication Engineering	With requirements for one year	With requirements for one year	30.09.2031	-	
Ba Measurement and Control Technology and Instruments	With requirements for one year	With requirements for one year	30.09.2031		

Requirements

For both degree programmes

A1. [ASIIN 1.1] It is required that the institute reviews whether the current formulation of its Intended Learning Outcomes—particularly ILO 1 to 4 referring to "complex engineering problems" —appropriately refers to EQF level 6.

A2. [ASIIN 1.3 / 4.3] It is required that the ILOs and all essential programme information be published and made accessible to the relevant stakeholders.

A3. [ASIIN 1.6 / 4.1] It is required that the selection of teaching methodologies be aligned with the intended cognitive levels (e.g. Bloom's taxonomy).

A4. [ASIIN 4.2] It is required that HIE ensures the issuance of a Diploma Supplement on a regular basis. The DS should include information on the individual performance of the graduate, for example by providing a statistical distribution of grades and transparent final-grade calculations.

Recommendations

For both Degree programmes

E1. [ASIIN 1.3 / 4.1] It is recommended that the mechanism for periodic review be reflected in the module descriptions, for example through documented update history, versioning, or revision notes.

E2. [ASIIN 1.3] It is recommended that HIE provides more support for student mobility in order to foster internationalisation and contribute effectively to the professional development of students.

E3. [ASIIN 1.5] It is recommended that the introduction of the ECTS system be supported by formal institutional regulations and accompanied by systematic surveys of students' actual learning time, in order to better fulfil the student-centred principle from the credit-system perspective.

E4. [ASIIN 2] It is recommended that the awareness of the outcome-based principle in examinations be strengthened. In particular, examinations should transparently and reasonably demonstrate to what extent each student has achieved the intended learning outcomes.

E5. [ASIIN 5] It is recommended that "learning-outcome orientation" be consistently taken into consideration in both the conceptual design and practical implementation of the programme – ranging from the formulation of outcomes, the selection of teaching methodologies, and the design of examinations, to the presentation of each student's individual competence profile.

Technical Committee 01 – Mechanical Engineering/Process Engineering (05.03.2026)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure and follows the assessment of the auditors without any changes.

The Technical Committee 01 – Mechanical Engineering/Process Engineering recommends the award of the seals as follows:

Degree Programme	ASIIN Seal	Accredited by German Engineers	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Communication Engineering	With requirements for one year	With requirements for one year	30.09.2031	-	
Ba Measurement and Control Technology and Instruments	With requirements for one year	With requirements for one year	30.09.2031		

Requirements

For both degree programmes

A1. [ASIIN 1.1] It is required that the institute reviews whether the current formulation of its Intended Learning Outcomes—particularly ILO 1 to 4 referring to “complex engineering problems” —appropriately refers to EQF level 6.

A2. [ASIIN 1.3 / 4.3] It is required that the ILOs and all essential programme information be published and made accessible to the relevant stakeholders.

A3. [ASIIN 1.6 / 4.1] It is required that the selection of teaching methodologies be aligned with the intended cognitive levels (e.g. Bloom’s taxonomy).

A4. [ASIIN 4.2] It is required that HIE ensures the issuance of a Diploma Supplement on a regular basis. The DS should include information on the individual performance of the graduate, for example by providing a statistical distribution of grades and transparent final-grade calculations.

Recommendations

For both Degree programmes

E1. [ASIIN 1.3 / 4.1] It is recommended that the mechanism for periodic review be reflected in the module descriptions, for example through documented update history, versioning, or revision notes.

E2. [ASIIN 1.3] It is recommended that HIE provides more support for student mobility in order to foster internationalisation and contribute effectively to the professional development of students.

E3. [ASIIN 1.5] It is recommended that the introduction of the ECTS system be supported by formal institutional regulations and accompanied by systematic surveys of students' actual learning time, in order to better fulfil the student-centred principle from the credit-system perspective.

E4. [ASIIN 2] It is recommended that the awareness of the outcome-based principle in examinations be strengthened. In particular, examinations should transparently and reasonably demonstrate to what extent each student has achieved the intended learning outcomes.

E5. [ASIIN 5] It is recommended that "learning-outcome orientation" be consistently taken into consideration in both the conceptual design and practical implementation of the programme – ranging from the formulation of outcomes, the selection of teaching methodologies, and the design of examinations, to the presentation of each student's individual competence profile.

