ASIIN Seal

Accreditation Report

Bachelor's Degree Program

Computer Engineering
Information System
Informatics

Provided by
Universitas Multimedia Nusantara – Indonesia

Version: 12 December 2025

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A About the Accreditation Process

Name of the degree program (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committee (TC)[2]
Sarjana Teknik Komputer	Bachelor in Computer Engineering	ASIIN	BAN-PT[3] Rank: B (2021 - 2026)	04
Sarjana Sistem Informasi	Bachelor in Information System	ASIIN	BAN-PT Rank: B (2021 – 2026)	07
Sarjana Informatika	Bachelor in Informatics	ASIIN	BAN-PT Rank: B (2020 – 2025)	04
Date of the contract: 18.07.2023 **Submission of the final version of the self-assessment report:** 24.02.2025 **Date of the on-site visit:** 30.04 & 02.05.2025 **At:** Universitas Multimedia Nusantara **Location:** Kabupaten Tangerang, Indonesia.				
Expert panel: Prof. Dr. Prof. h.c. Bettina Harriehausen-Mühlbauer, Darmstadt University of Applied Sciences Prof.Dr.Ing. Helena Szczerbicka, Leibniz University Hannover Prof. Dr. Michael Amberg, Friedrich-Alexander-University Erlangen-Nürnberg Mr. Wilfridus Handaya, M.Cs, Founder tuwuhwutuh.id				

[1] ASIIN Seal for degree programs

[2] TC: Technical Committee for the following subject areas: TC 04 – Informatics/Computer Science and TC 07 – Business Informatics/Information Systems.

[3] Indonesian National Accreditation Body for Higher Education

Ms. Naila Shafirni Hidayat, student at Universitas Indonesia	
Representative of the ASIIN headquarter: Emeline Jerez, PhD	
Responsible decision-making committee: Accreditation Commission for Degree Programs	
Criteria used: European Standards and Guidelines as of 15.05.2015 ASIIN General Criteria as of 28.03.2023 Subject-Specific Criteria of Technical Committee 04 – Informatics/Computer Science as of 29.03.2018 Subject-Specific Criteria of the Technical Committee 07 – Business Informatics/Information Systems as of 08.12.2017	

B Characteristics of the Degree Programs

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[4]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Bachelor in Computer Engineering	Sarjana Teknik (S.T.)	1.Embedded Systems 2.InfrastructureTechnologies 3.System Integration	6	Full time	no	8 Semester	146 CSU / 245.28 ECTS	Annually 2007
Bachelor in Information System	Sarjana Komputer (S.Kom)	1.Big Data Analytics 2.Database 3.Enterprise Resource Planning	6	Full time	no	8 Semester	144 CSU / 241.92 ECTS	Annually 2007
Bachelor in Informatics	Sarjana Komputer (S.Kom)	1.Artificial Intelligence 2.Cybersecurity 3.Software Development 4.Game Development	6	Full time	Yes / Swinburne University of Technology	8 Semester	146 CSU / 245.28 ECTS	Annually 2007

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

The experts acknowledged and considered the contextual framework within which the Bachelor's study programs currently being assessed are offered:

Universitas Multimedia Nusantara (UMN) is a private university located in Gading Serpong, Tangerang, Banten, Indonesia. Established in 2005 under the auspices of Yayasan Multimedia Nusantara, UMN was founded with the vision of advancing education in the fields of multimedia and creative industries.

The university offers a diverse range of programs across four faculties: Engineering and Informatics, Business, Communication, and Art and Design. UMN has launched several Bachelor's and Master's study programs in these disciplines.

As per its vision statement, the university aims to become "an outstanding university in ICT at both national and international levels, which produces graduates that are internationally-minded and highly competent in their field, equipped with an entrepreneurial spirit and noble character."

The Faculty of Engineering and Informatics

Fakultas Teknik dan Informatika offers five study programs:

1. Bachelor's Degree in Informatics
2. Bachelor's Degree in Computer Engineering
3. Bachelor's Degree in Electrical Engineering
4. Bachelor's Degree in Engineering Physics
5. Bachelor's Degree in Information Systems

ASIIN accreditation is being sought for three of these programs: Bachelor in Computer Engineering (CE), Bachelor in Information System (IS), and Bachelor in Informatics (IF). Each program is detailed with specific profiles on their respective websites.

i. Bachelor in Computer Engineering

Vision

"To become an outstanding undergraduate Computer Engineering program that produces international-minded graduates who are focus in mobile computing & communication and have entrepreneurial spirit and noble character."

Mission

1. "To conduct studies with the best technology and curriculum, supported by professional lecturer.

2. To conduct research in Computer Systems to promote Science and supported the teaching process.
3. To deliver useful society services in Computer Systems to develop industries, government and society."

ii. Bachelor in Information Systems

Vision

"To become an outstanding undergraduate Information Systems program that produces international-minded graduates who are competent in analyzing, designing, and implementing information systems and have entrepreneurial spirit and noble character".

Mission

1. "To conduct a quality learning process, supported by professional lecturer, and curriculum which is up to date and promotes the link and match between education and industry.
2. To conduct research that contributes to the development of ICT-based Information Systems.
3. To deliver society services especially in using the ICT-based Information Systems that promote the organization's performance".

iii. Bachelor in Informatics

Vision

"To become a leading Undergraduate Informatics Study Program that produces internationally-minded graduates who are competent in the field of computer science, entrepreneurial spirit and noble character".

Mission

1. "Organizing learning with the best technology and curriculum and supported by professional teaching staff.
2. Carry out research activities in the field of Informatics to advance information science and technology.
3. Carrying out community service activities based on information science and technology in the context of practicing science and technology".

C Expert Report for the ASIIN Seal

1. The Degree Program: Concept, Content & Implementation

Criterion 1.1 Objectives and Learning Outcomes of a Degree Program (Intended Qualifications Profile)

Evidence:

- Self-Assessment Report
- Objectives-Module-Matrices as part of the Self-Assessment Report
- President of the Republic of Indonesia's Regulation No. 8 of 2012 on the Indonesian National Qualification Framework
- Ba Computer Engineering website: https://tk.umn.ac.id
- Ba Information Systems website: https://si.umn.ac.id
- Ba Informatics website: https://inf.umn.ac.id
- Curriculum documents, all programs under review
- Tracer Study Report 2024, all programs under review
- Discussions during the audit

Preliminary assessment and analysis of the experts:
The experts base their assessment of the degree programs' objectives and learning outcomes on the information provided during the visit, the websites, and the Self-Assessment Report.

UMN presents Program Educational Objectives (PEOs) and Expected Learning Outcomes (ELOs), which are designed around internal and external inputs and benchmarking against relevant national and international standards and references. While the PEOs are rather general and refer to the vision and mission of the university and the Faculty of Engineering and Informatics, the ELOs cover a number of specific competences students should acquire in their respective degree programs (see Appendix).

The ELOs align with the requirements set by the Indonesian National Qualification Framework (*Kerangka Kualifikasi Nasional Indonesia, KNNI*) and the National Standards for Higher Education *(Standar Nasional Pendidikan Tinggi, SN-DIKTI*).

PEOs and ELOs can be accessed through various mediums, including the Academic Guidelines and the study program websites. The university also presents tabular mappings of linkages between ELOs and ASIIN's subject-specific criteria within the provided documentation.

The Bachelor in Computer Engineering focuses on producing graduates who are capable of designing, developing, and integrating hardware with software as distributed systems within interconnected infrastructures to address a wide range of engineering challenges. Graduates are equipped to deliver their work with a strong adherence to engineering ethics, a scientific approach to problem-solving, and an entrepreneurial mindset. According to the graduate profile (GP), these graduates can become:

1. Researcher - Able to think scientifically by considering ethics and publish their scientific work in an appropriate format (GP1).
2. Engineer - Able to create an accurate solution based on a valid problem using computer technology, which covers software, hardware, infrastructure, and integration (GP2).
3. Technopreneur - Able to analyse industry needs and design commercially valuable technology-based solutions with appropriate business models (GP3).

The Bachelor in Information Systems aims to prepare graduates who are proficient in analyzing, designing, implementing, and managing big data-based information systems while fostering entrepreneurial skills and a global perspective. It places a strong emphasis on providing high-quality education, conducting research, and contributing to community service. These graduates are qualified for careers as professionals and entrepreneurs, with the ability to:

1. Analyse, design, create, and evaluate information systems that are aligned with the organisational goals (GP1).
2. Understand, implement, and integrate system models, use various methods and techniques of business process improvement that bring value to the organisation (GP2).
3. Extract, investigate, and interpret data so that it becomes valuable and easy-to-understand information (GP3).
4. Collaborate with various disciplines to produce a business idea related to the latest information technology (GP4).

The Bachelor in Informatics expects its graduates to be skilled in intelligent systems, software development, computer systems, and network security. They are equipped to design and engineer systems while adhering to professional ethics in computer science. Additionally, the program promotes lifelong learning and innovation through a technopreneurial approach, preparing graduates to contribute effectively in national and international contexts. These graduates are prepared for careers as:

1. Software Developer - Skilled in designing user interfaces and application architecture, developing AI and cybersecurity programs, conducting testing and analysis, and performing maintenance, while also collaborating on complex projects (GP1).
2. System Administrator - Able to manage specific applications or software in a company, including computer systems, database management systems, security systems, and intranet systems (GP2).
3. Technopreneur - Able to create business concepts based on existing opportunities by taking advantage of technology and knowledge development in the field of Informatics (GP3).
4. Researcher - Able to conduct and contribute scientific research in the field of Informatics in accordance with applicable rules and ethics (GP4).

