ASIIN Seal

Accreditation Report

Bachelor's degree programmes
Robotics Engineering and Communication Engineering

Provided by

Tongling University

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A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
机器人工程	Robotics Engineering	ASIIN	/	02, 01
通信工程	Communication Engineering	ASIIN	/	02, 01
Date of the contract: 25.09.2025 **Submission of the final version of the self-assessment report:** 25.02.2026 **Date of the onsite visit:** 14.-15.05.2026 **at:** Tongling University, Tongling, Anhui Province, China				
Expert panel: Prof. Dr. Yongjian Ding, Magdeburg-Stendal University of Applied Sciences; Prof. Dr. Peter Nauth, Frankfurt University of Applied Sciences; Mr. Yuqing Xu, China Telecom Shanghai Ideal Information Industry (Group) Co. Ltd; Mr. Yuyin Zhang, Student at Tongji University				

[1] ASIIN Seal for degree programmes

[2] TC: Technical Committee for the following subject areas: TC 01 - Mechanical Engineering/Process Engineering; TC 02 - Electrical Engineering/Information Technology; TC 03 - Civil Engineering, Geodesy and Architecture; TC 04 - Informatics/Computer Science; TC 05 - Materials Science, Physical Technologies; TC 06 - Engineering and Management, Economics; TC 07 - Business Informatics/Information Systems; TC 08 - Agriculture, Forestry, Food Sciences, and Landscape Architecture; TC 09 - Chemistry; TC 10 - Life Sciences; TC 11 - Geosciences; TC 12 - Mathematics; TC 13 - Physics; TC 14 - Medicine.

Representative of the ASIIN headquarter: Julia Tohidi Sardasht	
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, and of Technical Committee 01 – Mechanical Engineering/Process Engineering as of December 9, 2011	

B Context of the Degree Programmes

B-1 Accreditation Status

Result Overview

The most recent decision for the ASIIN Seal was made by the ASIIN Accreditation Commis-
5 sion on 25.09.2026.

Degree Programmes	ASIIN Seal	Accredited by German Engineers	Validity
Ba Robotics Engineering	Accredited with requirements	Accredited with requirements	16.10.2026 - 16.10.2027
Ba Communication Engineering	Accredited with requirements	Accredited with requirements	16.10.2026 - 16.10.2027

Fulfilment of the Accreditation Criteria

ASIIN General Criteria / Subject-Specific Criteria	Ba Robotics Engineering	Ba Communication Engineering
1 Degree programme: Concept, Content & Implementation		
1.1 Objectives and learning outcomes (intended qualification profile)	Fulfilled	Fulfilled
1.2 Title of the degree programme	Fulfilled	Fulfilled
1.3 Curriculum	**Not fulfilled** **Requirement A 1, A 2**	**Not fulfilled** **Requirement A 1, A 2**
1.4 Admission requirements	Fulfilled	Fulfilled
1.5 Workload and credits	**Not fulfilled** **Requirement A 3**	**Not fulfilled** **Requirement A 3**
1.6 Didactics and teaching methodology	Fulfilled	Fulfilled

ASIIN General Criteria / Subject-Specific Criteria	Ba Robotics Engineering	Ba Communication Engineering
2 Exams: System, Concept and Organisation		
2 Exams: System, Concept and Organisation	**Not fulfilled** **Requirement A 4**	**Not fulfilled** **Requirement A 4**
3 Resources		
3.1 Staff and staff development	Fulfilled	Fulfilled
3.2 Student support and student services	Fulfilled	Fulfilled
3.2 Funds and equipment	Fulfilled	Fulfilled
4 Transparency and Documentation		
4.1 Module descriptions	Fulfilled	Fulfilled
4.2 Diploma and Diploma Supplement	**Not fulfilled** **Requirement A 5**	**Not fulfilled** **Requirement A 5**
4.3 Relevant rules	Fulfilled	Fulfilled
5 Quality Management: Quality Assessment and Development		
5 Quality Management: Quality Assessment and Development	Fulfilled	Fulfilled

Requirements

Applicable to both programmes

A 1. (ASIIN 1.3, 4.1) Align the course learning outcomes with the course content in the course descriptions to transparently demonstrate that the programme learning outcomes can be achieved.

A 2. (ASIIN 1.3) Refine the existing curriculum review mechanism to keep the curriculum up to date with the latest scientific and technological developments and industry demands.

A 3. (ASIIN 1.5) Credits have to be awarded to all compulsory components of the curriculum.

A 4. (ASIIN 2) Ensure through adequate means that independent scientific analysis and application parts in the bachelor thesis are at an adequate academic level.

A 5. (ASIIN 4.2) A Diploma Supplement containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the student has to be issued for every graduate. In addition to the final mark, the accompanying transcript shall include statistical data as set forth in the ECTS Users' Guide to allow readers to assess the individual mark.

Accreditation History

The programmes have not been previously accredited by ASIIN.

B-2 Numbers and facts

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Robotics Engineering	工学学士/ B. Eng.		6	Full time	/	8 Semester	203 ECTS	Yearly intake (autumn semester); September 1, 2018
Communication Engineering	工学学士/ B. Eng.		6	Full time	/	8 Semester	195 ECTS	Yearly intake (autumn semester); September 1, 2007

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

B-3 Characteristics and features

The study programmes evaluated in this report are Robotics Engineering (RE) and Communication Engineering (CE), both Bachelor of Engineering programmes at Tongling University (TU). In its SAR, TU describes itself and the programmes as follows:

"Tongling University is located in Tongling, Anhui Province. The University comprises 14 schools and offers 50 undergraduate programmes. The University has over 1,250 full-time faculty members and more than 19,000 students. Committed to its practice-oriented mission, Tongling University develops high-calibre practice-oriented professionals and actively contributes to regional economic and social development. […].

The School of Mechanical Engineering was established in 2002. The School offers seven undergraduate programmes: Robotics Engineering, Mechanical Design, Manufacturing and Automation, Mechatronic Engineering, Materials Forming and Control Engineering, Automotive Service Engineering, Metal Materials Engineering, and Additive Manufacturing Engineering. The School focuses on developing practice-oriented professionals, aligning closely with advances in robotics and intelligent manufacturing. […].

The Robotics Engineering programme admitted its first cohort in 2018. […] Graduates are qualified for positions in robot design, automated production line design, technical management, and operational services in manufacturing enterprises.

The programme aligns with national and regional strategic priorities, particularly the ten emerging industries designated by Anhui Province, and addresses local industry demand for qualified professionals. The programme collaborates with robotics enterprises and manufacturing companies in Tongling and the Yangtze River Delta region to establish placement sites, implement industry–education integration projects, engage practicing engineers as part-time lecturers, and incorporate project-based case studies to strengthen students' practical and innovative competences.

The School of Electrical and Information Engineering was established in January 2026. Its predecessor, the School of Electrical Engineering, was established in 2002. The School offers six undergraduate programmes: Communication Engineering, Automation, Electrical Engineering and Automation, Electronic Information Engineering, Integrated Circuit Design and Integrated Systems, and Building Electrical and Intelligent Systems. Automation and Electrical Engineering and Automation have been designated as Provincial First-Class Undergraduate Programmes. The School aligns its programmes with industry needs and maintains close university–industry collaboration. Graduates are well received by employers, as evidenced by consistently strong employment rates. […].

The Communication Engineering programme admitted its first cohort in 2007. […] Graduates are prepared to undertake research, design, development, operation, and maintenance in communication and electronic information systems. The programme has established placement sites in collaboration with communication enterprises in Tongling and the Yangtze River Delta region and has implemented work-integrated learning projects. The programme supports local enterprises, including Tongling Nonferrous Metals, in automation upgrades and communication network deployment. Students participate in these projects to gain early exposure to industry requirements. Several faculty members have professional experience in the communication industry. The programme also engages practising engineers as part-time lecturers and incorporates industry case studies into the curriculum. Most graduates are employed by communication equipment manufacturers, network operators, and intelligent manufacturing enterprises in the Yangtze River Delta region. Some remain in Tongling to contribute to local industrial development."

C Assessment of the Expert Panel

This accreditation report is based on the preliminary evaluation report for the degree programmes 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 resulting from this procedure. 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 the expert panel had with relevant stakeholder groups: representatives of the Rector's office, programme coordinators, representatives of the Quality Management Department and the International Office, teaching and lab staff, students, partners from industry and the private sector, and alumni. In addition to the audit meetings, the expert panel relies on the documentation about the programmes as well as the documentary respectively regulatory framework Tongling University has provided before, during and after the audit.

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

Description of the current status

Applicable to both programmes

For both programmes, Tongling University provides learning outcomes for the programmes as a whole, learning outcomes for the modules (app. 05-1), and objective-module matrices (app. 07-1) that map the university's learning outcomes against the Technical Committees' Subject Specific Criteria and list the corresponding modules in each programme.

Regarding the regular review of the learning outcomes, the SAR states that there is a formal review mechanism in place that involves employers, industry experts, graduates, and teaching staff through questionnaires, symposia, and "other forms", as well as student surveys. The learning outcomes are reviewed every four years with minor adjustments every two years. The assessment of the learning outcomes revolves around the following dimensions: "whether they clearly reflect the programme's cultivation objectives; whether they align with industry and technological development trends; whether they are measurable and achievable; and whether they are effectively supported within the curriculum system".

Robotics Engineering

In the SAR and app. 05-1, TU names six programme learning outcomes for the RE programme with several sub-outcomes:

Basic Scientific Literacy

- Master the fundamentals of mathematics, natural sciences, information technology, and robotics engineering.
- Apply mathematical knowledge to understand and formulate practical problems in robotics engineering, and establish basic models of robot dynamics and control systems to address technical and engineering challenges.
- Observe, analyse, and solve technical problems using mathematical and information-based approaches. Apply analytical, computational, and reasoning skills to engineering phenomena based on the principles of mathematics and information technology.

Engineering and Professional Fundamentals

- Master the fundamental engineering and professional knowledge in robotics, electronics, engineering mechanics, materials engineering, and automatic control.
- Analyse engineering phenomena in robot design and application, and apply general engineering knowledge, methods, and skills to solve practical problems.
- Master the concepts and principles of robotics, electronics, materials engineering, and automatic control. Through systematic analysis and reasoning of engineering phenomena, understand engineering problems in robotic systems.

Professional Knowledge and Problem-Solving Competence

- Master professional knowledge of robotics, including the interdisciplinary relationships among mechanics, electronics, and control, and the capacity to evaluate robot system design schemes.
- Apply professional knowledge to analyse and solve practical problems in robotics engineering, including designing experiments, analysing and interpreting data, and simulating robot systems through information integration.
- Master the analysis, design, control, and optimisation of complex robot systems.
- Design robot systems and components that meet specific requirements, demonstrating innovation and considering societal, health, safety, legal, cultural, and environmental factors.

Emerging Knowledge in Robotics Engineering

- Master professional knowledge in emerging and frontier areas of robotics.
- Expand professional knowledge, track development trends in the field and related areas, and pursue continuous learning.
- Acquire interdisciplinary competences and apply professional knowledge broadly across related fields.

International Communication Competence

- Master a foreign language and acquire a solid command of technical English in the field.
- Read professional literature in English and communicate with others in English to discuss technical issues.
- Possess comprehensive English proficiency to work in relevant fields and engage in cross-cultural communication.

Teamwork and Management Competence

- Possess sound personal and psychological qualities, together with appropriate ethical and legal awareness.
- Function effectively as a team member and communicate with colleagues in multidisciplinary teams.
- Work independently or collaboratively within a team, and organise and coordinate team members to achieve shared goals."

Communication Engineering

In the SAR and app. 05-1, TU names six learning outcomes for the CE programme with several sub-outcomes:

Basic Scientific Literacy

- Understand and apply knowledge of mathematics, natural sciences, and information science to analyse practical problems in communication engineering, thereby establishing a foundation for professional competence.
- Master programming languages and software applications, utilise computers and the internet effectively, and possess information literacy skills.
- Demonstrate awareness of lifelong learning and the capacity to follow technological developments and application prospects.