H. Decision of the Accreditation Commission (27.03.2026)

Assessment and analysis for the award of the subject-specific ASIIN seal:

The Technical Committee (TC 02) had elevated the original Recommendation E1 into Requirement A1, on the grounds that the Intended Learning Outcomes (ILOs) — particularly ILOs 1 to 4 — were deemed to describe competences exceeding EQF Level 6. However, upon deliberation, the Accreditation Commission takes the view that the issue does not concern a breach of EQF Level 6 boundaries as such, but rather a question of alignment between the current ILO formulations and the institution's own stated application-oriented profile. Accordingly, the AC has reverted this item from a requirement back to a recommendation, and has revised the wording accordingly. The revised text now reads as Recommendation E2: *It is recommended to review whether the current formulation of the Intended Learning Outcomes—particularly ILOs 1 to 4 referring to "complex engineering problems"—appropriately reflects the application-oriented competence profile.*

The Accreditation Commission decides to award the following seals:

Degree Programme	**ASIIN Seal**	**Accredited by German Engineers**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Communication Engineering	With requirements for one year	With requirements for one year	30.09.2031	-	-
Ba Measurement and Control Technology and Instruments	With requirements for one year	With requirements for one year	30.09.2031	-	-

Requirements

For both degree programmes

A1. [ASIIN 1.3 / 4.3] It is required that the ILOs and all essential programme information be published and made accessible to the relevant stakeholders.

A2. [ASIIN 1.6 / 4.1] It is required that the selection of teaching methodologies be aligned with the intended cognitive levels (e.g. Bloom's taxonomy).

A3. [ASIIN 4.2] It is required that HIE ensures the issuance of a Diploma Supplement on a regular basis. The DS should include information on the individual performance of the graduate, for example by providing a statistical distribution of grades and transparent final-grade calculations.

Recommendations

For both Degree programmes

E1. [ASIIN 1.3 / 4.1] It is recommended that the mechanism for periodic review be reflected in the module descriptions, for example through documented update history, versioning, or revision notes.

E2. [ASIIN 1.1] It is recommended to review whether the current formulation of the Intended Learning Outcomes—particularly ILOs 1 to 4 referring to "complex engineering problems"—appropriately reflects the application-oriented competence profile.

E3. [ASIIN 1.3] It is recommended that HIE provides more support for student mobility in order to foster internationalisation and contribute effectively to the professional development of students.

E4. [ASIIN 1.5] It is recommended that the introduction of the ECTS system be supported by formal institutional regulations and accompanied by systematic surveys of students' actual learning time, in order to better fulfil the student-centred principle from the credit-system perspective.

E5. [ASIIN 2] It is recommended that the awareness of the outcome-based principle in examinations be strengthened. In particular, examinations should transparently and reasonably demonstrate to what extent each student has achieved the intended learning outcomes.

E6. [ASIIN 5] It is recommended that "learning-outcome orientation" be consistently taken into consideration in both the conceptual design and practical implementation of the programme – ranging from the formulation of outcomes, the selection of teaching methodologies, and the design of examinations, to the presentation of each student's individual competence profile.

Appendix: Learning objectives and curricula

1. Learning outcomes of CE Programme (Graduation Requirements)

R1. Engineering knowledge: Ability to solve complex communication engineering problems by applying knowledge of mathematics, natural sciences, engineering fundamentals, etc.

R2. Problem analysis: Ability to identify and describe complex communication engineering problems based on the basic rationale of mathematics, natural sciences, and information and communication technology, and analyze them through literature research so as to reach reliable conclusions.

R3. Design/Develop Solutions: Ability to propose effective solutions to complex communication engineering problems, design communication systems, modules or components that meet specific needs, and show awareness of innovation in the design process, taking into account factors such as society, eco-environment, safety, laws, and economy.

R4. Research: Ability to study complex communication engineering problems based on the scientific rationale and proper methods, including designing experiments, analyzing and interpreting data, and obtain reasonable conclusions through information integration.

R5. Use modern tools: Ability to develop, select, and use appropriate technologies, resources, modern engineering tools, and information technology tools to prevent and stimulate complex communication engineering problems, and understand limitations.

R6. Engineering and Society: Ability to conduct reasonable analysis based on relevant background knowledge, evaluate the potential impact of professional engineering practices and complex communication engineering problem solutions on society, health, safety, law, and culture, and understand the responsibilities.

R7. Environment and Sustainable Development: Ability to understand and evaluate the impact of engineering practices targeting complex communication engineering problems on sustainable development of nature and society.

R8. Professional norms: Possess literacy of humanity and social sciences, and a sense of social responsibility, and be able to understand and abide by professional ethics and norms.

R9. Teamwork: Play a role in a multidisciplinary team as a member or a leader.