During the discussion with the assessment team, students and alumni expressed their satisfaction with the programs under review, the learning experience, and job prospects.

The experts appreciate that UMN aims to provide high standards to give its graduates good chances in the national job market and a good starting point for pursuing further education. They see evidence that the intended qualification profiles of the three study programs under review allow students to take up an occupation that corresponds to their qualifications.

The acceptance of UMN graduates in the labour market was ensured after discussions with industry partners who expressed willingness to accommodate interns and recruit graduates. They reported positive results regarding technical competence, personal attributes, and alumni character. **However, they also identified areas for further improvement: students' communication skills and problem formulation. The industry partners emphasized the importance of preparing students to confidently express themselves, articulate their ideas clearly, and make their selling point. They noted the value of soft skills and recommended placing greater emphasis on developing students' communication abilities.**

Nevertheless, there is considerable evidence that UMN has successfully prepared its students to enter and adapt to the workforce. Employers expressed satisfaction with the knowledge and technical skills of the graduates.

The experts find that all three study programs' objectives and intended learning outcomes are reasonable, well-founded, and aligned with their overall goals. They conclude that these outcomes appropriately reflect the EQF 6 level of academic qualification.

Criterion 1.2 Name of the Degree Program

Evidence:

- Self-Assessment Report
- Sample Diploma Certificate

Preliminary assessment and analysis of the experts:
According to the Self-Assessment Report, the nomenclature for the titles of the degrees awarded adheres to the regulations established by the Minister of Research, Technology and Higher Education.

Graduates of the Bachelor's program in Computer Engineering are awarded the title *Sarjana Teknik (S.T.)* or Bachelor of Engineering. Those completing the Bachelor's program in Information Systems and Bachelor's program in Informatics receive the title *Sarjana Komputer (S.Kom.)* or Bachelor of Computer Science.

During the meeting with the program coordinators, the experts discussed the titles of the study programs and suggested that there may be an opportunity to align them more closely with the specific focus highlighted in the program profiles. The coordinators explained that the university must adhere to government regulations regarding nomenclature. As a result, the titles used are those established in 2007, when the programs were created. However, they mentioned that the programs are allowed to use alternative names for marketing purposes.

In light of this discussion, the experts suggest the use of branding names that better reflect the focus of each curriculum. Promoting the programs under these names may help communicate their specific strengths and areas of emphasis, giving prospective students a clearer understanding of what to expect.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report
- Academic Handbook
- Module descriptions
- Ba Computer Engineering website: https://tk.umn.ac.id
- Ba Information Systems website: https://si.umn.ac.id
- Ba Informatics website: https://inf.umn.ac.id

- Discussions during the audit

Preliminary assessment and analysis of the experts:
The curricula, structure, and composition of the study programs under review are presented in the Academic Handbook and program websites.

Structure and contents

The curriculum used within the Faculty of Engineering and Informatics adopts an Outcome-Based Education (OBE) framework. The curriculum is designed to support the achievement of the expected learning outcomes within eight semesters. Each semester is equivalent to 16 weeks, including 14 weeks of learning activities and 2 weeks for midterm and final exams. The odd semester starts in August, and the even semester starts in January.

In the initial stages of the programs, students are introduced to basic science and computer principles (see curricular overview in the Appendix). Among these are courses in English, Indonesian Language, mathematics, Religion, Civics, Technopreneurship, programming fundamentals, and more. These courses provide students with an understanding of socio-cultural aspects and foundational principles relevant to the discipline.

As students advance through the programs, the courses become more focused and specific, allowing them to delve deeper into the field. Practical laboratory work is incorporated into the curricula, enabling students to gain hands-on experience. In the later stages of the program, the curriculum becomes more specialized, with students narrowing their focus through the offered specialization tracks:

Table 1: Specializations offered.
Source: Self-Assessment Report, UMN.

CE	IS	IF
• Embedded Systems • Infrastructure Technologies • System Integration	• Big Data Analytics • Database • Enterprise Resource Planning	• Artificial Intelligence • Cybersecurity • Software Development • Game Development

The curriculum incorporates the Independent Learning–Independent Campus program (*Merdeka Belajar – Kampus Merdeka*, MBKM), a government-led initiative regulated by the Minister of Education and Culture Regulation No. 3/2020. This initiative encourages students' participation in activities outside their study program. These activities include: 1) elective courses, 2) student exchange, 3) community outreach, 4) research, 5) entrepreneurship, 8) independent project, and 9) internship.

The internship is a compulsory component. It can be taken in place of elective courses during either Semester 6 or 7. The internship is divided into four distinct modules, each evaluating a different aspect of the experience. This modular structure ensures that if a student fails one

part, they do not need to repeat the entire 20-credit internship. This approach supports students in completing their studies within the standard timeframe. The experts commend the programs for providing the students with valuable exposure to the industry through the internship.

In Semester 8, students focus on their Final Project.

Upon reviewing the curricular structures and content, the experts specifically focused on courses equipping students with ethical skills. They found that ethics is included in the Bachelor in Information Systems through the course IS 401. However, for the other two programs, it was unclear where ethics is taught. The program coordinators mentioned during the audit that the Bachelor in Informatics relies on general studies courses to cover this area, and there are elective courses in cybersecurity that also address ethical concepts. The Bachelor in Computer Engineering has three dedicated courses that focus on developing ethical competencies.

The audit team emphasized that their focus is not on ethical issues within the sciences but rather on aspects of technical ethics that seem to be lacking in the programs. For instance, this includes ethical responsibilities associated with developing drones or working in bioinformatics. In the experts' opinion, it is important to incorporate these elements of technical ethics into the curriculum for both the Bachelor in Computer Engineering and the Bachelor in Informatics.

International Mobility

UMN provides opportunities for students to conduct stays abroad and to join exchange programs. In the seventh semester, students are provided with the opportunity to choose between elective courses or mobility programs.

The UMN's Global Office is responsible for managing and coordinating international activities such as organizing student mobility programs, developing and maintaining relationships with partner institutions and organizations around the world, recruiting and admitting international students, providing support and assistance to international students during their time at UMN, such as helping with housing, visa issues, and other practical matters.

The Indonesian government has facilitated international academic mobility for students through scholarship programs like the Indonesian International Students Mobility Awards (IISMA) and the national Student Independent Program (Bangkit) organized by the Ministry of Education, Culture, Research, and Technology.

The Self-Assessment Report provides data on inbound and outbound student mobility for the even semester 2023/2024 and the odd semester 2024/2025. Inbound mobility includes 11 students from partner institutions in Malaysia, China, and Cambodia. According to the

reported figures, student exchanges within the programs are primarily domestic, with international mobility remaining relatively limited to participation in competitions.

This information was confirmed during the audit interviews. The students highlighted the support they receive when participating in international conferences, noting that the university provides assistance, even though these are typically conducted online. While the students acknowledged UMN's efforts to provide opportunities for international exchange, they also expressed their wish for more extensive international collaboration.

The experts recognize that UMN has already initiated national and international collaboration with different institutions to provide international mobility opportunities for students. However, as the number of students who spend time abroad remains relatively low, they recommend increasing the effort to further internationalise UMN by establishing more international cooperation and exchange programs and offering more and better-endowed scholarships.

An important example of international collaboration is the option available to students in the Bachelor in Informatics program to participate in a joint degree program with Swinburne University of Technology (SUT). Students study at UMN for the first five semesters. If they meet all requirements and choose to join the joint degree program, they will continue their studies on-site at SUT from the sixth to the eighth semester. According to the Self-Assessment Report, five students have participated in this program (three and two from the 2017 and 2020 cohorts, respectively).

When asked how reciprocity is ensured, the program coordinators explained that the joint program is primarily designed to benefit Indonesian students. Participants complete five semesters at UMN in Indonesia and three semesters at SUT in Australia, ultimately earning diplomas from both institutions. However, the number of students enrolled in the program has remained low, mainly due to the high costs associated with studying abroad in Australia.

The experts feel that there is a lack of reciprocity in the joint program. They believe that the joint program should be thoroughly revised to ensure mutual benefits. A truly effective joint degree program should operate in both directions.

Rules for recognizing achievements and competences acquired outside UMN exist and are based on the comparability of the intended learning outcomes. However, only very few students attend classes at international universities.

Furthermore, the experts note that in alignment with the university's vision to be outstanding in ICT at both national and international levels, improving the English language proficiency of students and teaching staff becomes a critical area of

development. It is recommended that the university consider increasing the integration of English in the study programs. During the audit, the students expressed a desire for more English content, particularly in technical courses.

The teaching staff also highlighted a wish for more opportunities to improve their English language skills. In response to this feedback and to support the internationalization goals of the three programs under review, the experts recommend implementing initiatives aimed at further strengthening the English proficiency of both students and teaching staff.