Professional Knowledge, Self-Directed Learning, and Research

- Acquire and apply relevant professional knowledge in communication engineering.
- Possess the ability to conduct independent research and pursue postgraduate studies.

Engineering Practice Competence

- Master the operation and maintenance of communication equipment in communication systems.
- Propose solutions to engineering problems in communication engineering and demonstrate innovative thinking.
- Evaluate the impact of technical solutions on people and the environment from a sustainable development perspective.

Broader Competences in Engineering and Related Fields

- Master emerging knowledge in communication engineering, as well as knowledge in engineering management and economic decision-making.
- Keep abreast of development trends in communication engineering and possess competences in related interdisciplinary areas.
- Evaluate technical solutions from a holistic and interdisciplinary perspective and possess the qualities to complete challenging tasks.

International Communication Competence

- Possess functional foreign language skills in listening, speaking, reading, and writing.
- Have an international perspective and communicate effectively in cross-cultural contexts.

Social Responsibility and Teamwork Competence

- Possess sound personal and psychological qualities, together with appropriate ethical and legal awareness.
- Communicate effectively with other members in multidisciplinary teams.
- Work independently or collaboratively within a team, and organise and coordinate team members to achieve shared goals.

Analysis and assessment of the expert panel

Applicable to both programmes

The expert panel considers the objectives and learning outcomes of both degree programmes to be generally appropriate for TU's application-oriented profile. The onsite discussions confirmed that both programmes are closely linked to regional industrial needs and to the university's cooperation with local industry. This applies to both programmes, while the professional orientation differs by discipline: RE focuses on robot design, technology development, operation and technical management, whereas CE aims to prepare students for careers in communication systems, mobile communication, internet-related fields, network optimisation, equipment management and related engineering positions.

The panel positively notes that TU has defined programme-level and module-level learning outcomes and has provided objective-module matrices. It also appreciates that the university has established regular review mechanisms, including major reviews every four years and minor adjustments every two years, and that employers, industry experts, graduates, students, and teaching staff are involved. During the audit, the university described several channels for identifying industrial needs, including annual enterprise questionnaires, visits to key companies and industrial talent forums. Industry representatives confirmed that they are involved in programme development and provide regular feedback.

The panel also values the strong practical and industry-oriented profile of the programmes. Students, teaching staff and industry representatives confirmed that internships, competitions, co-constructed laboratories, guest lectures, real projects and thesis-related industry cooperation contribute to the intended competence profiles. Employers described TU graduates as well suited for application-oriented technical roles. Students also confirmed that they chose the programmes because of their practical relevance, good laboratories and perceived employment prospects.

Overall, the expert panel finds that the objectives and learning outcomes of both programmes are suitable and labour-market relevant.

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

Description of the current status

Applicable to both programmes

The programme names adhere to the naming conventions prescribed by the Ministry of Education of China. The designations are used consistently in the SAR, the programme handbook, and on the university's official website. As per national regulations, the programme names are aligned with a standardized list of degree titles, which ensures its recognition and acceptability across Chinese higher education institutions.

Robotics Engineering

The degree programme is called 机器人工程 in Chinese and "Robotics Engineering" in English. TU states that the name reflects the programme's focus on "robot design and application, integrating automatic control technologies to enable robot applications in industrial production, medical rehabilitation, firefighting, disaster rescue, and security Communication Engineering".

Communication Engineering

The degree programme is called 通信工程 in Chinese and "Communication Engineering" in English. TU states that the name reflects the programme's focus on "knowledge and skills in communication network construction, information processing, communication equipment development, and network operation management".

Analysis and assessment of the expert panel

Applicable to both programmes

The expert panel acknowledges that the programme titles conform with national standards and do not present any legal or formal inconsistencies. The naming follows the Ministry of Education's official taxonomy and is thus accepted within China's academic and professional systems. The English names used in all submitted documents are a literal translation of the Chinese programme names.

The expert panel summarises that the titles of the degree programmes do reflect the intended objectives and learning outcomes as well as the teaching and learning content. The designations (both in the original language and in English) are used consistently in all relevant documents such as internal university documents, public websites, and student records.

C-3 Curriculum [ASIIN 1.3]

Description of the current status

Applicable to both programmes

Content and structure

The RE and CE programmes are structured into full-time bachelor's degrees and are spread over eight semesters. The curricula cover eight modules, meaning groups of courses: Mathematics and Physics, Engineering Fundamentals, Engineering Applications, Electives, Foreign Language Courses, General Education Courses, Practical Courses, and the Bachelor's Thesis. The specific courses vary per programme. For each module, the SAR shows the corresponding learning outcomes.

The university describes the curricula as sequential; foundational mathematics and physics courses in the first four semesters are followed by engineering application courses and electives in the later semesters. At the end of each semester, students do practical courses followed by a corresponding theoretical course. The programme concludes with the graduation thesis that "typically originate[s] from faculty research projects or industry-based engineering projects".

The RE programme, students obtain a total of 203 ECTS, whereas in the CE programme, it is 195 credits.

The semester overviews, including Chinese credits, ECTS, and hour allocations, are given in app. 08-1 (copied at the end of this report) and the course content is outlined in the syllabi (app. 09-1).

In the RE programme, the curriculum includes mechanical drawing, engineering mechanics, 3D modelling, robotics, hydraulic and pneumatic transmission, fundamentals of robot control, engineering testing technology, innovative design for intelligent robots, electrical and electronic technology, mechanical design, robot control circuit design, embedded system design, industrial robot programming technology, plc and motor servo control, machine vision and image processing, robot control technology, MATLAB/Simulink design, C language programming, as well as various practical courses in which students get to apply their knowledge.

The CE programme's curriculum integrates circuit experiments, analogue electronics technology, analogue electronics experiment, digital electronics technology, digital electronics experiment, digital signal processing, signal and system, electromagnetic fields and waves, principles of communication, information and coding theory, introduction to artificial intelligence, C language programming, electronic circuit CAD, MATLAB fundamentals, principles and applications of single-chip microcomputers, high-frequency electronic circuits, digital image processing, digital system design, switching principles and technologies, as well as practical courses.

Student mobility

In the SAR, the university outlines its newly implemented "3+1" study model where students complete their first three years at TU and then study their fourth year at RAND University in the United States of America. It is unclear whether this study model is already opened to students of the programmes under review.

The university states that they are aiming to enhance Sino-foreign cooperation in the future as in practice, no RE nor CE students have participated in any overseas semesters during their studies so far. Despite that credit recognition mechanisms are in place (see app. 1-1-12). However, the SAR states that "number of students from both programmes" are selected each year to study at Wuhan University of Technology for one year, with which TU has a domestic exchange cooperation agreement.

Periodic review of the curriculum

The university has a curriculum review in place where every four years, the curriculum is reviewed by the school's teaching guidance committee, taking into consideration feedback from graduates, employers, industry experts, and current students. Minor adjustments are made every two years. Moreover, the individual course objectives and contents are reviewed every semester by the instructors and course teams. The university states that it is aiming for a continuous revision of the curriculum and continuous improvement of the teaching content, methods, and assessment methods.

Analysis and assessment of the expert panel

Applicable to both programmes

Content and structure

The expert panel considers the overall structure of both curricula to be generally coherent and plausible in their progressions. The panel values the strong practical and application-oriented profile of both programmes. With regard to disciplinary content, the panel finds that both programmes cover central areas of their respective fields. In the RE programme, students are educated in all relevant areas of robotics, i. e. mechanics, electronics, embedded systems, computer vision, robot arm control including forward/inverse kinematics, programming and autonomous navigation. The curriculum contains all subjects to empower graduates to work successfully in robot design and control as well as in intelligent manufacturing. In CE, students are educated in circuits, programming, analogue and digital electronics, signal processing, microcontroller systems, optical fiber and mobile communication, and wireless sensor networks.

Nevertheless, the audit discussions also showed that some parts of the curricula remain rather traditional. Experts and industry representatives therefore pointed to the need to continuously update the curricula with regard to new technologies such as intelligent manufacturing, industrial robot applications, 5G/industrial communication, AI, algorithms, digital tools used in factories, and cybersecurity. The panel acknowledges that TU is aware of these developments and that several updates are planned, including stronger AI-related content. However, given the pace of technological development and the feedback from industry representatives, the panel considers it important that TU refines its already existing curriculum review mechanism to continuously update the curriculum.

At the same time, the panel sees a need to strengthen the transparent alignment between the intended course learning outcomes and the actual course content. During the audit, the experts found that in some course descriptions, learning outcomes and teaching content do not fully correspond. This was discussed, for example, for the Robotics Engineering course “Robotics”, where certain skills appear in the learning outcomes but are not clearly reflected in the teaching content. The be specific, the learning outcomes claims that students “[m]aster the basic knowledge of sensors and perception technologies (vision, force sensing, LiDAR, etc.)”, but in content, there is no indication that sensors etc. are taught. The programme coordinators acknowledged this point during the onsite discussion. The experts list further examples in their discussion of the module descriptions.

Moreover, the expert panel identified several areas where the internal coherence and transparency of the curriculum could be further strengthened. Based on the submitted

module descriptions, a considerable overlap appears to exist between the RE modules "Fundamentals of Robot Control" and "Robot Control Technology". The distinction between the intended learning outcomes, competencies to be acquired, and teaching contents of the two modules is not sufficiently evident. The university should therefore more clearly demonstrate the progression between these modules and justify the continued inclusion of both modules in the curriculum. A similar observation applies to the modules "Embedded Systems" and "Robot Circuit Design", where the submitted documentation suggests substantial similarities in content and competencies. The panel recommends clarifying the specific focus, contribution and added value of each module in order to avoid unnecessary duplication and ensure a coherent competence development pathway.

Furthermore, the expert panel observed that the title of some modules does not fully reflect the actual teaching content. In particular, the RE module "Robot Control Circuit Design" appears to focus predominantly on microcontrollers and embedded control systems, while aspects of circuit design play a comparatively minor role. To improve transparency and accurately communicate the intended learning outcomes to students and external stakeholders, the panel recommends either strengthening the circuit-design components within the module or adapting the module title so that it more precisely reflects the content delivered.

The panel furthermore stresses that the intended programme learning outcomes in both programmes must be demonstrably achievable through the regular curriculum and not mainly through extracurricular activities such as competitions, voluntary innovation projects or individual industry projects. These activities are valuable and strengthen the programmes, but they cannot replace a coherent curricular implementation of the intended qualification profile. This is particularly relevant for competences related to emerging technologies, AI, software skills, algorithms, innovation thinking, self-study skills and interdisciplinary problem-solving, which were mentioned in the learning outcomes and also raised in employer feedback. For further transparency, the expert panel would like to see an overview of student projects that indicates whether those projects have been part of a mandatory course or done voluntarily by students, e.g., as part of a competition.

Regarding practical work, students, teaching staff and industry representatives confirmed that practical elements are integrated through laboratory work, practical courses, internships, competitions, innovation projects and industry-related thesis topics. Industry representatives further confirmed that internship cooperation is based on written agreements and that students are jointly supervised by university teachers and company supervisors. The panel considers this a clear strength, as it supports TU's application-oriented mission and the professional qualification of graduates.

Nevertheless, the panel also sees room to strengthen students' independent and scientific engagement with practical and technological content. Students confirmed that laboratory sessions are generally well integrated with theory and closely guided by teachers. However, some students also indicated that practical sessions may sometimes be over-explained, leaving limited room for independent problem-solving. Industry representatives and alumni further mentioned that innovation thinking, self-study skills and AI-related competences could be strengthened. The panel therefore recommends that practical courses should go beyond application and more explicitly train students to critically and scientifically engage with algorithms, AI, and new technologies.

Finally, the panel notes that some compulsory curricular components, especially in the area of general education, appear to be listed with 0 ECTS. This issue is further discussed in chapter C-5.