R10. Communication: Ability to effectively communicate with peers and the public on complex communication engineering issues, including writing reports and designing drafts, presenting speeches, clearly expressing or responding to instructions, and engage in cross-cultural exchanges with a global view.

R11. Project Management: Understand and master the rationale of engineering management and economic decision-making methods in the field of communication, and be able to apply them in a multidisciplinary environment.

R12. Lifelong learning: Possess awareness of self-learning and lifelong learning, and have the ability to adapt to development.

2. Learning outcomes of MCTI Programme

Upon graduation, students are expected to demonstrate the following competencies:

- Engineering Knowledge: The ability to apply mathematics, natural sciences, engineering fundamentals, and professional knowledge to solve complex engineering problems in the field of measurement and control technology.
- Problem Analysis: The ability to apply the basic principles of mathematics, natural sciences, and engineering science to identify, express, and analyze complex engineering problems in the field of measurement and control technology through literature research to obtain effective conclusions.
- Design/Development of Solutions: The ability to design solutions for complex engineering problems in the field of measurement and control technology, design systems, units (components), or processes that meet specific requirements, and demonstrate innovation consciousness, considering social, health, safety, legal, cultural, and environmental factors in the design process.
- Research: The ability to conduct research on complex engineering problems in the field of measurement and control technology based on scientific principles and scientific methods, including designing experiments, analyzing and interpreting data, and obtaining reasonable and effective conclusions through information synthesis.
- Use of Modern Tools: The ability to develop, select, and use appropriate technologies, resources, modern engineering tools, and information technology tools for complex engineering problems in the field of measurement and control technology, including prediction and simulation of complex engineering problems in the field of measurement and control technology, and understanding their limitations.
- Engineering and Society: The ability to analyze and evaluate the impact of professional engineering practices and solutions to complex engineering problems in the field of

measurement and control technology on society, health, safety, law, and culture based on engineering-related background knowledge, and understanding of responsibilities.

- Environment and Sustainable Development: The ability to understand and evaluate the impact of engineering practices on the environment and social sustainability in addressing complex engineering problems in the field of measurement and control technology.
- Professional Ethics: Possession of humanistic and social science literacy, social responsibility, the ability to understand and comply with engineering professional ethics and norms, and fulfill responsibilities in engineering practice.
- Individual and Team: The ability to assume individual, team member, and leader roles in interdisciplinary teams.
- Communication: The ability to effectively communicate and interact with peers in the industry and the general public on complex engineering problems, including writing reports and designing documents, making presentations, clear expression, or responding to instructions. Also, possessing a certain international perspective and being able to communicate and interact in a cross-cultural context.
- Project Management: Understanding and mastering engineering management principles and economic decision-making methods, and applying them in a multidisciplinary environment.
- Lifelong Learning: Possession of awareness of independent learning and lifelong learning, and the ability to continuously learn and adapt to development.

Curricula and structure (based on onsite visit's Additional material):