In summary, the experts appreciate the effort to foster international mobility and support both the Faculty of Engineering and Informatics and UMN in pursuing this path.

Curriculum review

The programs have maintained a continuous feedback-review cycle to adjust the course contents and teaching methods. This process involves internal and external stakeholders, particularly industries, as the graduates' users.

The latest major curriculum review process was carried out in 2021 to accommodate guidelines emanating from the Ministry of Education, Culture, Research and Technology, technological developments and inputs from partners, alumni and professional associations.

At the end of the semester, the study programs evaluate the ELO attainment of each student to ensure attainment by the time the students graduate. If any ELO receives a score below 3, the study programs initiate a follow-up process with the relevant course to identify the root causes and develop appropriate solutions.

After analysing the module descriptions and the study plans, the experts confirm that the three study programs are divided into modules and that each module is a sum of coherent teaching and learning units. All working practice intervals and internships are well integrated into the curriculum, and the supervision by the Faculty of Engineering and Informatics guarantees their respective quality in terms of relevance, content, and structure. The study plans are meticulously crafted to ensure a balance between theoretical knowledge and practical application, preparing graduates for various roles within the ICT industry.

In addition, the experts attest that the choice of modules and the structure of the curriculum ensure that the intended learning outcomes of the respective degree programs can be achieved. They also commend the university’s commitment to reviewing and updating the curriculum periodically (two years for minor and four years for major reviews) to maintain its relevance and quality.

The experts confirm that graduates of the degree programs under review are well prepared to enter the labour market and can obtain suitable jobs in Indonesia. During the discussion, UMN's industry and public sector partners affirmed that graduates have a broad scientific education, high adaptability, and various competencies. These attributes enable them to obtain suitable positions and perform well in their professional roles.

Criterion 1.4 Admission Requirements

Evidence:

- Self-Assessment Report
- UMN admission website: https://www.umn.ac.id/en/admission/
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The admission and selection process for prospective students in the Faculty of Engineering and Informatics undergraduate programs adheres to UMN's established guidelines for new student admissions. Comprehensive information regarding admission requirements, schedules, registration locations, and selection tests is published online via the official admission website, ensuring accessibility for all stakeholders. The admissions process is conducted online.

According to the Self-Assessment Report, there are two main paths by which students can be admitted to the programs:

Table 2: Admission paths
Source: Self-Assessment Report, UMN.

Channel	Filtered based on/Description	Granted
Non-Test Path	Selection process for prospective students that meet the qualification requirements (report card) after evaluation by UMN. See Table 1.4.1.	Admission
	Additional scholarships are granted to eligible students who demonstrate achievements in academics (rankings), sports and arts, or science Olympics and those who are children of teachers or employees of Kompas Gramedia.	Admission and additional scholarship
Test Path	Registration process for all prospective students that take the test (written test of 80 multiple choice questions and psychological test).	Admission
	Additional scholarships granted to prospective students range from full tuition fees to semester fees based on the test results.	Admission and additional scholarship

The annual intake quota of the Bachelor in Computer Engineering is 40 students each year. Based on the data presented, the number of applicants has tripled. In the 2023/24

academic year, 419 students applied for admission, but only 27 were accepted, resulting in an admission rate of 9.5%.

Table 3: Applicants and Selected for Computer Engineering in 2019-2024
Source: Appendix to the Self-Assessment Report, UMN.

Program	Year	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024
CE	Applicants	135	148	230	250	419
	Accepted	20	20	33	43	27

In light of the data, the experts note that the number of students in the commencing cohorts remains below the intake capacity of the Bachelor in Computer Engineering. During the audit, the students also expressed a desire for larger class sizes, highlighting that a greater number of peers would enhance opportunities for academic collaboration and enrich their overall university experience. The experts support this perspective and suggest that the university strengthen its efforts to attract suitable prospective students.

The Bachelor in Information Systems program has an annual intake capacity of 240 students. According to the data provided, the number of applicants has also increased almost threefold. In the 2023/24 academic year, a total of 1.505 students applied, with only 241 admitted, reflecting an admission rate of 16%.

Table 4: Applicants and Selected for Information Systems in 2019-2024
Source: Appendix to the Self-Assessment Report, UMN.

Program	Year	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024
IS	Applicants	506	680	883	917	1505
	Accepted	139	168	176	234	241

The Bachelor in Informatics program admits up to 360 students each year. Like the other programs, the data shows that the number of applicants has grown significantly, nearly tripling in size. In the 2023/24 academic year, 2.005 students applied for admission, but only 323 were accepted, resulting in a selective admission rate of 16%.

Table 5: Applicants and Selected for Informatics in 2019-2024
Source: Appendix to the Self-Assessment Report, UMN.

SP	Year	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024
IF	Applicants	708	889	1.273	1.426	2.005
	Accepted	188	193	202	364	323

Further details of the application process and further information on admission criteria and deadlines can be found on UMN's homepage and the Academic Guidelines, which are also published on the university's website.

Overall, for the three programs under review, the experts find the terms of admission to be binding and transparent. They confirm that the admission requirements support the students in achieving the intended learning outcomes

The Bachelor in Informatics and Bachelor in Information Systems' tuition fees include an enrolment fee ranging from 33.750.000 – 39.750.000 IDR (1.812 – 2.134 EUR), depending on the test results, and a semester fee for 19.750.000 IDR (1.060 EUR). Similarly, the Bachelor in Computer Engineering's tuition fees include an enrolment fee ranging from 29.250.000 – 35.250.000 IDR (1.570 – 1.892 EUR) and a semester fee for 16.750.000 IDR (899 EUR).

The UMN Scholarship Division administers a range of internal and external scholarships, including academic scholarships, scholarships for students who have lost a parent, alumni-supported scholarships, and those funded by various foundations. These scholarships are available to students in financial need as well as those affected by natural disasters. Both partial and full financial support may be provided.

The availability of these scholarships was confirmed during the audit, with first-year students reporting that they had received a 100% scholarship covering their first semester tuition fees.

Criterion 1.5 Workload and Credits

Evidence:

- Self-Assessment Report
- Module Handbooks
- Study Plans
- Academic Guidelines
- Discussions during the audit.

Preliminary assessment and analysis of the experts:

All degree programs at UMN follow the Indonesian credit system (SKS) regulations. Each Indonesian credit point is distributed between guided and independent learning activities, as well as between face-to-face activities, laboratory activities/practicum, and project and field practice.

Based on the Minister of Education and Culture of the Republic of Indonesia Decree No. 3/2020, 1 SKS equal to 170 minutes of weekly educational activities. Since there are 16 weeks in a semester, 1 SKS = 170 x 16 = 2720 minutes = 45,33 hours per semester. At UMN, 1 ECTS equals 27 hours. Therefore, the conversion used between SKS and ECTS is 1 SKS = 45,33 hours/27 hours = 1,68 ECTS. This includes:

- Lecture credit: 1 credit (1.68 ECTS) equals 170 minutes per week, composed of 50 minutes for face-to-face lecture sessions and 120 minutes for assignments and/or self-study
- Lab credit: 1 credit (1.68 ECTS) equals 170 minutes per week, composed of 100 minutes for lab sessions and 70 minutes for assignments and/or self-study

The Bachelor's program in Computer Engineering comprises 146 SKS (245.28 ECTS) distributed as follows:

Table 6: Curriculum structure Computer Engineering
Source: Self-Assessment Report, UMN.

Semester	Credits/ECTS	Description
1-2	38 credits / 63.84 ECTS	Mandatory (basic science & computer subjects)
3-4	42 credits / 70.56 ECTS	Mandatory (software & hardware subjects)
5	20 credits / 33.60 ECTS	Mandatory (computer engineering core subjects)
6	20 credits / 33.60 ECTS	Internship
7	20 credits / 33.60 ECTS	Electives (courses and mobility programmes)
8	6 credits / 10.08 ECTS	Final Project

The Bachelor's program in Information Systems consists of 144 SKS (equivalent to 241.92 ECTS), allocated as follows:"

Table 7: Curriculum structure Information Systems
Source: Self-Assessment Report, UMN.

Semester	Credits/ECTS	Description
1-2	40 credits / 67.20 ECTS	Compulsory (basic knowledge)
3-5	58 credits / 97.44 ECTS	Compulsory (core knowledge)
6	20 credits / 33.60 ECTS	Internship
7	20 credits / 33.60 ECTS	Electives (courses or mobility programme)
8	6 credits / 10.08 ECTS	Final Project

The Bachelor in Informatics covers 144 SKS, or 241.92 ECTS, which are distributed as follows:

Table 8: Curriculum structure Informatics
Source: Self-Assessment Report, UMN.

Semester	Credits/ECTS	Description
1-2	39 credits / 65.52 ECTS	Compulsory (mathematics and basic algorithmic knowledge)
3-5	61 credits / 102.48 ECTS	Compulsory (computer science core knowledge)
6	20 credits / 33.60 ECTS	Mandatory Internship
7	20 credits / 33.60 ECTS	Electives (courses or mobility programme)
8	6 credits / 10.08 ECTS	Final Project

The semester GPA determines the maximum number of credits students can take the following semester, with a maximum of 24 CSU if GPA ≥ 2.75 according to the Academic Guidelines. Bachelor's students are required to attend their classes in accordance with established regulations. They must be present for at least 75% of the theoretical courses and 100% of the practical courses. If a student's attendance falls below these percentages,

they are not allowed to attend the final examination. The maximum time to complete the bachelor's programs is 14 semesters.