Student mobility

The panel acknowledges that TU has established the abovementioned frameworks to support mobility and internationalisation. Students also confirmed that some support exists, including financial support for summer schools. However, the audit showed that no participating RE or CE students had spent a semester abroad, and financial constraints were identified as a major barrier. Since internationalisation, credit recognition and alignment with international standards were named as important goals of the accreditation procedure, the panel recommends further developing practical opportunities for students to integrate an outbound semester into their studies and to encourage incoming mobility.

The panel further sees room for improvement in English-taught engineering content. While both programmes include general English courses and some discipline-related English elements, students reported that bilingual teaching is still limited and often consists mainly of Chinese teaching with English slides or presentations. Students expressed interest in more genuinely bilingual or English-taught engineering courses. Industry representatives also confirmed that English is relevant, especially in multinational contexts and for written professional communication. The panel therefore recommends offering more English-taught engineering-related courses in both programmes.

Periodic review of the curriculum

The expert panel positively notes that TU has established regular curriculum review mechanisms. Programme coordinators and teaching staff confirmed annual syllabus updates, minor curriculum revisions every two years and major curriculum revisions every four years. Curriculum development is carried out jointly by programme coordinators and teachers, and each course is supported by a course group consisting of several teachers.

The panel also welcomes the involvement of industry partners in curriculum development. Industry representatives confirmed that they discuss business trends with the university, contribute to internship and thesis projects, and help introduce new technologies into the programmes. The university also described its guiding principle of integrating business with engineering and gave examples of curriculum updates based on industry feedback.

At the same time, the panel considers that the review process should be used more systematically to address the gaps identified during the audit. This concerns, in particular, the alignment between learning outcomes and course content, the curriculum alignment the continuous updating of technological content, the strengthening of students' independent scientific engagement in practical courses, and the further development of internationalisation and English-taught engineering content. The panel therefore encourages TU to document more clearly how stakeholder feedback is translated into concrete curriculum changes and how the effectiveness of such changes is reviewed. The stakeholders' proposals for programme improvement as well as the assessment thereof should be documented as well as the implementation process or the reasoning for rejecting those proposals.

C-4 Admission requirements [ASIIN 1.4]

Description of the current status

Applicable to both programmes

The SAR states that students need to take the National College Entrance Examination of the People's Republic of China (Gaokao) to get admission to a bachelor's degree at TU. Appendix 11-1 outlines detailed admission regulations. The university has programme transfer regulations in place (app. 1-1-8).

The SAR describes the admission process as follows: "Admission to Chinese higher education institutions is determined by each province (municipality) based on the number of candidates and their examination scores, with uniform batch admission lines. Candidates are ranked by score from high to low and divided into three admission batches: early undergraduate, regular undergraduate, and junior college. As a provincial undergraduate institution in Anhui Province, TU's admission line is typically within the regular undergraduate batch. During the admission process, the University's admissions office adheres to the principles of fairness, impartiality, and transparency, comprehensively evaluating candidates and selecting the best for admission. The admission process includes candidate registration, examination organisation, score announcement, application submission, admission review, and issuance of admission notices. For candidates who pass the ideological and

moral assessment, comply with laws and regulations, pass the physical examination, and whose scores meet admission requirements, the University decides on admission and programme allocation based on application preferences."

Robotics Engineering

The university provides the following data on admissions and enrolment in appendices 12-1 and 16-1:

Robotics Engineering Programme 1[1]

Year[1]	Applicants	Available Seats	Admitted Students	Admission Rate (%)[2]
2021	162	60	60	100%
2022	139	40	40	100%
2023	204	40	40	100%
2024	210	60	59	98%
2025	92	70	68	97%

Robotics Engineering Programme 1[1]

Cohort Year[1]	Total Enrolled[2]	Graduated on Time[3]	Graduated Late[4]	Still Enrolled[5]	Dropped Out[6]
2021	60	52	/	2	3
2020	60	57	/	0	3
2019	60	59	/	0	1
2018	47	47	/	0	0

Note：2021，Three students have changed their majors and left the Robotics Engineering programme in semester 2.

The university furthermore states that in the last five years, 8 students have transferred into the RE programme, while 6 students have transferred out.

Communication Engineering

The university provides the following data on admissions and enrolment in appendices 12-1 and 16-1:

Communication Engineering Programme 1[2]

Year[2]	Applicants	Available Seats	Admitted Students	Admission Rate (%)[3]
2021	696	110	108	98.18 %
2022	774	120	118	98.33 %
2023	710	90	89	98.89 %
2024	521	100	97	97.00 %
2025	505	80	77	96.25 %

Communication Engineering Programme 1[2]

Cohort Year[8]	Total Enrolled[9]	Graduated on Time[10]	Graduated Late[11]	Still Enrolled[12]	Dropped Out[13]
2012	129	127	2	0	0
2013	119	119	0	0	0
2014	115	115	0	0	0
2015	114	114	0	0	0
2016	121	120	1	0	0
2017	100	99	1	0	0
2018	100	100	0	0	0
2019	107	102	2	0	3
2020	111	106	1	0	4
2021	110	106	3	0	1

The university furthermore states that in the last five years, 35 students have transferred into the CE programme, while 9 students have transferred out.

Analysis and assessment of the expert panel

Applicable to both programmes

The expert panel considers the admission requirements and admission procedure for both programmes to be adequately defined and transparent. Admission is based on the national Gaokao system and follows the provincial admission procedures described in the SAR. The submitted regulations outline the main steps of the process, including registration, examination, score-based ranking, application submission, admission review and issuing of admission notices. The panel therefore finds that the admission procedure is binding and transparent and, in principle, ensures that admitted students have the academic background required to successfully complete the programmes.

During the audit, the programme coordinators confirmed that transfers are possible only after the first year. The panel considers this reasonable, since students mainly take general and foundational courses during the first year, which reduces the risk of major subject-specific knowledge gaps after a transfer. The university also confirmed that credits obtained at other domestic or international universities can be recognised according to fixed regulations if the courses are sufficiently comparable. If comparability is unclear, the international office or other responsible bodies review the case. The panel therefore concludes that recognition procedures are in place and support mobility without endangering the achievement of the intended learning outcomes.

The panel also notes that students with disabilities are admitted according to the same academic admission requirements, provided that they reach the required score. Financial support and subsidies are available. No specific concerns were identified during the audit regarding equal access or the transparency of the admission procedure.

With regard to the programme-specific admission and transfer data, the panel takes note of the different transfer figures. The panel also discussed variations in application numbers. TU explained that admission scores have increased since the university applied to become a Master's degree-awarding institution, which may have affected applicant numbers. The panel does not derive any deficiency from these figures, but considers them useful monitoring data for the university's internal quality assurance.

Overall, the expert panel finds that the admission requirements, transfer regulations and recognition procedures are appropriate and transparent for both programmes.

C-5 Workload and credits [ASIIN 1.5]

Description of the current status

For the credit conversion between Chinese credits and ECTS, TU differentiates between the different types of courses of the programmes (app. 15-1):

- "For general education courses, mathematics, physics, college English, computer-related courses, and public elective courses: 1 Chinese credit is equivalent to 1 European credit. At this time, the class hours are 30, including 16 contact hours and 14 self-study hours by students."
- "For foundational courses in robotics/communication engineering and engineering application courses: 1 Chinese credit is equivalent to 1 European credit. At this time, the class hours are 30, including 16 contact hours and 14 self-study hours by students."
- "For robot engineering practice courses/practical courses in communication engineering: 1 Chinese credit is converted to 2 European credits. At this point, the class hours are 60, including 20 contact hours and 40 self-study hours by students."
- "For bachelor's degree theses, the credits and class hours in China are 14 credits and 420 class hours respectively. After conversion to European credits and hours, they become 20 credits and 600 hours (180 contact hours + 420 self-study hours)."

The university states that the workload is balanced across semesters, averaging around 25 ECTS per semester for the RE programme and 24 ECTS for the CE programme respectively.

The course syllabi (app. 09) and cultivation plans (app. 05-1) list the credits and hour allocation for each course. Moreover, there are regulations in place for the recognition of extracurricular activities (app. 14-1-2).

Regarding the balance between the different semesters, TU states that the Head of Department and teaching secretary review “the cumulative workload of courses taken by students to ensure consistency with the planned workload in the Programme Curriculum”. However, it is unclear whether student surveys and feedback are taken into consideration in the workload assessment.

Analysis and assessment of the expert panel

The expert panel acknowledges that TU has submitted a credit conversion scheme for both programmes and that the syllabi and cultivation plans list credits and hour allocations for the individual courses. The panel also notes positively that the calculation includes contact hours and self-study time. Moreover, the panel considers the general distribution of credits across the semesters to be plausible. Students also described the workload as generally manageable and the programme structure as incremental.

At the same time, the panel could not verify that the allocation of credits is based on a systematic and regular assessment of the actual student workload. During the audit, the programme coordinators explained that workload estimates are based on real hours, but the precise assessment method remained unclear. It was not evident whether students are regularly surveyed on their actual workload or whether such feedback is systematically used to adjust the credits awarded to individual courses. The panel strongly recommends conducting systematic workload assessments, e.g., through student surveys, and, where necessary, updating the credit allocation accordingly.

As mentioned above, the panel further notes that some compulsory components of the curriculum, especially public platform or general education courses, appear to be listed with 0 ECTS. This is problematic because the ASIIN criteria require that all compulsory components of the study programme are included in the workload calculation and that credits are awarded for every module based on the respective workload. The panel therefore strongly recommends ensuring that all compulsory components of both curricula are awarded credits.

Overall, the expert panel finds that the workload and credit system is generally plausible, but that TU should systematically verify actual student workload and ensure that all compulsory curricular components are fully reflected in the credit allocation.

C-6 Didactics and teaching methodology [ASIIN 1.6]

Description of the current status

The SAR explains that specialised courses are usually delivered in "small classes" of 40 to 60 students where teaching methods include lectures, case-studies, blended learning, projects, group work and presentations, and oral reports. TU also uses different online learning platforms. The syllabi (app. 09) list the teaching methods used in each individual course.

To train students practical competencies in the context of robotics and communication engineering, TU places great emphasis on laboratory components and project work. For the RE programme, this includes "robot structural design, motion control design, industrial robot application design, and coordinate measuring machine operation under faculty guidance, developing innovative design thinking and practical competence". For the CE programme, practical elements include "communication system design, communication signal collection and analysis, communication equipment debugging and optimisation, and communication network topology construction under faculty guidance, developing innovative design thinking for communication systems and practical competence in signal processing and network operation and maintenance". Moreover, in both programmes, students can do off-campus work (e.g. internships) through the university's industry partnerships.

Analysis and assessment of the expert panel

The expert panel considers the teaching and learning methods used in both programmes to be generally suitable for supporting the intended learning outcomes. The onsite discussions confirmed that TU uses a range of didactic formats. Students also confirmed that group work is used in courses and that practical elements are integrated into the programmes.

The panel also values the role of competitions, innovation projects and teachers' research projects. Programme coordinators, teaching staff and students confirmed that students are encouraged to participate in competitions, often in interdisciplinary teams. The panel therefore considers these activities a useful complement to the regular curriculum, especially for developing teamwork, communication, project management and problem-solving skills.

At the same time, the panel sees room for improvement regarding students' independent and scientific engagement in practical learning contexts. Students reported that practical sessions are sometimes very closely guided by teachers. While this supports clarity and helps students understand the tasks, it may also limit independent problem-solving and deeper scientific reflection. Industry representatives and alumni similarly indicated that

students' self-study skills and innovation thinking could be strengthened. Against this background, the panel considers that practical teaching should not only train students to apply existing methods and tools, but should also encourage them to question, analyse and evaluate technical approaches more independently, as mentioned above. This is particularly relevant for rapidly developing technological fields.