1. Curriculum of CE Programme

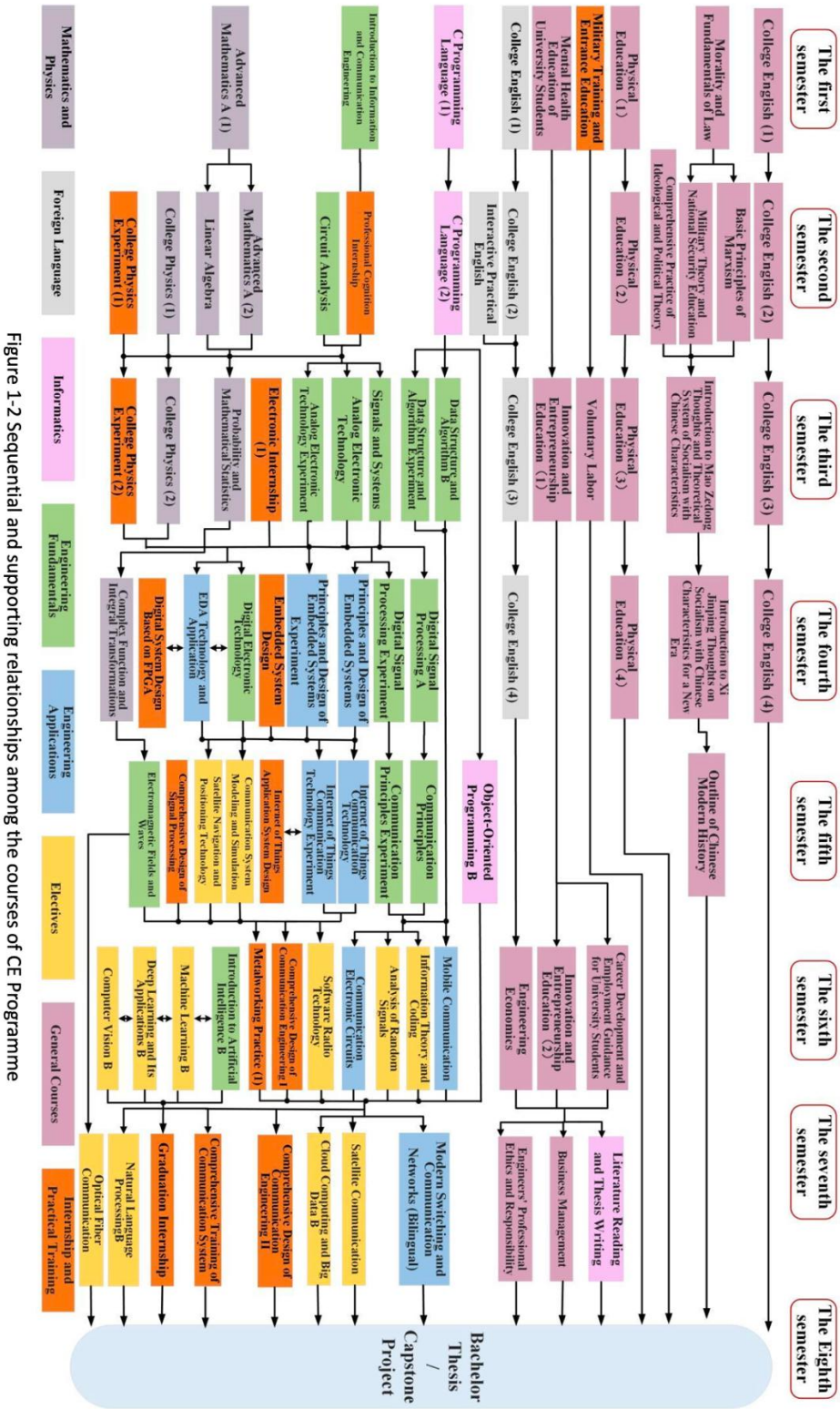

Figure 1-2 Sequential and supporting relationships among the courses of CE Programme

08.1 Curriculum of CE

Course Categorization	Type L/P	Course	Chinese CP	ECTS CP	Work Load		S1	S2	S3	S4	S5	S6	S7	S8
					Contact Hours	Self Study Hours	CP	CP	CP	CP	CP	CP	CP	CP
Mathematics and Physics	L	Advanced Mathematics A (1)	4.5	4.5	72	63	4.5							
	L	Advanced Mathematics A (2)	6	6	96	84		6						
	L	Linear Algebra	2.5	2.5	40	35		2.5						
	L	Complex Function and Integral Transformations	2	2	32	28				2				
	L	Probability Theory and Mathematical Statistics	3	3	48	42			3					
	L	College Physics (1)	2.5	2.5	40	35		2.5						
	L	College Physics (2)	3	3	48	42			3					
	P	College Physics Experiment (1)	1	1	16	14		1						
	P	College Physics Experiment (2)	1	1	16	14			1					
Foreign Language	L	College English (1)	3	3	48	42	3							
	L	College English (2)	2	2	32	28		2						
	L	College English (3)	3	3	48	42			3					
	L	College English (4)	3	3	48	42				3				
	L&P	Interactive Practical English	1	1	16	14		1						

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08.1 Curriculum of CE

Course Categorization	Type L/P	Course	Chinese CP	ECTS CP	Work Load		S1	S2	S3	S4	S5	S6	S7	S8
					Contact Hours	Self Study Hours	CP	CP	CP	CP	CP	CP	CP	CP
Informatics	L&P	C Programming Language (1)	3	4.5	48	87	4.5							
	L&P	C Programming Language (2)	3	4.5	48	87		4.5						
	L	Literature Reading and Thesis Writing	1	1	16	14							1	
	L&P	Object-Oriented Programming B	2.5	2.5	40	35					2.5			
Engineering Fundamentals	L	Introduction to Information and Communication Engineering	1	1	16	14	1							
	L&P	Circuit Analysis	3	3	48	42		3						
	L	Data Structure and Algorithm B	3	3	48	42			3					
	P	Data Structure and Algorithm Experiment	1	1	16	14			1					
	L&P	Signals and Systems	3.5	3.5	56	49			3.5					
	L	Analog Electronic Technology	2.5	2.5	40	35			2.5					
	P	Analog Electronic Technology Experiment	1	1	16	14			1					
	L&P	Digital Electronic Technology	2.5	2.5	40	35				2.5				