During the onsite visit, the experts sought to confirm whether UMN involves students in evaluating the workload of each module. According to the information provided, a question related to workload has been included in the student survey, which is conducted twice per semester, once after the midterm exam and again after the final exam. In their exchange with the experts, the students did not highlight any significant imbalance or excessive workload. They reported having enough time to do other activities outside study.

The university provided data on enrolments, dropouts, on-time graduation, and average study duration in its Self-Assessment Report and accompanying appendices for the three programs under review.

During the academic years 2019/2020 to 2023/2024, the Bachelor in Computer Engineering enrolled a total of 143 new students. Of these, eight students dropped out and ten resigned, resulting in a 13% rate. For the most recent cohorts, the average time to graduation has remained close to the standard four-year study duration.

In the same period, the Bachelor in Information Systems program had 958 students registered, with 63 dropouts and 40 resignations, representing an 11% rate. The average completion time for this program was 4,11 and 3,97 years for 2019/2020 and 2020/2021 cohorts, respectively.

For the Bachelor in Informatics, from the 2019/2020 cohorts, 1.270 students registered with 72 dropouts and 46 resignations, resulting in a 9% rate. The average completion time has remained close to the standard duration, averaging 4 years in the academic year 2020/2021.

In general, the data show that almost all students complete the study programs. These numbers suggest that the programs under review can be successfully completed.

The experts also confirm that regulations for the transfer of credits obtained outside of UMN exist. The program's module handbooks distinguish between credits given for various forms of supervised studies and self-study time.

In summary, a credit system centred on student workload is in place, workload encompasses both contact hours and self-study time and credits are granted in accordance with the associated workload. The three programs have a high but manageable workload, which leaves students with enough free time for hobbies, friends and family.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-Assessment Report
- Academic Guidelines
- UMN Learning Management System: https://elearning.umn.ac.id/
- Discussions during the audit.

Preliminary assessment and analysis of the experts:

UMN outlines the instructional methods and tools used by the three programs under review. The differences in learning approaches and resources are based on the specific knowledge, skills, and competencies defined for each module (course). The module handbooks state the teaching methods applied in each learning unit, with practical instructions for laboratory work, learning resources and the learning plan and assessment.

Each course in the study program is assigned a lecturer coordinator responsible for developing appropriate teaching methods. Guidance is provided at the university, faculty, and study program levels through regular Semester Preparation meetings held twice a year. These meetings bring together lecturers to align teaching strategies. In addition, the course coordinator works closely with the teaching staff to ensure the learning process in the classroom is optimized.

To demonstrate alignment, the university includes tables in the Self-Assessment Report that map the relationship between teaching methods and expected learning outcomes, as well as the connection between those outcomes and corresponding learning activities.

The university's approach to learning is student-centred and involves teaching methods that prioritise the student's involvement in the learning process. Government regulations and internal curricula have recently focused on increasing project-based learning. This approach helps students collect and analyse data, problem-solve, and present research results in laboratory and field settings. The Independent Learning-Independent Campus (MBKM) policy has been integrated into the Bachelor's curricula to give students more flexibility in achieving their goals. With MBKM, students can learn from different institutions, industries, and communities, allowing for a more student-centred approach to education.

While the experts highlight areas for improvement, as noted in Criterion 1.3, they commend the Faculty of Engineering and Informatics for implementing initiatives that connect students with relevant external parties. These initiatives include inviting guest

lecturers from the industry, requiring mandatory internships, and forming partnerships with foreign institutions.

The UMN Learning Management System (E-Learning UMN) is utilized by lecturers to facilitate the learning and teaching process. The Learning Development Center Department at UMN is responsible for assisting faculty members in developing asynchronous module content and managing blended learning across all study programs.

During the discussions with the students, the experts learned that they are generally satisfied with the quality of teaching and learning in the three programs.

Based on the information collected, the experts conclude that the teaching methods and instruments are suitable to support the students in achieving the intended learning outcomes. The study concepts of all three programs include a variety of teaching and learning formats, along with practical components. The experts see the use of project-based learning in the programs as a positive aspect of the teaching approach. The effectiveness of the pedagogics and activities for each module is evaluated at the end of each semester as part of a regular review of the curriculum.

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

The experts thank UMN for the provided statements concerning criterion 1.

(ASIIN 1.1) Students' soft skills – all programs

UMN does not comment on the experts' suggestion regarding the need for a stronger focus on students' communication and problem formulation skills. In the absence of further information, the experts issue Recommendation E1.

(ASIIN 1.3) Technical ethics within the curriculum – Computer Engineering and Informatics

The university acknowledges that there is a gap in the curricula of both programs and to address this gap, it will introduce mandatory courses: EEM513 – Engineering Ethics (2 credits / 3.36 ECTS) in Computer Engineering and IF111 – Ethics in Informatics (2 credits / 3.36 ECTS) in Informatics. However, as these changes will be implemented in the 2025–2026 academic year, the experts see the need for Recommendation E5.

(ASIIN 1.3) International cooperation and mobility – all programs

UMN accepts the experts' suggestion to strengthen international networks and enhance international mobility. However, in the absence of further details or planned measures in this area, the experts issue Recommendation E2.

(ASIIN 1.3) Joint program – Informatics

The university acknowledges the need for changes to ensure reciprocity in the Informatics joint degree program. A curriculum mapping is currently underway to align the program with the counterparts at Swinburne University of Technology, Sarawak (Malaysia) and Teesside University (UK). While the experts welcome these measures, changes are yet to be implemented; therefore, they maintain their recommendation (Recommendation E6).

(ASIIN 1.3, 1.6) English language – all programs

UMN recognizes the need to enhance the use of English within the programs to support internationalization objectives. However, in the absence of a plan detailing specific actions and a timeline for implementation, the experts issue Recommendation E3. They emphasize the importance of continuous improvement in this area.

(ASIIN 1.4) Student intake – Computer Engineering

The experts appreciate that their suggestion has been acknowledged. They take note that the study program will collaborate with the marketing department to develop more impactful initiatives, such as campus visits, product/project publications, and workshops. These efforts are expected to increase exposure to prospective students and their parents.

While the experts have issued the recommendations mentioned above, they consider this criterion to be fulfilled.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, Concept and Organisation

Evidence:

- Self-Assessment Report
- Module handbooks
- Academic Guidelines
- Academic Calendar
- Samples of student's work (projects, exams and thesis)
- Discussions during the audit.

Preliminary assessment and analysis of the experts:

Forms of Examinations and Exam Schedule

The assessment system used in the programs under review is designed to align with the principles of outcome-based education (OBE). Assessment is conducted using formative and summative forms.

The module handbook specifies the course's intended learning outcomes (CLO) and identifies the types of examinations used to assess their achievement. As seen in the module handbooks, various assessment methods are used, which can be performed as scheduled (i.e. mid-term and final exams) and flexible assessments in the form of structured tasks. The commonly used assessment weighting scheme is 30% for the mid-semester examination, 40% for the final semester examination, and 30% for activities and assignments.

An outline of the assessment instruments is provided in the table below:

Table 9: List of assessment instruments
Source: Self-Assessment Report, UMN.

CE	IS	IF
Written Test: Proctored written exams, digital interactive quizzes, essay assignments.	**Written Assessment:** Essays, short answers, multiple-choice questions, case study reports, summaries	**Written Test**: Proctored written exams, digital interactive quizzes, essay assignments.
Performance: In-class teacher observation, peer assessment, individual Q&A in presentations.	**Oral Assessment:** Project presentations, case study presentations, case study discussions	**Oral Presentation:** Project presentations, case study presentations, case study discussions
Product-Based: Proctored lab exams and mini projects.	**Project:** Project reports, team evaluations	**Project work:** Project reports, team evaluations, software/product/ prototypes
Project: Real-world problems to solve during internships, final projects, community outreach activities, research, entrepreneurship, and independent projects.	**Practical:** Laboratory examinations	**Practical:** Laboratory work (hands-on)
Portfolio: Reports (evidence and analysis) in the form of videos, pictures, or documents.		

During the meeting with the teaching staff, the experts sought clarification about take-home exams and how it is verified that students wrote the exam themselves and did not use AI generators. A member of the teaching staff from the Informatics department explained that in their program, the exam typically consists of a take-home project. They ensure that students complete their work by assigning the project mid-semester or earlier.

As the course progresses, lecture time is dedicated to progress reports. Each team presents their project and is asked questions to verify their understanding of the topic.

The lecturers also clarified that students are allowed to use ChatGPT as part of their learning process. This artificial intelligence-based tool is considered to support exploration and understanding of lecture material. However, students must use this tool ethically and still demonstrate a deep and original understanding of the topics discussed.

Information about exam types and schedules is written in the Semester Learning, which is provided to students in the first session of each course. The format and duration of each exam are specified in the course descriptions and made accessible to students through the university's e-learning management system. Lecturers also use this platform to administer quizzes and exams, as well as to provide assessment feedback. The students also learn about mid-semester and end-of-semester exams via the academic calendar.