The panel therefore recommends that, in practical courses, TU should go beyond application-oriented training and more explicitly foster students' ability to analyse, evaluate and scientifically reflect on algorithms, AI, and new technologies. This would further strengthen student-centred learning and support the intended qualification profile of both programmes.

Overall, the expert panel finds that the didactic methods are generally appropriate and practice-oriented, but that practical courses should provide more opportunities for independent scientific analysis and critical engagement with modern technologies.

Final assessment of the experts after the statement of the Higher Education Institution regarding criterion 1:

The experts assess this criterion as partially fulfilled.

Criterion 1.3

The experts acknowledge that the university has submitted an overview of student projects, as requested. This overview provides the experts with a comprehensive overview of the compulsory and mandatory student projects.

Beyond that, as the university did not address this criterion in its statement, the experts confirm their previous assessment and maintain the following requirements and recommendations:

Align the course learning outcomes with the course content in the course descriptions to transparently demonstrate that the programme learning outcomes can be achieved (A1).

Refine the existing curriculum review mechanism to keep the curriculum up to date with the latest scientific and technological developments and industry demands (A2).

It is recommended to clearly differentiate the learning outcomes, competencies, and teaching contents of the modules "Fundamentals of Robot Control" and "Robot Control Technology" as well as "Embedded Systems" and "Robot Circuit Design" in order to avoid unnecessary content overlap and ensure a coherent competence development pathway (E7).

It is recommended to ensure that module titles such as “Robot Control Circuit Design” accurately reflect the actual teaching content and intended learning outcomes (E8).

It is recommended, in the practical courses, beyond application, to train students to critically and scientifically engage with algorithms, AI, and new technologies (E3).

It is recommended to increase internationalization and student mobility opportunities, establishing frameworks for students to take part in outbound exchange programmes and also to further encourage incoming student mobility (E1).

It is recommended to offer more English-taught engineering-related courses to reflect the use and need of English within the discipline and job world (E2).

It is recommended to document more clearly how stakeholder feedback is translated into concrete curriculum changes and how the effectiveness of such changes is reviewed (E4).

Criterion 1.5

Regarding the experts’ recommendation to conduct systematic workload assessments, the university states that student feedback is monitored through a number of measures and used as a basis for the allocation of credits. The university has submitted additional documents that outline those mechanisms. The experts appreciate this comprehensive overview and therefore no longer consider a corresponding recommendation necessary.

Regarding courses that are listed with 0 ECTS in the curricular overview, the university states that this is only the case for “Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics” and “An Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era” as equivalent courses are not offered within European higher education curricula. Nevertheless, to adequately reflect students’ workload, the expert reiterate that all courses have to be awarded credits. The experts therefore maintain their requirement that credits have to be awarded to all compulsory components of the curriculum (A3).

Criterion 1.6

As the university did not address this criterion in its statement, the experts confirm their previous evaluations and maintain the following recommendation: It is recommended, in the practical courses, beyond application, to train students to critically and scientifically engage with algorithms, AI, and new technologies (E3).

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

Description of the current status

According to the SAR, assessment methods include written examinations (in core courses generally closed-book), computer-based tests, comprehensive assignments, and laboratory or placement reports. In the SAR, TU states that "Examination methods and content are determined based on the learning outcomes (knowledge, skills, and competences) or specific modules", and that "examination results reasonably reflect the competences students have acquired and the attainment of their learning objectives". The course syllabi specify the assessment types for each course.

TU has regulations in place for absences, resits/retakes, and deferred exams which students can access through the Academic Affairs Office's website and the student handbook. Moreover, the regulations are written down in app. 1-1-6.

Regarding the grading criteria, TU states that a course's final grade combines continuous assessment (30 to 50% of the total grade) and final examination results (50 to 70%). The course score is calculated on a 100-point scale with 60 being the lowest passing grade. Students can access their examination results through the Academic Affairs Management System.

In the grading of the final thesis, the following components make up a student's final grade: the supervisor's evaluation (40%), the examiner's evaluation (30%), and the defense panel's evaluation (30%).

Analysis and assessment of the expert panel

The expert panel considers the examination system of both programmes to be generally appropriate and transparent. The submitted documents define the assessment forms, grading system, resit regulations and rules for deferred examinations. During the onsite discussions, students confirmed that examination requirements are communicated clearly at the beginning of each semester through syllabi and explanations by teachers. They also described the examination system as well organised, with sufficient preparation time, fair grading and exams that correspond to the announced course content. The panel positively notes the variety of assessment methods used in the programmes. Students explicitly welcomed the continuous assessment components, as they help balance the weight of final examinations.

At the same time, the panel sees a need for improvement regarding the bachelor thesis. According to the ASIIN criteria, a final thesis or final project must demonstrate that

students are able to work independently on a task at the intended academic level. During the inspection of thesis samples, the experts noted that the theses could show deeper independent scientific analysis, stronger theoretical reflection and more clearly developed application parts. As mentioned earlier, strengthening the students' ability to more critically and scientifically engage with new engineering methods and technologies, particularly in the practical parts of their studies, could effectively serve this aim.

The panel also notes that the connection between theses and real industry projects could be strengthened. Programme coordinators explained that 20–30% of students write theses based on real industry projects, and that one RE class reportedly works entirely on real projects. Some theses are also jointly supervised by university and industry mentors. The panel welcomes these formats, but considers that the academic level and the student's independent contribution must remain clearly visible, especially where thesis work is embedded in company projects.

A further issue concerns cases where thesis projects are replaced by published papers. The panel welcomes the recognition of strong student achievements, but stresses that clear requirements and guidelines are needed to ensure equivalence with a regular bachelor thesis. In particular, it must be transparent how the student's own contribution, independent work, theoretical understanding and scientific analysis are demonstrated. The panel therefore recommends that students submit an additional report outlining their work and independent contribution when a published paper replaces the thesis.

The panel also observed that some thesis documents lacked declarations of independence and did not explicitly mention the use of AI tools. While this is not formulated as a separate recommendation, the panel considers that these aspects should be addressed in the thesis regulations and supervision practice to strengthen academic integrity and transparency.

Overall, the expert panel finds that the examination system is generally suitable and transparent, but that TU should ensure an adequate academic level of bachelor theses and establish clear rules for thesis replacements by published papers.

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

The experts assess this criterion as partially fulfilled.

The university did not address the experts' recommendation on the academic level of the bachelor theses. The experts therefore maintain their requirement to ensure through adequate means that independent scientific analysis and application parts in the bachelor thesis are at an adequate academic level (A4).

Regarding the proposed requirement to establish and apply consistent requirements and criteria for the thesis projects that are replaced by published papers, the university explained that corresponding, existing documents have not been initially submitted. With its statement, the university now submitted regulations that are in place both at the university and the school level and that clearly outline the criteria and requirements for the thesis substitution. The experts acknowledge this and therefore no longer consider a corresponding requirement or recommendation necessary.

C-8 Resources [ASIIN 3]

Description of the current status

Staff and staff development [ASIIN 3.1]

In both programmes, the annual teaching load of the teaching staff is 220 contact hours. Besides teaching courses, faculty members are also supposed to provide tutorial support and guidance to students.

Regarding staff development, TU mentions its Center for Faculty Development which organizes trainings and competitions for its staff. For new faculty, there is a one-year training programme in which a mentor is assigned. The university also provides funding support to its staff for academic visits, scholarships, and research projects. Moreover, TU has a staff development plan in place; the Five Strategic Initiatives for Faculty Development. Through this programme, TU seeks to improve industry experience academic qualification, internationalization, and teaching competencies of its staff. Furthermore, the university has strategic cooperation agreements with local government departments and enterprises to jointly conduct research collaborations and allow its staff to work with enterprises and government departments.

<u>Robotics Engineering</u>

In the RE programme, there are 20 full-time faculty members, including 2 professors, 8 associate professors, and 9 lecturers. In the SAR, TU states that over 50% hold a doctoral degree. 80% have practical industry experience. At least 10 faculty members from other programmes within the School of Mechanical Engineering contribute to the professional courses and more than 40 faculty members from other schools of the university teach the general education courses.

<u>Communication Engineering</u>

In the CE programme, there are 21 full-time faculty members, including 4 professors, 2 associate professors, 1 postdoctoral researcher, and 14 lecturers. In the SAR, TU states that 48% of the staff hold a doctoral degree. Moreover, the SAR states that "most" of the faculty members have relevant industry experience. Besides the CE staff, over 20 faculty members from other programmes within the School of Electrical and Information Engineering contribute to the professional courses and more than 20 faculty members from other schools of the university teach general education courses.

Student support and student services [ASIIN 3.2]

As available student support services, the SAR mentions the Student Affairs Office, a student counsellor system, academic advisors, career planning and employment guidance, programme transfer regulations, a tutorial system, and the student satisfaction survey and other feedback channels such as symposia.

Funds and equipment [ASIIN 3.3]

For 2024, the university states that its total revenue for the whole university was 253,084,700 RMB. The revenue sources mainly include public funding, tuition fees, "other educational income", and "other income" including enterprise-funded research projects, bank loans, and a municipal fund. For the individual schools, funding is "mainly supported by the university appropriations, supplemented by various channels such as […] school-enterprise cooperation and enterprise-funded research projects".

Regarding the facilities, TU states that for the programme assessed here, these include teaching buildings, specialised laboratories, computer rooms, the experimental and training centres (many jointly established with industry partners), and the university library with reading and self-study rooms. In there, students have access to Chinese and foreign resources and databases. Digital information resources that students can use on the university's computers are "intelligent manufacturing virtual simulation software, CAD software, MATLAB, circuit design software, PLC programming software, robot design software, comprehensive physical optics experiment systems, ZigBee wireless IoT project-based experimental development systems, LTE network management systems, multi-bus automatic production line systems, industrial robot offline programming simulation systems, and ROS systems for intelligent material handling and patrol robots".

<u>Robotics Engineering</u>

Regarding the university's expenses for the RE programme, TU provides the following data:

Table 3-1 Education Spending in the Past 5 Years in Robotics Engineering

Project name	Expenditures (Unit: ten thousand RMB)				
	2021	2022	2023	2024	2025
Internship and practice expenditures	5.7	5.2	5.5	5.1	5.4
Graduation project expenses	3.4	3.4	3.8	3.0	3.9
Curriculum construction and teaching reform	26	13	16	33	23
Laboratory maintenance fee	1.6	1.5	1.7	1.7	1.2
Acquisition of experimental equipment	185	263	510	115	277
Recruitment of high-level talents	50	65	120	150	200
Discipline competition expense	2.5	2.7	4.5	3.8	4.2
Total	274.2	352.3	661.5	311.6	514.7

Communication Engineering

Regarding the university's expenses for the CE programme, TU provides the following data:

Table 3-2 Education Spending in the Past 5 Years in Communication Engineering

Project name	Expenditures (Unit: ten thousand RBM)				
	2021	2022	2023	2024	2025
Internship and practice expenditures	30.2	33.5	34.6	34.9	36.2
Graduation project expenses	5.4	5.4	5.8	6.0	5.9
Curriculum construction and teaching reform	9.6	10.8	11.5	12.8	13.5
Discipline competition expense	8.0	7.6	8.9	8.2	8.7
Recruitment of high-level talents	50.0	120.0	520.0	525.0	450.0
Laboratory maintenance costs	1.9	2.0	2.2	1.8	1.7
Acquisition of experimental equipment	30.0	95.0	298.0	70.0	152.0
Total	135.1	274.3	881.0	658.7	668.0

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Analysis and assessment of the expert panel

Staff and staff development

The expert panel considers the staffing situation in both programmes to be generally adequate for the current delivery of the curricula. The submitted documentation and onsite discussions show that TU has a sufficient number of teaching staff and that the programmes are supported by additional lecturers from related programmes and other schools. Students described the teachers as competent and helpful and confirmed that teachers introduce real projects in class. The panel also positively notes that many staff members have practical experience or are involved in cooperation with industry partners, which supports the application-oriented profile of both programmes.