2

08.1 Curriculum of CE

Course Categorization	Type L/P	Course	Chinese CP	ECTS CP	Work Load		S1	S2	S3	S4	S5	S6	S7	S8
					Contact Hours	Self Study Hours	CP	CP	CP	CP	CP	CP	CP	CP
	L	Digital Signal Processing A	2.5	2.5	40	35				2.5				
	L&P	Digital Signal Processing Experiment	1	1	16	14				1				
	L	Communication Principles	3.5	3.5	56	49					3.5			
	P	Communication Principles Experiment	1	1	16	14					1			
	L&P	Electromagnetic Fields and Waves	2	2	32	28					2			
	L	Introduction to Artificial Intelligence B	1	1	16	14						1		
Engineering Applications	L	Principles and Design of Embedded Systems	2	2	32	28				2				
	P	Principles and Design of Embedded Systems Experiment	1	1	16	14				1				
	L	Internet of Things Communication Technology	2	2	32	28					2			
	P	Internet of Things Communication Technology Experiment	1	1	16	14					1			
	L&P	EDA Technology and Application	2.5	2.5	40	35				2.5				
	L&P	Mobile Communication	3.5	3.5	56	49						3.5		

3

08.1 Curriculum of CE

Course Categorization	Type L/P	Course		Chinese CP	ECTS CP	Work Load		S1	S2	S3	S4	S5	S6	S7	S8
						Contact Hours	Self Study Hours	CP	CP	CP	CP	CP	CP	CP	CP
	L	Modern Switching and Communication Networks (Bilingual)		2.5	2.5	40	35							2.5	
	L&P	Communication Electronic Circuits		3	3	48	42						3		
Electives	L	Cultural Quality Education Elective (Natural Science, Chinese Culture, etc.)		1	1	16	14	1							
	L	Cultural Quality Education Elective (Public Art)		2	2	32	28	2							
		Option	Course												
	L&P	Option 1: Modern Communication Technology	Communication System Modeling and Simulation	2	2	32	28					8			
	L&P		Software Radio Technology	3	3	48	42								
	L&P		Optical Fiber Communication	2.5	2.5	40	35								
	L&P		Information Theory and Coding	2.5	2.5	40	35								
	L&P		Satellite Communication	2	2	32	28								
	L		Analysis of Random Signals	2	2	32	28								

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08.1 Curriculum of CE

Course Categorization	Type L/P	Course		Chinese CP	ECTS CP	Work Load		S1	S2	S3	S4	S5	S6	S7	S8
						Contact Hours	Self Study Hours	CP	CP	CP	CP	CP	CP	CP	CP
	L&P	Option 2: Intelligent Information Processing and Application	Satellite Navigation and Positioning Technology	2	2	32	28								
	L&P		Deep Learning and Its Applications B	2.5	2.5	40	35								
	L&P		Computer Vision B	2.5	2.5	40	35						8		
	L&P		Cloud Computing and Big Data B	2	2	32	28								
	L&P		Natural Language Processing B	2.5	2.5	40	35								
	L&P		Machine Learning B	2	2	32	28								
General Courses	L&P	Morality and Fundamentals of Law		2.5	2.5	40	35	2.5							
	L&P	Basic Principles of Marxism		3	3	48	42		3						
	L&P	Outline of Chinese Modern History		2.5	2.5	40	35					2.5			
	L	Introduction to Mao Zedong Thoughts and Theoretical System of Socialism with Chinese Characteristics		2	2	32	28			2					
	L&P	Introduction to Xi Jinping		3	3	48	42				3				

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08.1 Curriculum of CE

Course Categorization	Type L/P	Course	Chinese CP	ECTS CP	Work Load		S1	S2	S3	S4	S5	S6	S7	S8
					Contact Hours	Self Study Hours	CP	CP	CP	CP	CP	CP	CP	CP
		Thoughts on Socialism with Chinese Characteristics for a New Era												
	L	Situation and Policy	2	2	32	28	0.5	0.5	0.25	0.25	0.25	0.25		
	L&P	Physical Education	4	4	64	56	1	1	1	1				
	L&P	Mental Health Education of University Students	1	1	16	14	1							
	L	Military Theory and National Security Education	2	2	36	24		2						
	L&P	Career Development and Employment Guidance for University Students	2	2	38	22						2		
	L&P	Innovation and Entrepreneurship Education	2	2	32	28			1			1		
	L	Engineering Economics	1.5	1.5	24	21						1.5		
	L	Business Management	1.5	1.5	24	21							1.5	
	L	Engineers' Professional Ethics and Responsibility	1	1	16	14							1	
	L&P	Comprehensive Practice of Ideological and Political Theory	1	1	16	14		1						