The experts confirm that the different forms of examination used are competence-oriented and are suitable overall for verifying the achievement of the intended learning outcomes as specified in the respective module descriptions. The form of examination is determined individually for each course and published in the respective module description. The forms of examination are based on the main content of the modules, and the level is appropriate for the respective degree program.

Grading and Graduation Requirements

The final grade of each module is a combination of the scores of the individual types of assessment. The final grade of the course is given as a quality letter and quality score as follows:

Table 10: Numerical Value of each Grading Scale
Source: Self-Assessment Report, UMN.

Numerical	Letter Values	Grades Numerical Values	Description
85–100	A	4	Very Good
80–84.99	A-	3.7	Good
75–79.99	B+	3.3	
70–74.99	B	3.0	
65–69.99	B-	2.7	Adequate
60–64.99	C+	2.3	
55–59.99	C	2.0	
45–54.99	D	1.0	Poor
0–44.99	E	0	Very Poor
	F	0	Academic Violation

If students do not meet the minimum requirements for a course and receive a grade below C, they are required to retake the course. During the audit, teaching staff explained to the experts that students may repeat the course either during the short semester or in a

subsequent regular semester until they achieve at least a C grade. The Faculty of Engineering and Informatics holds a short semester outside of the regular semester to accommodate course retake or acceleration of studies. While there is no limit on the number of retakes, the Bachelor's programs must be completed within a maximum of seven years.

Should students face exceptional circumstances, such as emergencies, hospitalisation, or bereavement, which prevent them from sitting for midterms or final exams, they may be eligible to take a follow-up exam. The lecturer or faculty will determine the time for the makeup exam, and students must provide suitable evidence to support their request.

Final grades are available on the academic and student information system (MyUMN) no later than 2 weeks after the last exams. When students have objections to their exam results, they have the opportunity to appeal directly to the relevant lecturer within one week of the grade announcement. The students confirmed that an appeal mechanism exists if they perceive their grades as unfair.

In order to graduate from the programs under review, students must not exceed the maximum study period, have active student status, and fulfil all administrative and academic requirements, achieving a minimum GPA of 2.00, with no grade D, E and/or F grades.

UMN has a policy on academic integrity in educational activities, including examinations and assignments. If students engage in plagiarism, they will face sanctions that correspond to the severity of their actions. To help prevent plagiarism, the university provides members of the teaching staff and students with access to anti-plagiarism software, which can be used to detect similarities in written work.

i. Thesis

In accordance with academic guidelines, Bachelor students must complete a final thesis/project prior to graduation. This final assignment aims to demonstrate that students are able to work independently on a task at the intended level of the degree programs.

The final project is an individual piece of work. While multiple students may be working on the same broad topic or project, each student must have a clearly defined and non-overlapping portion of the work. Each student who undertakes a final project will be assigned a supervisor. Students can access the Final Project Writing Guidelines and Final Project Templates online on the academic platform.

In their assessment of Criterion 2, the expert group finds that appropriate rules and regulations, which govern the examination systems university-wide, are in place. These rules and regulations are adequately communicated and transparently published.

During the discussion with the experts, all the students expressed their satisfaction with the organization of exams. The students confirmed that they were aware of all necessary information regarding examination schedules, forms, and grading rules. They reported that they are provided with sufficient time to prepare for exams and are given the opportunity to complain about their grades due to dissatisfaction.

The expert group also examined a selection of final theses/academic work and determined that they were of an appropriate academic level.

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

UMN does not comment on this criterion in its statement.

The experts consider criterion 2 to be fulfilled.

3. Resources

Criterion 3.1 Staff and Staff Development

Evidence:

- Self-Assessment Report
- Staff handbooks
- Study plans
- Module descriptions
- Discussions during the audit

Preliminary assessment and analysis of the experts:

At UMN, the staff members have different academic positions. There are professors, associate professors, assistant professors and lecturers. The academic position of each staff member is based on research activities, publications, academic education, supervision of students, and other supporting activities. For example, a full professor needs to hold a PhD degree, along with a robust and sustained record of significant research contributions. In addition, the responsibilities and tasks of a staff member with respect to teaching, research, and supervision depend on the academic position.

According to the Self-Assessment Report, the Faculty of Engineering and Informatics has a total of 97 academic staff members assigned across the three programs. All staff hold at least a master's degree, and 24.7% possess a PhD. The distribution of teaching staff by academic rank is presented in the table below.

Table 11: Distribution of teaching staff by academic position
Source: program websites and Self-assessment report, UMN

Position/education level	CE	IS	IF
Professor	1	-	1
Associate Professor	3	4	4
Assistant Professor	28	33	43
Lecturer	7	13	23
Total	**39**	**48**	**71**
Active students (2022/2023)	**132**	**773**	**935**

During the visit, the experts held discussions with UMN management regarding the relatively low proportion of PhD holders among the teaching staff serving the three programs. They were particularly interested in learning about the university's strategies and future plans to increase the number of faculty with doctoral qualifications. Representatives from the Rector's Office explained that several initiatives are in place to address this issue. These include a university-supported program to sponsor staff in pursuing PhD studies and access to government-funded scholarships for doctoral studies abroad. Additionally, UMN benefits from scholarships offered by partner universities and allocates internal funding to support faculty members pursuing advanced degrees. Although the university prioritises hiring PhD holders during recruitment, UMN management acknowledged that attracting such candidates remains a significant challenge.

All members of the teaching staff are required to be involved in the three areas of activity: teaching, research and community service, as they are part of their Key Performance Indicators (KPIs). As the experts learned during the audit, all members of the teaching staff have a workload between 12 and 16 credits per semester (one credit equals 170 minutes of activities per week). However, the workload can be distributed differently between the three areas from teacher to teacher.

Promotion to a higher academic position is based on performance, such as achievement in teaching, research (publications), and community service activities.

During their exchange with UMN management, the experts also noted that the Self-Assessment Report states that full-time staff comprise 69.2% of the total teaching force. Among these full-time teachers, 59% have expertise related to the core competencies of Computer Engineering. Part-time teaching staff make up the remaining 30.8%, with half of them teaching campus-wide social science courses. The experts wondered why not all full-

time teaching staff possess expertise related to the core competencies and how social science fits into the programs. UMN management explained that mandatory general courses in the curriculum, such as religion, Indonesian language, and entrepreneurship, are mandated by the government. Consequently, these courses require teaching staff with expertise in social sciences.

Based on their assessment, the experts acknowledge the university's ongoing efforts and planned initiatives to enhance the composition, academic qualifications, and scientific orientation of its teaching staff in support of the successful implementation and long-term sustainability of the degree programs. They encourage the university to further strengthen these efforts, particularly by supporting more staff in pursuing higher academic qualifications, such as doctoral degrees.

Staff Development

During the audit, the teaching staff reported that UMN has established development programs for both academic and non-academic personnel. Non-academic staff have access to opportunities to develop their managerial careers, while lecturers are offered training to improve their pedagogical competencies and research grant preparation.

As previously mentioned, the university encourages lecturers to pursue PhD studies. Additionally, UMN supports lecturers' participation in industrial training and professional workshops.

There are financial resources available for staff members to go abroad for a limited time and to take part in conferences or other events in order to stay up to date with the scientific development in their area of expertise. Some members of the teaching staff mentioned their collaboration with institutions in Europe and Asia. Additionally, some have access to funding mechanisms like those managed by the DAAD.

Given that research is mandatory for lecturers and forms part of their KPIs, the experts sought to understand the extent to which the university supports research activities. In their discussions with the teaching staff, they specifically inquired about sabbatical opportunities and support for publications. The teaching staff explained that while a sabbatical policy is not yet in place, they believe that such opportunities will be available in the future. Regarding publications, it was noted that lecturers receive incentives for publishing in high-ranking journals. The teaching staff indicated that increased collaboration would significantly improve their research output and expressed hope for continued development and institutional support in this area.

Along with this, the teaching staff also highlighted the need for more opportunities to strengthen their English language skills, as referenced under Criterion 1.3. The experts

view all these aspirations positively. Therefore, an important recommendation is that support for research be encouraged and implemented (e.g., in the form of sabbaticals, strengthened collaboration, English capability, and other initiatives).

Overall, the teaching staff expressed satisfaction with the opportunities to enhance their professional skills and with the internal qualification program at UMN. There are opportunities to further develop pedagogical abilities, as well as the chance to spend time abroad attending conferences, workshops, or seminars.

Although some areas for improvement were identified, the experts confirm that UMN offers support mechanisms and opportunities for members of the teaching staff who wish to further develop their professional and teaching skills.

Student Support and Student Services

UMN provides a comprehensive advisory system for all undergraduate students. Each student is assigned an academic supervisor who is a lecturer in their respective program. The academic supervisor's role includes discussing the student's individual study plan and strategies. The supervision process can take place offline, online, or in a hybrid format, with at least three meetings per semester, typically held at the beginning of the semester, before the mid-semester exam, and before the end-of-semester exam.

The academic advisors and the Student Support Department collaborate to address student issues and provide timely support. The Student Support Department offers mental health counsellors, therapists, and wellness coordinators. Support also includes workshops on time management, study techniques, and productivity to enhance students' study habits and a peer-to-peer learning/mentoring program in collaboration with student organizations.