The panel particularly welcomes TU's staff development structures. New staff members undergo pre-job training and are supported through a mentoring system. Teaching staff also reported access to online training, professional development opportunities and guidance from more experienced colleagues. The panel considers these mechanisms suitable for supporting didactic development, especially for younger teachers. It also positively notes that industry partners contribute to staff development through joint research, joint laboratories, company visits and opportunities for young staff to gain practical experience outside the university.

The panel further values the involvement of external industry professionals in teaching, enterprise training and thesis supervision. These external lecturers bring applied perspectives and real industry cases into the programmes, which is especially relevant for practice-oriented engineering education. At the same time, the panel stresses that the academic staff must remain sufficiently qualified to ensure the theoretical, methodological and scientific level of the programmes.

The panel also notes that just over half of the teaching staff in RE and slightly less than half of the teaching staff in CE hold doctoral degrees. While this does not prevent the successful delivery of the current bachelor programmes, the panel considers that further academic qualification opportunities would strengthen the programmes, especially in view of the planned curriculum updates, the intended technological development of the programmes and TU's broader ambitions regarding future Master's-level education. The panel therefore recommends providing more opportunities for staff members to pursue PhD degrees and to continuously keep up with technological trends and developments.

The onsite discussions also showed that teaching staff experience pressure in balancing teaching, research and other duties. Teaching is understandably central, and staff members reported that they integrate research and industry projects into teaching where possible.

Nevertheless, several teachers indicated that they conduct research partly during vacation periods and would welcome more opportunities to pursue research during the semester. Since research and application-oriented development activities contribute to the desired academic level of the programmes, the panel recommends providing more opportunities for staff to pursue research projects during the semester and to better balance teaching with application-oriented research.

Finally, the panel links staff development to the internationalisation goals of both programmes. Students expressed interest in more English-taught engineering-related courses, and internationalisation was identified as an important development aim. To make such courses feasible, staff members need adequate English proficiency and didactic support for teaching technical content in English. The panel therefore recommends strengthening support for staff members to improve their English skills.

Overall, the expert panel finds that the staff are committed and generally qualified for the current programmes, but that TU should further strengthen academic qualification opportunities, English proficiency, and the balance between teaching and research.

Student support and student services

The expert panel considers the student support and advisory structures for both programmes to be appropriate. The onsite discussions confirmed that students have access to academic, organisational, personal and career-related support through several channels, including academic mentors, counsellors, teachers, the Student Affairs Office and career services. Students confirmed that they receive support from teachers and counsellors and described the guidance in courses, laboratory work and internships as sufficient. For off-campus placements, students are supported by both university and company supervisors, which is particularly relevant for the practical profile of both programmes. Furthermore, TU provides assistance with financial support through national and local subsidies and offers psychological support at university and school level. The university also described peer-support mechanisms and regular attention to students' well-being.

Overall, the expert panel finds that the student support services are suitable for enabling students in both programmes to achieve the intended learning outcomes and complete their studies successfully.

Funds and equipment

In general, the expert panel is convinced that the financial and material resources available for both programmes are adequate. The submitted information and onsite discussions indicate that the programmes are supported by regular university funding and additional sources such as government funds, student fees, school-enterprise cooperation,

enterprise-funded projects, donations and other funding channels, and details the programmes' expenditures. However, the detailed breakdowns of income sources at the level of the two schools remained insufficiently transparent during the audit. Since both programmes rely not only on university appropriations but also on other channels, the panel would appreciate receiving a detailed breakdown of income sources at school level for both schools. This additional information would allow the panel to better assess the sustainability and structure of the financial basis supporting the programmes. This request does not indicate that the panel sees the programmes' continuation as financially at risk but would further substantiate the assessment of this criterion.

On a positive note, the panel also acknowledges the role of industry cooperation in strengthening the material resources. Several laboratories and training centres are jointly established with industry partners, and funding for co-contracted laboratories and projects contributes to the practical learning environment.

The general learning infrastructure is also considered appropriate; the panel positively notes the strong practical infrastructure available to students. During the onsite visit, the laboratories, training centres and specialised facilities were assessed as well equipped. Students confirmed that the number of computers is adequate and that laboratory equipment such as oscilloscopes, robot kits and communication analysers is sufficient and functioning. They also reported that the equipment can be used for competition participation and that laboratories are open for self-study outside class hours, although they may become crowded during examination periods. Moreover, students confirmed that the campus network is generally stable, relevant academic databases including Web of Science can be accessed through the library, and open-source resources are available. The panel notes only as a minor point that internet access is cut after 11 p.m.; however, this was not identified as a substantial obstacle to students' learning progress.

Overall, the expert panel finds that the financial resources, facilities, laboratories, and infrastructure provide a sustainable basis for the delivery of both programmes.

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

The experts assess the criterion as substantially fulfilled.

Criterion 3.1

As the university did not provide comments on the recommendations, the experts maintain the following recommendations:

It is recommended to provide more qualification opportunities for staff members, e.g., to pursue PhD degrees and to continuously keep up with technological trends and developments. In addition, more support for improving the staff members' English proficiency should be provided to enable them to teach classes in English (E5).

It is recommended to provide more opportunities for staff to pursue their research projects during the semester, allowing them to balance teaching and application-oriented research (E6).

Criterion 3.3

The university, as requested, has submitted a detailed breakdown of income sources at school level for both schools. The experts welcome the overview this provides on the programmes' finances and sustainability.

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

Description of the current status

The responsible bodies for quality assurance, according to the SAR, are the Office of the President, the University Teaching Committee, the Office of Academic Affairs, the Office of Quality Monitoring and Evaluation, the schools, and the teaching supervision teams that conduct teaching quality evaluations. The supervision team convenes regularly (every two weeks) to compile reports on identified issues. They base their reports and assessments on student and faculty feedback.

After every semester, there are course evaluations that are done by the students. Those evaluations anonymously evaluation "teaching attitude, methods, approaches, and effectiveness". The Office of Academic Affairs then runs a statistical analysis of the data and provides that information to the schools' faculty to formulate "improvement plans".

TU has monitoring guidelines in place (app. 2-1, 2-2, 2-3, and 2-4) which serve as guiding documents for quality assurance, definition of learning objectives, curriculum design and revision, teaching supervision, and other aspects of quality assurance. Overall, the SAR states that TU works on a "closed loop of evaluation, feedback, improvement, and recognition".

The SAR furthermore states that TU also implements external evaluation, e.g. through reviews by the Chinese Ministry of Education.

Analysis and Assessment

The expert panel considers the quality management system for both programmes to be generally well established. The onsite discussions confirmed that TU has quality assurance structures at university and school level, with defined responsibilities. The panel also notes positively that several regular instruments are in place, including teaching supervision, early-term, mid-term and final-term inspections, student evaluations and teacher-performance assessments.

The panel welcomes that student feedback is collected every semester and that the results are analysed centrally and passed on to the schools and teachers. Teaching staff confirmed that evaluations are mandatory and that the mentor system supports newer teachers in interpreting evaluation results and adapting their teaching. Direct student feedback is also possible through discussions after class. These mechanisms indicate that TU has established a functioning feedback culture and that teaching quality is monitored on a regular basis. Moreover, the experts see that the feedback loop is closed as students are informed of changes that result from the feedback.

The panel also positively notes the involvement of external stakeholders in programme development. TU conducts annual employer surveys and labour-market research, regularly collects graduate feedback and visits around 20 companies per school each year. Industry representatives confirmed that they are involved in programme revision, provide feedback and discuss business trends and technological developments with the university. This is particularly relevant for the application-oriented profile of both programmes and supports the alignment of the curricula with labour-market needs.

In addition, the panel notes that TU regularly conducts graduate tracer studies and uses graduate feedback for programme development. Since both programmes are explicitly linked to regional industrial needs and TU emphasises its contribution to the local and regional labour market, the panel would appreciate receiving more detailed tracer-study data showing the regional distribution of graduates after completion of their studies, preferably at province level. This information would allow the panel to better assess how far the programmes' intended regional employment profile is reflected in actual graduate pathways. This request does not indicate a deficiency in the quality management system, but would further substantiate the evidence base for assessing the effectiveness of the programmes' labour-market orientation.

The panel found evidence that stakeholder feedback has led to curriculum development. For CE, TU reported that feedback identifying a lack of digital twins content resulted in a corresponding curriculum amendment. For RE, industry and expert feedback on AI,

algorithms, and intelligent manufacturing is expected to inform the planned curriculum revision.

Overall, the expert panel finds that TU has developed a functioning quality assurance system for programmes involving internal and external stakeholders, and that the results are used for the further development of both programmes.

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

As the university did not address this criterion in its statement beyond the submission of additional documents, the experts confirm their previous assessment and consider the criterion to be fully fulfilled.

As requested, the university submitted information on where graduates work after their studies on a provincial level. The experts appreciate this additional information as it is a testament to the close contact Tongling University maintains to its graduates and also shows the strong local demand and opportunities for Tongling graduates.

C-10 Transparency and documentation [ASIIN 4]

Description of the current status

Module descriptions [ASIIN 4.1]

According to the SAR, the module descriptions are available to students. It is not specified where. In the submitted module descriptions (app. 09), all necessary information is included. To be precise, it shall be stated here that even though they are referred to as 'module' descriptions, the documents provide descriptions of the individual courses within the different modules (i.e. course groups) that make up the programmes.

Diploma and Diploma Supplement [ASIIN 4.2]

Upon graduation, students receive a graduation certificate with a transcript of records (app. 21-1 and 21-3). Moreover, the university has submitted a sample diploma supplement (app. 21-2), but the SAR does not explicitly state whether a diploma supplement is issued for every graduate.

Relevant rules [ASIIN 4.3]

Regarding the accessibility of relevant rules and documents, the university refers to its Student Handbook that students receive at the beginning of each academic year and which

they can also access online. The provided link that allows all stakeholder to access relevant documents could not be accessed.

Analysis and assessment of the expert panel

Module descriptions

The expert panel considers the submitted module descriptions to be generally complete and suitable for informing students about the structure, content, teaching methods and assessment formats of the individual courses. During the onsite discussions, TU confirmed that the module descriptions are prepared by a working group involving teaching staff and that they are published on the university website. The panel also notes positively that course-related rules, academic regulations and examination guidelines are made available online.

At the same time, the panel identified weaknesses in the internal consistency of some module descriptions. In particular, the experts noted that intended course learning outcomes are not always fully reflected in the described teaching content. As already noted under Criterion 1.3, this concerns, among others, the module „Robotics". For example, one of the stated learning outcomes is that students should "master the basic knowledge of sensors and perception technologies (vision, force sensing, LiDAR, etc.)". However, the corresponding content description does not clearly indicate where or how these topics are covered within the module. The panel therefore considers it important that the relationship between learning outcomes and teaching content be made more explicit. In several cases, relatively minor adjustments to the wording of the content descriptions would already improve transparency. For example, statements such as "Dynamics is a..." describe definitions rather than actual teaching content. Formulations such as "Dynamics, which covers the relationship..." would allow the content descriptions to more clearly communicate what students are expected to learn.

The panel identified a similar issue in the module "The Foundation of Innovative Design for Intelligent Robots". While the module title suggests a clear focus on intelligent robotics, neither the listed learning outcomes nor the detailed content descriptions explicitly demonstrate how knowledge and competencies relating to intelligent robots are acquired. The panel therefore recommends strengthening the alignment between the module title, intended learning outcomes and teaching content.

Furthermore, the panel identified several inconsistencies in the module "Machine Vision and Image Processing". The module description refers to a laboratory assessment accounting for 30% of the final grade, although no laboratory component is described elsewhere in the module. In addition, the percentages listed under "Study and Examination

Requirements" appear to represent the weighting of assessment elements rather than study requirements and should therefore be presented more transparently within the examination section. The panel also considers the allocation of teaching time within the module to require review. Only two teaching hours are assigned to "Neural Networks and Deep Learning", despite the importance and complexity of this topic, while comparatively greater emphasis is placed on more traditional approaches such as template matching. The panel therefore recommends revising the module description for greater consistency and reconsidering the balance between traditional and contemporary image-processing methods.