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08.1 Curriculum of CE

Course Categorization	Type L/P	Course	Chinese CP	ECTS CP	Work Load		S1	S2	S3	S4	S5	S6	S7	S8
					Contact Hours	Self Study Hours	CP	CP	CP	CP	CP	CP	CP	CP
	L&P	Voluntary Labor	1	1	2	28			1					
Internship and Practical Training	P	Military Training and Entrance Education	1	2	60	0	2							
	P	Professional Cognition Internship	1	2	30	30		2						
	P	Electronic Internship (1)	1	2	30	30			2					
	P	Embedded System Design	1	2	30	30				2				
	P	Digital System Design Based on FPGA	1	2	30	30				2				
	P	Internet of Things Application System Design	1	2	30	30					2			
	P	Comprehensive Design of Signal Processing	2	4	60	60					4			
	P	Metalworking Practice (1)	1	2	30	30						2		
	P	Comprehensive Design of Communication Engineering I	3	6	90	90						6		
	P	Comprehensive Design of Communication Engineering II	3	6	90	90							6	
	P	Comprehensive Training of Communication System	2	4	60	60							4	

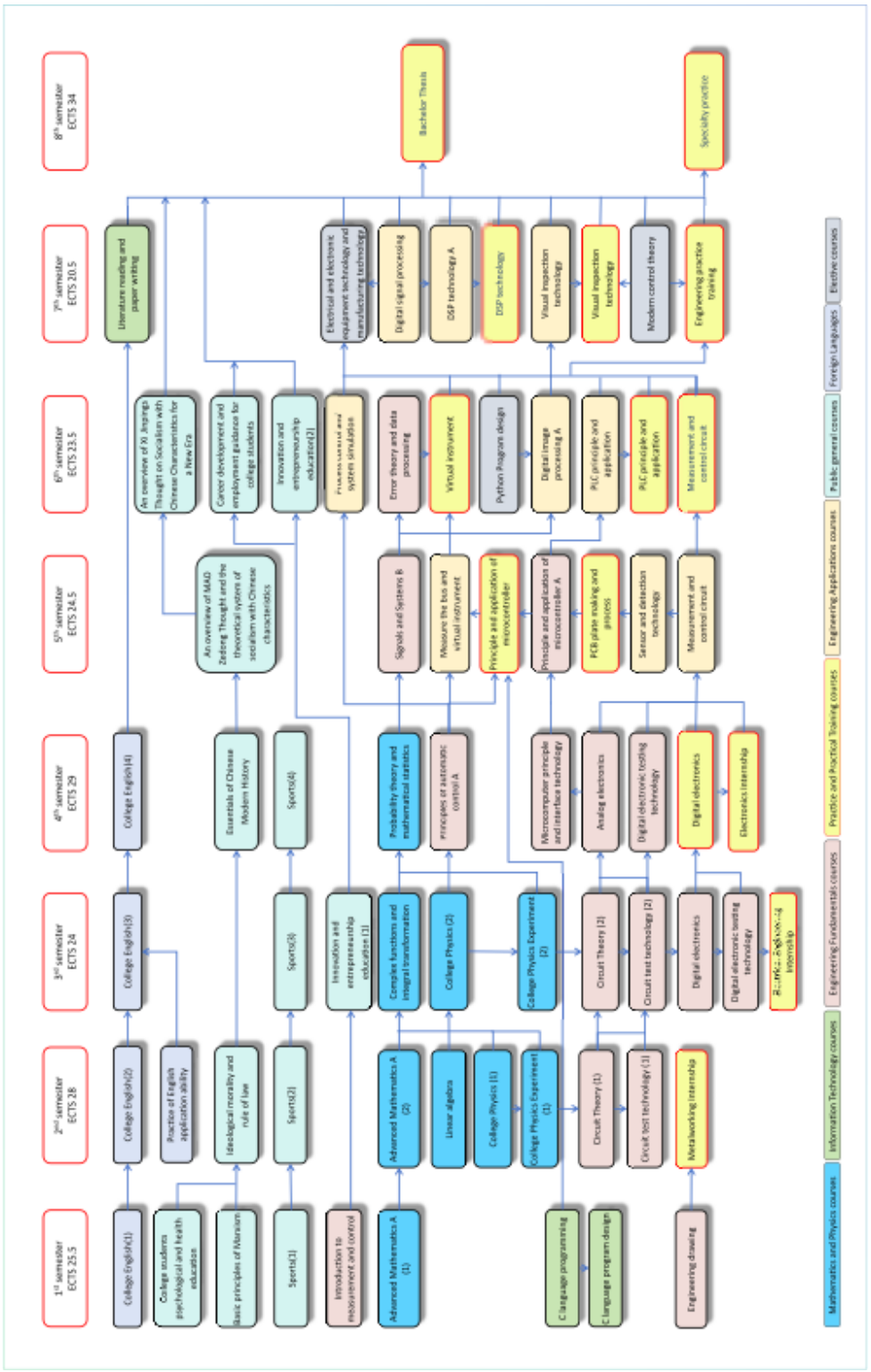
7

08.1 Curriculum of CE

Course Categorization	Type L/P	Course	Chinese CP	ECTS CP	Work Load		S1	S2	S3	S4	S5	S6	S7	S8
					Contact Hours	Self Study Hours	CP	CP	CP	CP	CP	CP	CP	CP
	P	Graduation Internship	2	4	60	60								4
Bachelor Thesis/Capstone Project	L&P	Bachelor Thesis/Capstone Project	15	28	180	660								28
Total				205	6150		23	32	28.25	24.75	21.75	22.25	21	32

8

2. Curriculum of MCTI Programme



Competence field	Module(Chinese name)	Module(English name)	Type	Chinese CP (中国的学分)	ECTS CP (转换为德国的学分)	Contact hours (教师上课时间)	Self-study Hours (学生自学时间)	Total study hours (总学习时间)	S1	S2	S3	S4	S5	S6	S7	S8
数学、物理课程 (Mathematics and Physics courses)	高等数学A(1)	Advanced Mathematics A (1)	L	4.5	4.5	72	63	135	6							
	高等数学A(2)	Advanced Mathematics A (2)	L	6	6	96	84	180		6						
	线性代数	Linear algebra	L	2	2	32	28	60		2						
	复变函数与积分变换	Complex functions and integral transformation	L	2	2	32	28	60			2					
	概率论与数理统计	Probability theory and mathematical statistics	L	2	2	32	28	60				3				
	大学物理(1)	College Physics (1)	L	2.5	2.5	40	35	75		3						
	大学物理实验（1）	College Physics Experiment (1)	P	1	1	16	14	30		1						
	大学物理(2)	College Physics (2)	L	3	3	48	42	90			4					
	大学物理实验（2）	College Physics Experiment (2)	P	1	1	16	14	30			1					
信息学课程 (Information Technology courses)	C语言程序设计	C language programming	L	4	4	64	56	120								
	文献阅读与论文写作	Literature reading and paper writing	L	1	1	16	14	30								
	C语言程序课程设计	C language program design	P	1	2	16	44	60	1							
工程基础课程 (Engineering Fundamentals courses)	工程制图	Engineering drawing	L	2.5	2.5	40	35	75	3							