Several digital platforms support both academic and administrative processes. These include information systems for managing academic and student services. Additional systems support reserving rooms and equipment, access to the library's online catalogue, and online learning through a dedicated learning management system and the Emancipated Education Information System. Other platforms support course registration, validation of graduation documents, and IT-related assistance through a ticketing system, among other processes.

The Student Support Section provides medical services and psychological counselling, while the Scholarship Division manages various internal and external scholarships for students in need of financial aid or affected by disasters. Both partial and full funding options are available. UMN also has a medical center staffed with doctors and paramedics. UMN's Career Development Centre offers various services to enhance student employability,

including mock interviews with employers, annual job fairs, employability seminars, internship support, and a job vacancy website. Additionally, UMN supports entrepreneurship through Skystar Ventures, a highly-rated business incubator.

There are also several student organizations at UMN; they include student clubs, which are divided into arts, sports, religious and other non-curricular activities.

During the audit, all the students indicated that they know where to find advice, counselling and support for their studies and mental health at the university. They also believed that there are sufficient opportunities for extracurricular activities, student unions and clubs. The students stressed that the teachers are approachable and communicate well with them, taking their opinions and suggestions seriously, with changes implemented if necessary.

The experts noticed the good and trustful relationship between the students and the teaching staff. There are enough resources available to provide individual assistance, advice and support for all students. The support system helps the students to achieve the intended learning outcomes and to complete their studies successfully and without delay. The students are well informed about the services available to them.

Criterion 3.2 Funds and equipment

Evidence:

- Self-Assessment Report
- Visitation of participating institutes and laboratories
- Discussions during the audit.

Preliminary assessment and analysis of the experts:

Funds

UMN is a private university that operates self-sufficiently with its own endowment funds. Major investments, such as new buildings, receive support from the Kompas Gramedia Group.

Financial activities are centrally managed, with the academic departments involved in planning, managing, and reporting on fund usage. Fund allocation is aligned with approved work plans and budgets. The study programs develop annual budgets based on their work and allocations from the Finance Department. Departmental regulations govern specific expenses, such as research funds overseen by the Research Department.

According to the Self-Assessment Report, in 2026, approximately 12% of the Faculty of Engineering and Informatics' income is expected to come from Multimedia Nusantara Foundation. About 87% of the university's budget is generated from student tuition fees, while the remainder is sourced from external grants.

Collaborations

As part of its self-assessment report, the university provided a list of cooperation agreements with both local and international universities, as well as company partners. This was also reflected during the discussion round with industry representatives and the teaching staff, where collaborations with various partners were highlighted.

For example, an industry partner mentioned their collaboration with the university in the field of computer engineering. This partnership aims to prevent disease in fruit. As a result of this cooperation, an application has been developed to help identify these diseases. The application measures temperature, humidity, and brightness intensity. This initiative has positively impacted 500 farmers who are working with the company

Infrastructure and technical equipment

During the audit, the expert group visited several facilities to assess whether the three programs under review are adequately supported by well-equipped laboratories and infrastructure for both practical training and research activities.

UMN offers an inviting campus environment with spacious areas, including a botanical garden where students enjoy spending their time. The campus atmosphere reflects the university's strong commitment to the well-being of its community.

The group visited well-maintained collaborative learning classrooms and a lecture theatre. They were also introduced to the Business Incubator, Skystar Venture, which nurtures problem-solving skills by offering an annual program for student-built start-ups. This program provides student entrepreneurs with access to mentors and professionals in relevant fields. Additionally, the start-ups can establish connections with venture capitalists, government grant programs, and the Kompas Gramedia Group network.

The visit also encompassed several laboratories, including:

- Big Data Laboratory: provides resources to improve and develop lecturers' and students’ practical skills in data science research.
- Artificial Intelligence Laboratory: supports AI research requiring high-performance computing devices.

- Cybersecurity Laboratory: provides computers and hacking devices to simulate attacks on certain targets.
- Internet of Things (IoT) Laboratory: provides access to electronic components such as microcontrollers, sensors, actuators, and development boards to support the development of IoT research projects.
- Digital Interaction Laboratory: includes game development and augmented reality capabilities.

In addition to the laboratories, the experts were guided through the facilities of the Internal Student Affairs department, which operates under the Rectorate for Student Affairs. This department includes several dedicated offices with distinct functions: the Student Development Office focuses on strengthening students' soft skills, leadership abilities, and organizational engagement; the Student Support Office provides mental health services through professional counsellors, therapists, and wellness coordinators, ensuring students have access to emotional and psychological support; and the Student Service Office oversees and manages the academic registration process.

The experts also visited the Library and the Career Development Center, which offers career preparation programs and conducts tracer studies involving alumni and employers.

During the audit, the students were asked about their satisfaction with the library's resources and operating hours. They expressed satisfaction with the library's services, highlighting that it is open on weekdays as well as weekends. From their perspective, there is sufficient access to current literature and databases, with the added benefit of remote access.

As a result of their assessment, the experts confirm that there are no significant bottlenecks due to a lack of equipment or inadequate infrastructure. Students have access to well-equipped laboratories, and it is particularly remarkable that they can use 3D printers. The rooms designated for project-based learning are well-designed and inviting, providing a supportive environment for hands-on collaboration. This method is particularly important in fields such as computer science and computer engineering.

The expert team appreciate that UMN provides students with valuable exposure to the business incubator, which brings real-world business activities onto the campus. The facilities visited are modern, and students benefit from good support services, including a well-resourced library and IT platforms to support academic activity.

The experts conclude that the available funds, the technical equipment, and the infrastructure (laboratories, library, seminar rooms, etc.) comply with the requirements for sustaining the degree programs.

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

The experts thank UMN for the provided statements concerning criterion 3.

The experts take note of the clarification that full-time staff comprise 69.2% of the total teaching force, with 85% of these full-time staff members having academic backgrounds relevant to the core competencies of Computer Engineering. The remaining 15% of full-time staff teach non-technical subjects such as Technopreneurship, Civics, Bahasa Indonesia, and English. Part-time staff account for 30.8% of the teaching staff. Among them, 50% have a background in Computer Science, while the other 50% are responsible for non-technical courses.

(ASIIN 3.1) Research support – all programs

UMN recognizes the need to further support research activities. However, in the absence of a plan detailing specific actions and a timeline for implementation, the experts issue Recommendation E4.

(ASIIN 3.1) English language – all programs

Addressed under criterion 1.3. The experts issue Recommendation E3.

While the experts have issued the recommendations mentioned above, they consider this criterion to be fulfilled.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Self-Assessment Report
- Module handbooks
- Ba Computer Engineering website: https://tk.umn.ac.id
- Ba Information Systems website: https://si.umn.ac.id
- Ba Informatics website: https://inf.umn.ac.id

Preliminary assessment and analysis of the experts:

The students, as all other stakeholders, have access to the module descriptions via UMN's homepage.

The experts confirm that the module descriptions contain information about the persons responsible for each module, the language, the teaching methods and workload, the credit points awarded, the intended learning outcomes, the examination requirements, the assessment forms and how the final score is calculated.

These module description files are also stored in the UMN learning management system (elearning.umn.ac.id), which ensures students' accessibility. The module description is explained to class participants during the first week of lectures.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Self-Assessment Report
- Sample Diploma/Degree Certificate
- Sample Transcript of Records
- Sample Diploma Supplements

Preliminary assessment and analysis of the experts:
The experts confirm that students from the three programs under review receive a Degree Certificate and an Academic Transcript after graduation.

The issuance of the Degree Certificate is the university's authority and is signed by the Rector and Dean of the Faculty of Engineering and Informatics. The Academic Transcript lists all the courses the graduate has completed, the credits achieved, grades, cumulative GPA, and the seminar and thesis title.

Along with these documents, the graduates receive a Diploma Supplement, which is an official statement letter issued by the Faculty of Engineering and Informatics. It contains information about the degree program, including learning outcomes, acquired soft skills and student achievement in academic, co-curricular, extracurricular, or non-formal education.

In addition, students are required to participate in certification assessments. However, as explained by the teaching staff during the audit, these assessments are intended primarily to provide students with exposure to professional standards. While participation is mandatory, students are not necessarily required to pass the certification. Examples include:

Table 12: Certification Assessment
Source: Self-Assessment Report, UMN.

CE	IS	IF
HCIA (Huawei Certified IT Associate) RHCSA (Red Hat Certified System Administrator) CertiPort IT Specialist	CISDV (Certified International Specialist in Data Visualization) CISDM (Certified International Specialist Data Modelling)	CEH (Certified Ethical Hacker) PCCET (Palo Alto Networks Certified Cybersecurity Entry-level Technician) PCNSA (Palo Alto Networks Certified Network Security Administrator) MTA (Microsoft Technology Associate) NSEIT (Network Security Expert)

Criterion 4.3 Relevant Rules

Evidence:

Self-Assessment Report

- Self-Assessment Report
- Ba Computer Engineering website: https://tk.umn.ac.id
- Ba Information Systems website: https://si.umn.ac.id
- Ba Informatics website: https://inf.umn.ac.id

Preliminary assessment and analysis of the experts:
The experts confirm that the rights and duties of both UMN and the students are clearly defined and binding. All rules and regulations are published on the university's website and are hence available to all relevant stakeholders. In addition, the students receive all relevant course material in the language of the degree programs at the beginning of each semester.