The panel therefore stresses that module descriptions must clearly show which knowledge, skills and competences students acquire in each course and how the stated learning outcomes are supported by the actual content. If learning outcomes are formulated but not sufficiently reflected in the course content, students, teaching staff and external stakeholders cannot reliably understand how the intended competences are achieved. The panel therefore strongly recommends aligning the course content in the module descriptions with the stated learning outcomes.

Overall, the expert panel finds that the module descriptions are formally available and generally complete, but that their internal consistency should be strengthened.

Diploma and Diploma Supplement

The expert panel notes that TU has submitted a sample Diploma Supplement and that graduates receive a graduation certificate and transcript of records. However, during the onsite visit it remained unclear whether a Diploma Supplement is issued systematically to every graduate. Since the Diploma Supplement is an important transparency document for the recognition of qualifications, particularly in international contexts, the panel considers this point highly relevant for both programmes. The panel stresses that the Diploma Supplement should contain detailed information on the educational objectives, intended learning outcomes, structure and academic level of the degree programme, as well as on the individual performance of the student. The panel further notes that the accompanying transcript should not only list the student's individual marks but also include statistical data on grade distribution. Such information allows external readers, including foreign higher education institutions and employers, to assess the individual performance of a graduate in relation to the relevant cohort. This is especially relevant for international recognition and comparability of qualifications.

Overall, the expert panel strongly recommends that TU issue a complete Diploma Supplement for every graduate, accompanied by a transcript including statistical grade data, following the templates of, for example, UNESCO or the European Commission.

Relevant rules

The expert panel considers the relevant rules and regulations to be generally accessible to students. TU provides students with a Student Handbook at the beginning of each academic year, and the university stated during the onsite visit that relevant rules, regulations and course-related information are also available online. Students are additionally informed about key programme rules, rights and duties through information sessions for new students and online resources.

The panel positively notes that TU has established several channels through which students can obtain information and raise questions or concerns. In particular, the weekly "leadership reception" day gives students the opportunity to approach the management level directly and address grievances or issues. This contributes to transparency and supports students in understanding and exercising their rights within their study programmes.

At the same time, the panel notes that the link provided for external access to relevant documents could not be accessed during the review. While TU stated that the information is available and students receive relevant information through internal channels, the panel encourages the university to ensure that the official online access points are technically reliable and available to all relevant stakeholders.

Overall, the expert panel finds that students are sufficiently informed about relevant rules and regulations.

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

The experts assess the criterion as partially fulfilled.

Criterion 4.1

As discussed above and as the university did not address the alignment of course learning outcomes and alignment in the course descriptions, the experts confirm their previous evaluations and maintain the following requirement: Align the course learning outcomes with the course content in the course descriptions to transparently demonstrate that the programme learning outcomes can be achieved (A1).

Criterion 4.2

Moreover, as this was also not addressed by the university in the statement, the experts also maintain the following requirement: A Diploma Supplement containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance

of the student has to be issued for every graduate. In addition to the final mark, the accompanying transcript shall include statistical data as set forth in the ECTS Users' Guide to allow readers to assess the individual mark (A5).

D Additional Documents

Before preparing their final assessment, the panel ask that the following missing or unclear information be provided together with the comment of the Higher Education Institution on the previous chapters of this report:

D 1. [ASIIN 1.3] Provide an overview of student projects that are part of mandatory courses, including information on the courses that those projects are part of and also information on which projects are done voluntarily by students (e.g., competitions).

D 2. [ASIIN 3.3] Provide a detailed breakdown of income sources at school level for both schools.

D 3. [ASIIN 5] Provide exemplary data from the tracer studies showing the regional distribution (province level) of where graduates move to after their studies.

E Statement of the Higher Education Institution (01.08.2026)

The institution provided a detailed statement as well as the following additional documents:

- Compulsory and voluntary projects
- Income situation of the college
- Distribution of Employment Regions (Provincial Level)
- ECTS self-study hours monitoring
- Substitution of Graduation Thesis (Design)
- Links to the RE and CE Websites

The following quotes the statement of the institution:

“The university greatly appreciates the valuable opinions provided by the certification experts, which are very meaningful for further improving the quality of education. Most of the issues pointed out in the certification report are fair, but some of them do not match the actual situation of the university. Therefore, the university provides the following explanations and clarifications:

1. In the “C-5 Workload and credits” section, regarding the issue of “At the same time, the panel could not verify that the allocation of credits is based on a systematic and regular assessment of the actual student workload. During the audit, the programme coordinators explained that workload estimates are based on real hours, but the precise assessment method remained unclear. It was not evident whether students are regularly surveyed on their actual workload or whether such feedback is systematically used to adjust the credits awarded to individual courses”:

The majors of Robotics Engineering and Communication Engineering fully consider the academic burden of students when formulating talent training plans, striving for a balanced workload in each semester. Despite the implementation of the Chinese credit system in

Chinese universities, the colleges where the majors of Robotics Engineering and Communication Engineering are located have respectively issued the "Monitoring and Management Measures for Student Self study Workload in the School of Mechanical Engineering" (see Attachment 1-1) and the "Monitoring and Management Measures for Student Self study Workload in the School of Electrical Engineering" (see Attachment 1-2). According to the released document, the Robotics Engineering and Communication Engineering majors use the ECTS credit concept to investigate students' academic burden. By tracking students' self-study time and dynamically adjusting course credits (see attachments 1-3, 1-4, 1-5, 1-6).

Regarding the issue of “As mentioned above, the panel further notes that some compulsory components of the curriculum, especially public platform or general education courses, appear to be listed with 0 ECTS. This is problematic because the ASIIN criteria require that all compulsory components of the study programme are included in the workload calculation and that credits are awarded for every module based on the respective workload”:

In Appendices 05, 08, and 09 of the self-assessment report, zero ECTS credits are assigned to the two courses: An Introduction to Mao Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics and An Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. The rationale is as follows: Chinese higher education institutions adopt China’s domestic credit system instead of the ECTS framework. When applying for ASIIN accreditation, the university has established a conversion mechanism between Chinese domestic credits and ECTS credits. According to the requirements of the Ministry of Education of China's "National Quality Standards for Undergraduate Professional Courses", these two courses are compulsory courses, and each of them has 3 credits and 48 class hours. Nevertheless, considering that equivalent courses are not offered within European higher education curricula, these two courses have been allocated zero ECTS credits.

2. In the “C-7 Exams: System, concept and organisation” section, regarding the issue of “A further issue concerns cases where thesis projects are replaced by published papers. The panel welcomes the recognition of strong student achievements, but stresses that clear

requirements and guidelines are needed to ensure equivalence with a regular bachelor thesis”:

Tongling University has issued the "Implementation Opinions on Further Deepening the Reform of Graduation Thesis (Design) at Tongling University (Revised Version)" (see Attachment 2-1), explicitly stipulating the feasibility of thesis substitution and requiring each secondary school to establish its own standard system. In accordance with this document, the School of Mechanical Engineering formulated the Regulations on Substituting Undergraduate Graduation Thesis (Design) with Academic Papers (see Attachment 2-2), and the School of Electrical Engineering formulated the Regulations on Substituting Undergraduate Graduation Thesis (Design) with Academic Papers (see Attachment 2-3). These two regulations set out detailed provisions concerning evaluation criteria, quality monitoring, review processes and archiving requirements for thesis substitution, aiming to ensure the equivalence of graduation requirements for students who choose thesis substitution and students completing the conventional graduation design. Since the above documents are not mandatory submissions, our university did not submit these documents as attachments.

3. In the “C-10 Transparency and documentation” section, regarding the issue of “According to the SAR, the module descriptions are available to students. It is not specified where. In the submitted module descriptions (app. 09), all necessary information is included. To be precise, it shall be stated here that even though they are referred to as ‘module’ descriptions, the documents provide descriptions of the individual courses within the different modules (i.e. course groups) that make up the programmes”:

Information on training objectives, curriculum systems and other relevant materials for the Robotics Engineering and Communication Engineering programs at Tongling University are published on the program introduction webpages of the School of Mechanical and Electrical Engineering （https://jxgcx.tlu.edu.cn/991/list.htm） and the School of Electrical and Information Engineering （https://dqxx.tlu.edu.cn/txgc/list.htm） respectively.

The university will formulate practical measures in response to the recommendations, address the issues raised by the experts, pursue continuous improvement and enhance the quality of education.”

F Summary: Expert recommendations (24.08.2026)

Taking into account the additional information and the statement given by Tongling University, the experts summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Robotics Engineering	With requirements for one year	30.09.2032	–	-
Ba Communication Engineering	With requirements for one year	30.09.2032	–	-

Requirements

For all degree programmes

A 1. (ASIIN 1.3, 4.1) Align the course learning outcomes with the course content in the course descriptions to transparently demonstrate that the programme learning outcomes can be achieved.

A 2. (ASIIN 1.3) Refine the existing curriculum review mechanism to keep the curriculum up to date with the latest scientific and technological developments and industry demands.

A 3. (ASIIN 1.5) Credits have to be awarded to all compulsory components of the curriculum.

A 4. (ASIIN 2) Ensure through adequate means that independent scientific analysis and application parts in the bachelor thesis are at an adequate academic level.

A 5. (ASIIN 4.2) A Diploma Supplement containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the student has to be issued for every graduate. In addition to the final mark, the accompanying transcript shall include statistical data as set forth in the ECTS Users' Guide to allow readers to assess the individual mark.

Recommendations

For all degree programmes

E 1. (ASIIN 1.3) It is recommended to increase internationalization and student mobility opportunities, establishing frameworks for students to take part in outbound exchange programmes and also to further encourage incoming student mobility.

E 2. (ASIIN 1.3) It is recommended to offer more English-taught engineering-related courses to reflect the use and need of English within the discipline and job world.

E 3. (ASIIN 1.3, 1.6) It is recommended, in the practical courses, beyond application, to train students to critically and scientifically engage with algorithms, AI, and new technologies.

E 4. (ASIIN 1.3) It is recommended to document more clearly how stakeholder feedback is translated into concrete curriculum changes and how the effectiveness of such changes is reviewed.

E 5. (ASIIN 3.1) It is recommended to provide more qualification opportunities for staff members, e.g., to pursue PhD degrees and to continuously keep up with technological trends and developments. In addition, more support for improving the staff members' English proficiency should be provided to enable them to teach classes in English.

E 6. (ASIIN 3.1) It is recommended to provide more opportunities for staff to pursue their research projects during the semester, allowing them to balance teaching and application-oriented research.

For the Bachelor's degree programme Robotics Engineering

E 7. (ASIIN 1.3) It is recommended to clearly differentiate the learning outcomes, competencies, and teaching contents of the modules "Fundamentals of Robot Control" and "Robot Control Technology" as well as "Embedded Systems" and "Robot Circuit Design" in order to avoid unnecessary content overlap and ensure a coherent competence development pathway.

E 8. (ASIIN 1.3) It is recommended to ensure that module titles such as "Robot Control Circuit Design" accurately reflect the actual teaching content and intended learning outcomes.

G Comment of the Technical Committees 02 and 01

Technical Committee 02 – Electrical Engineering/Information Technology (04.09.2026)

Assessment and analysis for the award of the ASIIN seal:

The TC discussed the procedure and follows the experts' assessment without any changes.

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

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Robotics Engineering	With requirements for one year	30.09.2032	–	-
Ba Communication Engineering	With requirements for one year	30.09.2032	–	-

Requirements

For all degree programmes

A 1. (ASIIN 1.3, 4.1) Align the course learning outcomes with the course content in the course descriptions to transparently demonstrate that the programme learning outcomes can be achieved.