	测控专业导论	Introduction to measurement and control	L	0.5	0.5	8	7	15	1							
	电路理论(1)	Circuit Theory (1)	L	3	3	48	42	90		3						
	电路测试技术（1）	Circuit test technology (1)	P	1	1	16	14	30		1						
	电路理论(2)	Circuit Theory (2)	L	2.5	2.5	40	35	75			3					
	电路测试技术（2）	Circuit test technology (2)	P	0.5	0.5	8	7	15			1					
	数字电子技术	Digital electronics	L	3	3	48	42	90			4					
	数字电子测试技术	Digital electronic testing technology	P	1	1	16	14	30			1					
	模拟电子技术	Analog electronics	L	3.5	3.5	56	49	105				4				
	模拟电子测试技术	Analog electronic testing technology	P	1	1	16	14	30				1				
	微机原理与接口技术	Microcomputer principle and interface technology	L&P	3.5	3.5	56	49	105				4				
	自动控制原理A	Principles of automatic control A	L&P	3.5	3.5	56	49	105				4				
	单片机原理及应用A	Principle and application of microcontroller A	L&P	3	3	48	42	90					4			
	信号与系统B	Signals and Systems B	L&P	2	2	32	28	60					4			
	误差理论及数据处理	Error theory and data processing	L	2	2	32	28	60						3		
工程应用课程 (Engineering Applications courses)	测量总线与虚拟仪器	Measure the bus and virtual instrument	L&P	3	3	48	42	90					4			
	传感器与检测技术	Sensor and detection technology	L&P	2.5	2.5	40	35	75					4			
	数字图像处理A	digital image processing A	L&P	2.5	2.5	40	35	75						3		
	测控电路	Measurement and control circuit	L&P	3	3	48	42	90					4			
	PLC原理及应用	PLC principle and application	L&P	2.5	2.5	40	35	75						4		
	数字信号处理	Digital signal processing	L&P	2	2	32	28	60							4	
	过程控制与系统仿真	Process control and system simulation	L&P	2	2	32	28	60						3		
	DSP技术A	DSP technology A	L&P	2	2	32	28	60							4	
	视觉检测技术	Visual inspection technology	L&P	2.5	2.5	40	35	75							4	
选修课 (Elective courses)	计算机网络与通信	Computer networks and communications	L	2	2	32	28	60							3	
	电子电气设备工艺与制造技术	Electrical and electronic equipment technology and manufacturing technology	L	1	1	16	14	30							2	
	控制系统仿真技术	Control system simulation technology	L&P	2	2	32	28	60							3	
	智能机器人基础	Fundamentals of intelligent robots	L	2	2	32	28	60							3	
	Python程序设计	Python Program design	L&P	1.5	1.5	24	21	45						2		
	现代控制理论	Modern control theory	L&P	2	2	32	28	60						3		
	嵌入式系统	Embedded system	L&P	2	2	32	28	60							3	
外语课程(Foreign Languages)	大学英语(1)	College English (1)	L	3	3	48	42	90	4							
	大学英语(2)	College English (2)	L	2	2	32	28	60		3						
	大学英语(3)	College English (3)	L	3	3	48	42	90			4					
	大学英语(4)	College English (4)	L	3	3	48	42	90				4				
	英语应用能力实践	Practice of English application ability	P	1	1	16	14	30		1						
	思想道德与法治	Ideological morality and rule of law	L	2.5	2.5	40	35	75		3						