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

UMN does not comment on this criterion in its statement.

The experts consider criterion 4 as fulfilled.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report
- Academic Guidelines
- Sample students' questionnaire
- Audit and survey reports
- Discussions during the audit

Preliminary assessment and analysis of the experts:
During the audit, the experts held discussions about the quality management system at UMN with the Rector's representatives, program coordinators and students. They learned that there is an ongoing process to improve the quality of the degree programs, which is achieved through internal and external evaluations. The quality assurance system at UMN is overseen by the Internal Quality Assurance Bureau (IQAB), with support from the faculty-level IQAB, which is supported by programme-level internal assignments for QA purposes.

IQAB's internal quality management includes internal quality audits, monitoring ongoing processes (such as classroom activities), evaluating outcomes (through learning outcome assessments), and collecting feedback from key stakeholders, including students, lecturers, support staff, alumni, and employers.

Internal quality audits are conducted annually to assess the faculty, programs, and supporting departments. A trained group of internal auditors from various departments performs the audits, ensuring team members are cross-distributed to avoid conflicts of interest. This process evaluates program performance, identifies improvement opportunities, and informs an action plan.

Students provide feedback on their courses by completing an online questionnaire. It is mandatory for students to give feedback on their experiences; failure to do so will restrict their access to their accounts on the digital platform my.umn.ac.id. The online questionnaire covers five aspects, including tangibles, access, reliability, responsiveness, and empathy.

During the discussions with the experts, the students confirmed that they provide feedback twice a semester: before the midterm and after the final exams. They expressed a positive opinion about how their feedback is managed and believe it is a valuable quality assurance

tool. The students noted that the results of the feedback are discussed with them and that the university is responsive to their needs. The experts appreciate that the feedback is taken seriously and commend the university for proactively responding to the students' input.

The results summarized from the alumni and employer feedback data focus on two main aspects: the alignment of learning outcomes with current industry needs, and the ability of graduates to apply the knowledge and skills they have gained at university in the workplace. Alumni feedback is collected through an exit survey at graduation and an annual tracking study conducted two years after graduation. Employer feedback is also collected annually, and both alumni and employers are invited to participate in focus group discussions. The input collected is compiled and shared with relevant study programs to support curriculum and course material reviews. In addition, analysis reports are distributed to alumni associations and participating employers.

As the experts consider the input of the external stakeholders to be very important for the further improvement of the degree programs, they appreciate the existing culture of quality assurance with the involvement of alumni and employers in the process. The expert group especially highlights the commitment demonstrated by some industry partners who travelled a long distance to attend the audit meeting and share their collaboration experiences with the university.

Aside from such internal quality assurance mechanisms, recurring external quality assurance exercises at UMN and the Faculty of Engineering and Informatics are related to the legal obligation to submit every degree program for national accreditation in addition to the compulsory institutional accreditation. The three programs under review have attained accreditation "B" by the National Accreditation Board for Higher Education (BAN-PT).

As the university is currently pursuing international accreditation through ASIIN, the experts used their meeting with UMN management to inquire how this initiative aligns with the university's broader strategic goals. UMN management explained that international accreditation supports their internationalisation efforts. Achieving international accreditation is seen as a step toward becoming a world-class university, increasing recognition of UMN's programs abroad and facilitating student access to further studies at internationally recognised institutions. Additionally, international accreditation in informatics is recognised by the national government and can be converted into national accreditation. The experts observed a positive and widespread attitude toward the international accreditation process from students and teaching staff.

In summary, the expert group confirms that the quality management system is suitable for identifying weaknesses and improving degree programs. All stakeholders are involved in the process with clear evidence of strong commitment and engagement at all levels.

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

UMN does not comment on this criterion in its statement.

The experts consider criterion 5 as fulfilled.

D Additional Documents

Before preparing their final assessment, the experts ask for the following missing or unclear information together with the comment of UMN on the previous chapters of this report:

- For the Ba Information Systems: mapping of the modules according to the four areas defined by SSC of TC 07.

MAPPING COURSE TO SUBJECT-SPECIFIC CRITERIA ASIIN
INFORMATION SYSTEMS STUDY PROGRAM
FACULTY OF ENGINEERING AND INFORMATICS
UNIVERSITAS MULTIMEDIA NUSANTARA

No	Course Code	Course Name	Course Type	Credits	Business Fundamental	Business Informatics	Informatics Fundamental	Other Fundamental	Total Credits	ECTS
1	IS100	Management Information Systems	Compulsory	3				3	3	5,04
2	IS230	Algorithm and Programing	Compulsory	3			3		3	5,04
3	IS105	ERP Fundamental	Compulsory	3	2	1			3	5,04
4	IS104	Operating Systems Concept	Compulsory	2		1		1	2	3,36
5	IF120	Discrete Mathematics	Compulsory	3		3			3	5,04
6	UM152	Religion	Compulsory	2				2	2	3,36
7	UM162	Pancasila	Compulsory	2		2			2	3,36
8	UM122	English I	Compulsory	2				2	2	3,36
9	IS321	Information Systems Analysis and Design	Compulsory	3		1	2		3	5,04
10	IS240	Probability and Statistics	Compulsory	3			3		3	5,04
11	IS202	Object-Oriented Programming	Compulsory	3			3		3	5,04
12	IS203	Applied ERP	Compulsory	3	2	1			3	5,04
13	IS652	Seminars on Information Systems	Compulsory	3				3	3	5,04
14	IS341	Database Systems	Compulsory	3		2	1		3	5,04
15	UM223	English II	Compulsory	2				2	2	3,36
16	IS311	Security and Computer Network	Compulsory	2			2		2	3,36
17	IS356	Web Design and Development	Compulsory	3		2	1		3	5,04
18	IS388	Data Analysis	Compulsory	4		2	2		4	6,72
19	IS301	User Experience	Compulsory	3		2	1		3	5,04
20	IS545	Data Warehouse	Compulsory	3			3		3	5,04
21	IS311	Governance, Risk and Compliance	Compulsory	2		2			2	3,36
22	IS429	Big Data Analytics	Compulsory	3		2	1		3	5,04
23	IS313	E-Business	Compulsory	2			2		2	3,36
24	IS412	Data Visualization	Compulsory	2		2			2	3,36
25	IS401	Ethics in Information Technology	Compulsory	2	2				2	3,36
26	IS512	IS Project Management	Compulsory	3				3	3	5,04
27	IS431	Visual Programming	Compulsory	3			3		3	5,04
28	IS411	Data Modeling	Compulsory	2		2			2	3,36
29	EM105	Technopreneurship	Compulsory	3	3				3	5,04
30	IS529	Advanced Big Data Analytics	Compulsory	3		2	1		3	5,04
31	IS660	Information Systems Research Methodology	Compulsory	3		3			3	5,04
32	IS589	IT Service Management	Compulsory	3	2			1	3	5,04
33	IS794	Deep Learning	Compulsory	3		3			3	5,04
34	IS598	Enterprise Architecture	Compulsory	3	2			1	3	5,04
35	UM142	Indonesian Language	Compulsory	2				2	2	3,36
36	UM163	Civics	Compulsory	2				2	2	3,36
37	UM321	English III	Compulsory	2				2	2	3,36
38	IS611	Professional business ethics	Compulsory	3	3				3	5,04
39	IS612	Industry experience	Compulsory	7	7				7	11,76
40	IS613	Industry model validation	Compulsory	7	7				7	11,76
41	IS614	Evaluation and reporting	Compulsory	3	1			2	3	5,04
42	IS711	Internship- Industry Pipeline Knowledge	Elective Internship Track	6	3			3	6	10,08
43	IS712	Internship - Professional Literacy	Elective Internship Track	4	4				4	6,72
44	IS713	Internship - Industry Pipeline Validation	Elective Internship Track	4				4	4	6,72
45	IS714	Internship - Industry Based Project	Elective Internship Track	6	3			3	6	10,08
46	IS534	Mobile Application Development	Elective Course Track	3			3		3	5,04
47	IF540	Machine Learning	Elective Course Track	3		3			3	5,04
48	IS419	Database Administration	Elective Course Track	3			2	1	3	5,04
49	IS439	ERP Configuration	Elective Course Track	3			3		3	5,04
50	IS519	Database Development	Elective Course Track	3		2	1		3	5,04
51	IS539	ERP Programming	Elective Course Track	3		3			3	5,04
52	IS251	Organizational Behaviour	Elective Course Track	2	1			1	2	3,36
53	SI863	Final Project	Compulsory	6		3	3		6	10,08
		Total All Credits (Compulsory and Elective)							164	275,52
		Total Compulsory Credits			31	36	31	26	124	208,32
		Percentage of Compulsory Credits			25,0%	29,0%	25,0%	21,0%		
		Prerequisite			15-35%	25-35%	15-35%	15-35%		

	Business Fundamental	Business Informatics	Informatics Fundamental	Other Fundamental	Total
Percentage of Compulsory Credits	25,0%	29,0%	25,0%	21,0%	100%