A 2. (ASIIN 1.3) Refine the existing curriculum review mechanism to keep the curriculum up to date with the latest scientific and technological developments and industry demands.

A 3. (ASIIN 1.5) Credits have to be awarded to all compulsory components of the curriculum.

A 4. (ASIIN 2) Ensure through adequate means that independent scientific analysis and application parts in the bachelor thesis are at an adequate academic level.

A 5. (ASIIN 4.2) A Diploma Supplement containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic

level of the degree programme as well as about the individual performance of the student has to be issued for every graduate. In addition to the final mark, the accompanying transcript shall include statistical data as set forth in the ECTS Users' Guide to allow readers to assess the individual mark.

Recommendations

E 1. For all degree programmes

E 2. (ASIIN 1.3) It is recommended to increase internationalization and student mobility opportunities, establishing frameworks for students to take part in outbound exchange programmes and also to further encourage incoming student mobility.

E 3. (ASIIN 1.3) It is recommended to offer more English-taught engineering-related courses to reflect the use and need of English within the discipline and job world.

E 4. (ASIIN 1.3, 1.6) It is recommended, in the practical courses, beyond application, to train students to critically and scientifically engage with algorithms, AI, and new technologies.

E 5. (ASIIN 1.3) It is recommended to document more clearly how stakeholder feedback is translated into concrete curriculum changes and how the effectiveness of such changes is reviewed.

E 6. (ASIIN 3.1) It is recommended to provide more qualification opportunities for staff members, e.g., to pursue PhD degrees and to continuously keep up with technological trends and developments. In addition, more support for improving the staff members' English proficiency should be provided to enable them to teach classes in English.

E 7. (ASIIN 3.1) It is recommended to provide more opportunities for staff to pursue their research projects during the semester, allowing them to balance teaching and application-oriented research.

For the Bachelor's degree programme Robotics Engineering

E 8. (ASIIN 1.3) It is recommended to clearly differentiate the learning outcomes, competencies, and teaching contents of the modules "Fundamentals of Robot Control" and "Robot Control Technology" as well as "Embedded Systems" and "Robot Circuit Design" in order to avoid unnecessary content overlap and ensure a coherent competence development pathway.

E 9. (ASIIN 1.3) It is recommended to ensure that module titles such as “Robot Control Circuit Design” accurately reflect the actual teaching content and intended learning outcomes.

Technical Committee 01 – Mechanical Engineering/Process Engineering (21.09.2026)

Assessment and analysis for the award of the ASIIN seal:

The TC discussed the procedure and follows the experts' assessment without any changes.

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

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Robotics Engineering	With requirements for one year	30.09.2032	–	-
Ba Communication Engineering	With requirements for one year	30.09.2032	–	-

Requirements

For all degree programmes

A 1. (ASIIN 1.3, 4.1) Align the course learning outcomes with the course content in the course descriptions to transparently demonstrate that the programme learning outcomes can be achieved.

A 2. (ASIIN 1.3) Refine the existing curriculum review mechanism to keep the curriculum up to date with the latest scientific and technological developments and industry demands.

A 3. (ASIIN 1.5) Credits have to be awarded to all compulsory components of the curriculum.

A 4. (ASIIN 2) Ensure through adequate means that independent scientific analysis and application parts in the bachelor thesis are at an adequate academic level.

A 5. (ASIIN 4.2) A Diploma Supplement containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the student has to be issued for every graduate. In addition to the final mark, the accompanying transcript shall include statistical data as set forth in the ECTS Users' Guide to allow readers to assess the individual mark.

Recommendations

For all degree programmes

E 1. (ASIIN 1.3) It is recommended to increase internationalization and student mobility opportunities, establishing frameworks for students to take part in outbound exchange programmes and also to further encourage incoming student mobility.

E 2. (ASIIN 1.3) It is recommended to offer more English-taught engineering-related courses to reflect the use and need of English within the discipline and job world.

E 3. (ASIIN 1.3, 1.6) It is recommended, in the practical courses, beyond application, to train students to critically and scientifically engage with algorithms, AI, and new technologies.

E 4. (ASIIN 1.3) It is recommended to document more clearly how stakeholder feedback is translated into concrete curriculum changes and how the effectiveness of such changes is reviewed.

E 5. (ASIIN 3.1) It is recommended to provide more qualification opportunities for staff members, e.g., to pursue PhD degrees and to continuously keep up with technological trends and developments. In addition, more support for improving the staff members' English proficiency should be provided to enable them to teach classes in English.

E 6. (ASIIN 3.1) It is recommended to provide more opportunities for staff to pursue their research projects during the semester, allowing them to balance teaching and application-oriented research.

For the Bachelor's degree programme Robotics Engineering

E 7. (ASIIN 1.3) It is recommended to clearly differentiate the learning outcomes, competencies, and teaching contents of the modules "Fundamentals of Robot Control" and "Robot Control Technology" as well as "Embedded Systems" and "Robot Circuit Design" in order to avoid unnecessary content overlap and ensure a coherent competence development pathway.

E 8. (ASIIN 1.3) It is recommended to ensure that module titles such as "Robot Control Circuit Design" accurately reflect the actual teaching content and intended learning outcomes.

H Decision of the Accreditation Commission (25.09.2026)

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

The Accreditation Commission discussed the procedure and follows the experts' and Technical Committees' assessment without any changes to the requirements and recommendations.

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 Robotics Engineering	With requirements for one year	With requirements for one year	30.09.2032	–	-
Ba Communication Engineering	With requirements for one year	With requirements for one year	30.09.2032	–	-

Requirements

For all degree programmes

A 1. (ASIIN 1.3, 4.1) Align the course learning outcomes with the course content in the course descriptions to transparently demonstrate that the programme learning outcomes can be achieved.

A 2. (ASIIN 1.3) Refine the existing curriculum review mechanism to keep the curriculum up to date with the latest scientific and technological developments and industry demands.

A 3. (ASIIN 1.5) Credits have to be awarded to all compulsory components of the curriculum.

A 4. (ASIIN 2) Ensure through adequate means that independent scientific analysis and application parts in the bachelor thesis are at an adequate academic level.

A 5. (ASIIN 4.2) A Diploma Supplement containing detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programme as well as about the individual performance of the

student has to be issued for every graduate. In addition to the final mark, the accompanying transcript shall include statistical data as set forth in the ECTS Users' Guide to allow readers to assess the individual mark.

Recommendations

For all degree programmes

E 1. (ASIIN 1.3) It is recommended to increase internationalization and student mobility opportunities, establishing frameworks for students to take part in outbound exchange programmes and also to further encourage incoming student mobility.

E 2. (ASIIN 1.3) It is recommended to offer more English-taught engineering-related courses to reflect the use and need of English within the discipline and job world.

E 3. (ASIIN 1.3, 1.6) It is recommended, in the practical courses, beyond application, to train students to critically and scientifically engage with algorithms, AI, and new technologies.

E 4. (ASIIN 1.3) It is recommended to document more clearly how stakeholder feedback is translated into concrete curriculum changes and how the effectiveness of such changes is reviewed.

E 5. (ASIIN 3.1) It is recommended to provide more qualification opportunities for staff members, e.g., to pursue PhD degrees and to continuously keep up with technological trends and developments. In addition, more support for improving the staff members' English proficiency should be provided to enable them to teach classes in English.

E 6. (ASIIN 3.1) It is recommended to provide more opportunities for staff to pursue their research projects during the semester, allowing them to balance teaching and application-oriented research.

For the Bachelor's degree programme Robotics Engineering

E 7. (ASIIN 1.3) It is recommended to clearly differentiate the learning outcomes, competencies, and teaching contents of the modules "Fundamentals of Robot Control" and "Robot Control Technology" as well as "Embedded Systems" and "Robot Circuit Design" in order to avoid unnecessary content overlap and ensure a coherent competence development pathway.

E 8. (ASIIN 1.3) It is recommended to ensure that module titles such as "Robot Control Circuit Design" accurately reflect the actual teaching content and intended learning outcomes.

Appendix: Learning objectives and curricula

Robotics Engineering

Learning objectives

Tongling University presents the following learning objectives for the RE programme:

Basic Scientific Literacy

- Master the fundamentals of mathematics, natural sciences, information technology, and robotics engineering.
- Apply mathematical knowledge to understand and formulate practical problems in robotics engineering, and establish basic models of robot dynamics and control systems to address technical and engineering challenges.
- Observe, analyse, and solve technical problems using mathematical and information-based approaches. Apply analytical, computational, and reasoning skills to engineering phenomena based on the principles of mathematics and information technology.

Engineering and Professional Fundamentals

- Master the fundamental engineering and professional knowledge in robotics, electronics, engineering mechanics, materials engineering, and automatic control.
- Analyse engineering phenomena in robot design and application, and apply general engineering knowledge, methods, and skills to solve practical problems.
- Master the concepts and principles of robotics, electronics, materials engineering, and automatic control. Through systematic analysis and reasoning of engineering phenomena, understand engineering problems in robotic systems.

Professional Knowledge and Problem-Solving Competence

- Master professional knowledge of robotics, including the interdisciplinary relationships among mechanics, electronics, and control, and the capacity to evaluate robot system design schemes.
- Apply professional knowledge to analyse and solve practical problems in robotics engineering, including designing experiments, analysing and interpreting data, and simulating robot systems through information integration.
- Master the analysis, design, control, and optimisation of complex robot systems.
- Design robot systems and components that meet specific requirements, demonstrating innovation and considering societal, health, safety, legal, cultural, and environmental factors.

Emerging Knowledge in Robotics Engineering

- Master professional knowledge in emerging and frontier areas of robotics.
- Expand professional knowledge, track development trends in the field and related areas, and pursue continuous learning.
- Acquire interdisciplinary competences and apply professional knowledge broadly across related fields.

International Communication Competence

- Master a foreign language and acquire a solid command of technical English in the field.
- Read professional literature in English and communicate with others in English to discuss technical issues.
- Possess comprehensive English proficiency to work in relevant fields and engage in cross-cultural communication.

Teamwork and Management Competence

- Possess sound personal and psychological qualities, together with appropriate ethical and legal awareness.
- Function effectively as a team member and communicate with colleagues in multidisciplinary teams.
- Work independently or collaboratively within a team, and organise and coordinate team members to achieve shared goals."