通识课程 (Public general courses)	马克思主义基本原理	Basic principles of Marxism	L	3	3	48	42	90	4							
	中国近现代史纲要	Essentials of Chinese Modern History	L	2.5	2.5	40	35	75				3				
	毛泽东思想和中国特色社会主义理论体系概论	An overview of MAO Zedong Thought and the theoretical system of socialism with Chinese characteristics	L&P	2	2	32	28	60					3			
	习近平新时代中国特色社会主义思想概论	An overview of Xi Jinpings Thought on Socialism with Chinese Characteristics for a New Era	L	3	3	48	42	90						4		
	形势与政策	Situation and policy	L	2	2	32	28	60	2	2	2	2	2	2		
	体育	Sports	L	4	4	64	56	120	2	2	2	2				
	文化素质教育(中华文化、自然科学等)	Cultural quality education (Chinese culture, natural science, etc.)	L	1	1	16	14	30								
	文化素质教育(公共艺术)	Cultural quality education (public art)	L	2	2	32	28	60								
	军事理论及国家安全教育	Military theory and national security education	L	2	2	32	28	60		2						
	大学生心理及健康教育	College students psychological and health education	L	1	1	16	14	30	2							
	大学生职业发展与就业指导	Career development and employment guidance for college students	L	2	2	32	28	60								
	创新创业教育	Innovation and entrepreneurship education	L&P	2	2	32	28	60								
实践训练 (Practice and Practical Training courses)	国防教育入学教育	National defense education and admission education	P	1	1	16	14	30	1							
	思想政治理论课综合实践	Comprehensive practice of ideological and political theory course	P	1	2	16	44	60		1						
	公益劳动	Voluntary work	P	1	1	16	14	30				1				
	金工实习(1)	Metalworking Internship (1)	P	1	2	16	44	60		1						
	专业认识实习	Professional awareness internship	P	1	2	16	44	60			1					
	电工实习(2)	Electrical Engineering Internship (2)	P	2	4	32	88	120			1					
	数字电子技术 课设	Digital electronics	P	2	4	32	88	120				1				
	电子实习(1)	Electronics Internship (1)	P	1	2	16	44	60				1				
	PCB制版与工艺 课设	PCB plate making and process	P	2	4	32	88	120					1			
	单片机原理与应用 课设	Principle and application of microcontroller	P	2	4	32	88	120					1			
	测控电路 课设	Measurement and control circuit	P	1	2	16	44	60						1		
	PLC原理与应用 课设	PLC principle and application	P	1	2	16	44	60						1		
	虚拟仪器 课设	Virtual instrument	P	2	4	32	88	120						1		
	DSP技术 课设	DSP technology	P	2	4	32	88	120							1	
	工程实践训练	Engineering practice training	P	2	4	32	88	120							1	
	视觉检测技术 课设	Visual inspection technology	P	1	2	16	44	60							1	
	毕业实习	Specialty practice	P	2	4	32	88	120								1
毕业论文 (Bachelor Thesis)	毕业设计	Bachelor Thesis	L&P	15	30	240	660	900								1
合计				170	209	2720	3550	6270								