Curriculum

The university provides the following curricular overview (app. 08-1) with the corresponding semester in the first column:

0 Appendix: Learning objectives and curricula

S	Module	Type	Chinese CP	ECTS CP	Work Load		Competence fields
					Contact Hours	Self--Study Hours	
1	Advanced Mathematics I	L	5	5	80	70	Mathematics Physics
	Major Introduction	L	1	1	16	14	Engineering Foundamentals
	Mechanical Drawing	L	4	4	64	56	
	College English I	L	3	3	48	42	Foreign Language Courses
	Ideology and Morality and Rule of Law	L	3	3	48	42	General Education Courses
	Military Theory	L	2	2	32	28	
	Physical Education I	L	1	1	32	0	
	Situation and Policy I	L	0.5	0.5	8	7	
	Introduction to Artificial Intelligence	L&P	1.5	2	32	28	
	Mental Health Education for College Students	L	2	2	32	28	
	Total		23	23.5	392	315	
2	Advanced Mathematics II	L	5	4	80	40	Mathematics, Physics
	College Physics I	L	3	3	48	42	
	College Physics Experiment I	L&P	0.5	1	16	14	
	College English II	L	3.5	3	64	26	Foreign Language Courses
	C Language Programming	L	3	2	32	28	Engineering Applications
	Basic Principles of Marxism	L	3	2	48	12	General Education Courses
	Physical Education II	L	1	1	32	0	
	Public Art	L	2	1.5	32	13	
	Situation and Policy II	L	0.5	0.5	8	7	
	The Foundation of Innovative Design for intelligent robots	L	2	2	32	28	

	Career Planning for College Students	L	1.5	1.5	24	21	
	CAD Drawing Practice	P	1	2	30	30	Practice Courses
	Industrial Training Ⅰ	P	1	1	10	20	
	Cognitive Practice	P	1	1	10	20	
	Total		28	25.5	466	301	
3	College Physics II	L	3	2	48	12	Mathematics, Physics
	College Physics Experiment II	L&P	0.5	1	16	14	
	Probability Statistics	L	3	2.5	48	27	
	Linear Algebra	L	3	2.5	48	27	
	College EnglishIII	L	3.5	3	64	26	Foreign Language Courses
	Electrical and Electronic Technology	L	3	3	48	42	Engineering Foundamentals
	Engineering Mechanics	L&P	3	3	48	42	
	3D Modelling	L&P	2	2	32	28	
	Situation and Policy III	L	0.5	0.5	8	7	General Education Courses
	Outline of Modern Chinese History	L	3	3	48	42	
	Physical Education III	L	1	1	32	0	
	Industrial Training Ⅱ	P	1	1	10	20	Practice Courses
	Introductory Robot Course Design	P	1	2	30	30	
	Total		27.5	26.5	480	317	
4	Fundamentals of Robot Control	L&P	3	3	48	42	Engineering Foundamentals
	Robotics	L&P	2.5	3	40	50	
	Robot Control Circuit Design	L&P	3	3	48	42	
	Fundamentals of mechanical design	L&P	4	4	64	56	
	PLC and Motor Servo Control	L	3	3	48	42	Engineering Applications
	College English IV	L	3	3	48	42	Foreign Language Courses
	Entrepreneurship Fundamentals for College Students	L	2	2	32	28	General Courses
	Physical Education IV	L	1	1	30	0	

	Situation and Policy IV	L	0.5	0.5	8	7	
	Mechanical Design Course Project	P	1	2	30	30	Practice Courses
	Industrial Robot Disassembly and Assembly Training	P	1	2	20	40	
	Robot Control Circuit Design Training	P	2	4	40	80	
	Total		26	30.5	456	459	
5	Complex Variable Functions and Integral Transformations	L	2	2	32	28	Mathematics, Physics
	Engineering Testing Technology	L&P	2.5	3	40	50	Engineering Foundamentals
	Matlab/simulink Design	L&P	2	2	32	28	Engineering Applications
	Robot Control Technology	L&P	2	3	32	58	
	Industrial Robot Programming Technology	L&P	2	3	32	58	
	Machine Vision and Image Processing	L&P	2.5	3	40	50	
	Labor Education for College Students	P	2	2	32	28	General Education Courses
	Robot detection motion control Training	P	1	2	20	40	Practice Courses
	Servo Motor Motion Control Training	P	1	2	20	40	
	Production Practice	P	2	4	30	90	
	Industrial Robot Simulation Training	P	1	2	20	40	
	Total		20	28	330	510	
6	Hydraulic and Pneumatic Transmission	L&P	2.5	3	40	50	Engineering Foundamentals
	Embedded System Design	L&P	2	3	32	58	Engineering Applications
	Mobile Robot Design *	L&P	2	3	32	58	Electives Courses
	Fundamentals of Robot Operating Systems *	L&P	2	3	32	58	
	Python Programming Technology *	L&P	2	3	32	58	
	Robot Modelling and	L&P	2	3	32	58	

	Simulation*						
	3D Printing Technology *	L&P	2	3	32	58	
	Digital Twin Technology *	L&P	2	3	32	58	
	Robot Structural Design	P	2	4	40	80	Practice Courses
	Comprehensive Practice of Industrial Robot Application Systems	P	2	4	30	90	
	Total		14.5	23	238	452	
7	Career Guidance for College Students	L	0.5	1	8	22	General Education Courses
	Intelligent Manufacturing Equipment *	L&P	2.5	4	40	80	Electives Courses
	Soft Robotics *	L&P	2	3	32	58	
	Integrated Application of Intelligent Manufacturing Systems *	L&P	2.5	4	40	80	
	Numerical Control Technology *	L&P	2	3	32	58	
	Professional English	L	1.5	2	24	36	Engineering Applications
	Robot Hydraulic and Pneumatic Control Training	P	1	2	20	40	Practice Courses
	Comprehensive Training of Service Robot Innovation	P	2	4	40	80	
	Soft Robot Design	P	2	4	60	60	
	CNC Machining and Three-coordinate Measurement Practice	P	1	2	20	40	
	Total		12	22	244	416	
8	Bachelor's Thesis	P	14	20	180	420	Bachelor's Thesis
	Graduation Practice	P	3	4	30	90	Practice Courses
	Total		168	203	2816	3280	

Note: In the General Courses, "Situation and Policy" is offered every semester, while "Labor Education Practice" and "Aesthetic Education Practice" are offered for 1-7 semesters. Additionally, this table does not include General education extension Courses. Professional electives*. Each student should achieve 16 ECTS in this category before graduation.

Communication Engineering

Learning objectives

Tongling University presents the following learning objectives for the CE programme:

Basic Scientific Literacy

- Understand and apply knowledge of mathematics, natural sciences, and information science to analyse practical problems in communication engineering, thereby establishing a foundation for professional competence.
- Master programming languages and software applications, utilise computers and the internet effectively, and possess information literacy skills.
- Demonstrate awareness of lifelong learning and the capacity to follow technological developments and application prospects.

Professional Knowledge, Self-Directed Learning, and Research

- Acquire and apply relevant professional knowledge in communication engineering.
- Possess the ability to conduct independent research and pursue postgraduate studies.

Engineering Practice Competence

- Master the operation and maintenance of communication equipment in communication systems.
- Propose solutions to engineering problems in communication engineering and demonstrate innovative thinking.
- Evaluate the impact of technical solutions on people and the environment from a sustainable development perspective.

Broader Competences in Engineering and Related Fields

- Master emerging knowledge in communication engineering, as well as knowledge in engineering management and economic decision-making.
- Keep abreast of development trends in communication engineering and possess competences in related interdisciplinary areas.
- Evaluate technical solutions from a holistic and interdisciplinary perspective and possess the qualities to complete challenging tasks.

International Communication Competence

- Possess functional foreign language skills in listening, speaking, reading, and writing.
- Have an international perspective and communicate effectively in cross-cultural contexts.

Social Responsibility and Teamwork Competence

- Possess sound personal and psychological qualities, together with appropriate ethical and legal awareness.

- Communicate effectively with other members in multidisciplinary teams.
- Work independently or collaboratively within a team, and organise and coordinate team members to achieve shared goals.

Curriculum

The university provides the following curricular overview (app. 08-1) with the corresponding semester in the first column:

0 Appendix: Learning objectives and curricula

S	Module	Type	Chinese CP	ECTS CP	Work Load		Competence fields
					Contact Hours	Self-Study Hours	
1	Advanced Mathematics I	L	5	5	80	70	Mathematics and Physics
	Major Introduction	L	1	2	16	44	Engineering Foundations
	College English I	L&P	3	3	48	42	Foreign Language Courses
	Ideology and Morality and Rule of Law	L	3	3	48	42	General Courses
	Mental Health Education for College Students	L	2	2	32	28	
	Introduction to Artificial Intelligence	L&P	1.5	2	32	28	
	Military Theory	L	2	2	32	28	
	Physical Education I	L&P	1	1	32	0	
	Situation and Policy I	L	0.5	0.5	8	7	
	Total		19	20.5	328	289	
2	Advanced Mathematics II	L	5	4	80	40	Mathematics and Physics
	College Physics Experiment I	P	0.5	1	16	14	
	College Physics I	L	3	3	48	42	
	Circuit	L	3.5	3.5	56	49	Engineering Foundations
	Circuit Experiments	P	0.5	1	16	14	
	C Language Programming	L&P	3	3	64	26	Engineering Application
	College English II	L&P	3.5	3	64	26	Foreign Language Courses
	Physical Education II	L&P	1	1	32	0	General Courses
	Public Art	L&P	2	1.5	32	13	

	Situation and Policy II	L	0.5	0.5	8	7	
	Basic Principles of Marxism	L	3	2	48	12	
	Career Planning for College Students	L&P	1.5	1.5	24	21	
	Cognitive Practice	P	1	2	30	30	Practice Courses
	Total		28	27	518	294	
3	College Physics II	L	3	2	48	12	Mathematics and Physics
	College Physics Experiment II	P	0.5	1	16	14	
	Linear Algebra	L	3	2.5	48	27	
	Analog Electronics Technology	L	3.5	3.5	56	49	Engineering Foundations
	Analog Electronics Experiment	P	0.5	1	16	14	
	Digital Electronic Technology	L	3.5	3.5	56	49	
	Digital Electronics Experiment	P	0.5	1	16	14	
	College English III	L&P	3.5	3	64	26	Foreign Language Courses
	Outline of Modern Chinese History	L	3	3	48	42	General Courses
	Physical Education III	L&P	1	1	32	0	
	Situation and Policy III	L	0.5	0.5	8	7	
	Electronic Technology Project Design and Practice	P	2	4	60	60	Practice Courses
	Total		24.5	26	468	314	
4	Probability and Statistics	L	3	2.5	48	27	Mathematics and Physics
	Signal and System	L&P	4	4	64	56	Engineering Foundations
	Electromagnetic Fields and Waves	L	3	3	48	42	
	MATLAB Fundamentals	L&P	2	2	32	28	Engineering Application
	Electronic Circuit CAD	L&P	2.5	2.5	40	35	
	High-Frequency Electronic Circuits	L&P	3.5	3.5	56	49	
	College English IV	L&P	3	3	48	42	Foreign Language Courses

	Introduction to MAO Zedong Thought and the Theoretical System of Socialism with Chinese Characteristics	L	3	0	48	42	General Courses
	Situation and Policy IV	L	0.5	0.5	8	7	
	Physical Education IV	L&P	1	1	32	0	
	Entrepreneurship Fundamentals for College Students	L	2	2	32	28	
	Communication Lines Project Design and Practice	P	2	4	60	60	Practice Courses
	Total		29.5	28	516	416	
5	Principles of Communication	L&P	3.5	4.5	56	79	Engineering Foundations
	Digital Signal Processing	L&P	3.5	4.5	56	79	
	Principles and Applications of Single-Chip Microcomputers	L&P	3.5	4.5	56	79	Engineering Application
	Professional Foreign Language	L	1.5	1.5	24	21	
	Data Communications and Computer Networks	L&P	2.5	3.5	40	65	Electives
	Introduction to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	L	3	0	48	42	General Courses
	Labor Education for College Students	L	2	2	32	28	
	Microcontroller System Design and Training	P	1	2	30	30	Practice Courses
	Total		20.5	22.5	342	423	
6	Information Theory and Coding	L&P	2.5	2.5	40	35	Engineering Foundations
	Digital Image Processing	L&P	3	3	48	42	Engineering Application
	Digital System Design	L&P	3	3	48	42	
	Switching Principles and Technologies	L&P	2.5	2.5	40	35	
	Optical Fiber Communication	L	3	3	48	42	Electives
	Mobile Communication	L&P	3	3	48	42	
	Career Guidance for College Students	L	0.5	1	8	22	General Courses

	EDA System Design and Training	P	1	2	30	30	Practice Courses
	Production Practice	P	2	4	60	60	
	Total		20.5	24	370	350	
7	Wireless Sensor Network	L&P	3	4	48	72	Electives
	GPS Principles and Applications	L	2	3	32	58	
	Comprehensive Training in Communication Systems	P	2	4	60	60	Practice Courses
	Corporate Internship	P	1	2	30	30	
	Practical Training in Communication Control for Intelligent Processing of Copper-based New Materials	P	2	4	60	60	
	Comprehensive Professional Design and Training	P	3	6	90	90	
	Total		13	23	320	370	
8	Bachelor's Thesis	P	14	20	180	420	Bachelor's Thesis
	Graduation Practice	p	3	4	30	90	Practice Courses
	Total		17	24	210	510	
	Total		172	195	3072	2966	