	Business Fundamental	Business Informatics	Informatics Fundamental	Other Fundamental
Number of Compulsory Courses	10	20	17	13
Percentage of Compulsory Courses	23,8%	47,6%	40,5%	31,0%

E Comment of the Higher Education Institution (20.06.2025)

No	Comments from ASIIN experts	Program	Explanations from the University to clarify the ASIIN comments
1	Concerns regarding the integration of Technical Ethics into the IF and TK curricula (page 12).	CE, IF	We acknowledge these weaknesses and accept the recommendations provided CE: Starting from next academic year 2025/26, we will update semester 7's course distribution as follows: - Elective courses reduced from 20 -> 18 credits (33.60-> 30.24 ECTS) - Added a mandatory course EEM513 Engineering Ethics (2 credits / 3.36 ECTS) IF: Until the academic year 2024-2025, the Informatics Study Program integrates ethical competencies into its curriculum in several courses: Religion, Pancasila, Civics, Cybersecurity, Computer & Society, Internship, and Final Project. These elements are clearly outlined in the course module descriptions and the official study plan document (RPKPS). However, starting from the next academic year 2025-2026, we create a new mandatory course IF111 Ethics in Informatics (2 credits / 3.36 ECTS) and place it in Semester 1.
2	Comments related to the joint program need to be more reciprocal (page 13).	IF	We acknowledge the valuable inputs from ASIIN experts regarding the Informatics joint degree program. We are already evaluating and adjusting the program to be reciprocal with Swinburne University of Technology Sarawak and Teeside University (UK). This initiative has already started with the university's partner representative to map the curriculum and ensure quality assurance (education quality and standard) compatibility to achieve success in the joint degree program (reciprocal).

No	Comments from ASIIN experts	Program	Explanations from the University to clarify the ASIIN comments
3	Recommendation to increase student intake for CE (page 16).	CE	We acknowledge these weaknesses and accept the recommendations provided The study program, together with the marketing department, will create more impactful programs (campus visit, product / project publication, workshop) to expand exposure to prospective students and prospective parents of new students.
4	In Table 5, column 1, is written “IS” (page 16).	IF	Should be corrected to “IF”
5	Typographical error: UMN is written as UNM (page 20).	-	Should be corrected to "UMN"
6	The percentage of CE lecturers with expertise in the CE field is still recorded as 59% (page 26).	CE	The sentence in SAR was ambiguous. The 59% in SAR is out of all teaching staff (full-time and part-time), not just the full-time staff. It should be “Full-time staff made up 69.2% of the total teaching force, where 85% of all full-time teaching staff had expertise related to the Computer Engineering core competencies” Still referring to Figure 3.1.1 provided in the SAR, below are the numbers reclarified. Full-time staff (69.2%): - with Computer Science background: 85% - without Computer Science background: 15% (Technopreneurship, Civics, Bahasa Indonesia, and English) Part-time staff (30.8%): - with Computer Science background: 50% - without Computer Science background: 50%
7	Recommendation to improve lecturer qualifications (page 27).		We acknowledge these weaknesses and accept the recommendations provided
8	Recommendation to further support research activities,		We acknowledge these weaknesses and accept the recommendations provided

No	Comments from ASIIN experts	Program	Explanations from the University to clarify the ASIIN comments
	such as sabbaticals and improving English proficiency (page 28).		
9	The program website still uses only www.umn.ac.id (pages 10, 11, 32, 33, and 34).	CE, IS, IF	The main website for each study programme are provided below. We are also updating links at https://www.umn.ac.id to refer to the proper sites for each programme. https://si.umn.ac.id https://inf.umn.ac.id https://tk.umn.ac.id
10	Recommendation to further integrate English language in the program (page 14).		We acknowledge these weaknesses and accept the recommendations provided
11	The number of students participating in activities abroad remains low. It is recommended to enhance international cooperation and provide more sustainable scholarships (page 13).		We acknowledge these weaknesses and accept the recommendations provided

F Summary: Expert recommendations (04.07.2025)

Taking into account the additional information and the comments provided by UMN, the experts summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Program	ASIIN Seal	Maximum duration of accreditation
Bachelor Computer Engineering	Without requirements	30.09.2031
Bachelor Information Systems	Without requirements	30.09.2031
Bachelor Informatics	Without requirements	30.09.2031

Recommendations

For all programs:

E 1. (ASIIN 1.1, 1.3) It is recommended that students' communication and problem formulation skills be further strengthened to enhance their academic and professional competence.

E 2. (ASIIN 1.3) It is recommended that international networks be expanded and reinforced to better align with the international aspirations of the programs.

E 3. (ASIIN 1.3, 1.6, 3.1) It is recommended that the role of English within the programs be further emphasized to drive internationalization and student mobility.

E 4. (ASIIN 3.1) It is recommended that research support be actively encouraged and implemented (e.g., in the form of sabbaticals).

For both the Bachelor Computer Engineering and Bachelor Informatics

E 5. (ASIIN 1.3) It is recommended that elements of technical ethics be integrated into the curriculum.

For the Bachelor Informatics

E 6. (ASIIN 1.3) It is recommended that the joint program be thoroughly revised to ensure reciprocity and mutual exchange.

G Comments of the Technical Committees

Technical Committee 04 – Informatics/Computer Science (11.09.2025)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the procedure and makes no changes to the recommendations proposed by the experts. However, the TC introduces a requirement regarding the joint degree, as the report mentions its possibility. The report states that students who participate in this program will 'ultimately earn diplomas from both institutions.' This suggests to the TC that this is a double degree. The TC, therefore, argues that clarity regarding the correct term must be ensured (A 1).

The Technical Committee 04 – Informatics/Computer Science recommends the award of the seals as follows:

Degree Program	**ASIIN Seal**	**Maximum duration of accreditation**
Bachelor Computer Engineering	Without requirements	30.09.2031
Bachelor Informatics	With requirements for one year	30.09.2031

Technical Committee 07 – Business Informatics/Information Systems (12.09.2025)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the procedure and, in particular, whether the curriculum includes sufficient courses in the area of 'business fundamentals' to meet the requirements of SSC 07. SSC 07 normally requires that at least 15% of the curriculum be devoted to this area. However, SSC 07 allows for exceptions, which is why the TC does not impose it as a requirement. However, the TC adds a corresponding recommendation (E 7). Additionally, the TC cannot determine from the report and the documents whether the university divides the individual courses into the four areas of the SSC, which leads to a further recommendation (E 8). Otherwise, the TC follows the experts' assessment without any changes.

The Technical Committee 07 – Business Informatics/Information Systems recommends the award of the seals as follows:

Degree Program	ASIIN Seal	Maximum duration of accreditation
Bachelor Information System	Without requirements	30.09.2031

Requirements

For the Bachelor Informatics

A 1. (ASIIN 4.2) It must be ensured that the correct term is used for the joint degree qualification; double degree for two diplomas or joint degree for one diploma.

Recommendations

For all degree programmes

E 1. (ASIIN 1.1, 1.3) It is recommended that students' communication and problem formulation skills be further strengthened to enhance their academic and professional competence.

E 2. (ASIIN 1.3) It is recommended that international networks be expanded and reinforced to better align with the international aspirations of the programs.

E 3. (ASIIN 1.3, 1.6, 3.1) It is recommended that the role of English within the programs be further emphasized to drive internationalization and student mobility.

E 4. (ASIIN 3.1) It is recommended that research support be actively encouraged and implemented (e.g., in the form of sabbaticals).

For both the Bachelor Computer Engineering and Bachelor Informatics

E 5. (ASIIN 1.3) It is recommended that elements of technical ethics be integrated into the curriculum.

For the Bachelor Informatics

E 6. (ASIIN 1.3) It is recommended that the joint program be thoroughly revised to ensure reciprocity and mutual exchange.

For the Bachelor Information Systems

E 7. (ASIIN 1.3) It is recommended to increase the number of courses related to Business Fundamentals to at least 15% of the curriculum.

E 8. (ASIIN 1.3) It is recommended to assign the individual courses to the four areas: business fundamentals, business informatics, informatics fundamentals, and other fundamentals.

H Decision of the Accreditation Commission (26.09.2025)

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

The Accreditation Commission (AC) discusses the procedure and agrees to the proposed requirement A 1 of TC 04 and the two new recommendations of TC 07. In addition, recommendations E1-E4 are reformulated into active form. Otherwise, the AC follows the experts' assessment without any changes.

The Accreditation Commission decides to award the following seals:

Degree Program	ASIIN Seal	Maximum duration of accreditation
Bachelor Computer Engineering	Without requirements	30.09.2031
Bachelor Information System	Without requirements	30.09.2031
Bachelor Informatics	With requirements for one year	30.09.2031

Requirements and recommendations for the applied labels

Requirements

For the Bachelor Informatics

A 1. (ASIIN 4.2) It must be ensured that the correct term is used for the joint degree qualification; double degree for two diplomas or joint degree for one diploma.

Recommendations

For all degree programmes

E 1. (ASIIN 1.1, 1.3) It is recommended to further strengthen students' communication and problem formulation skills to enhance their academic and professional competence.

E 2. (ASIIN 1.3) It is recommended to expand and reinforce international networks to better align with the international aspirations of the programs.

E 3. (ASIIN 1.3, 1.6, 3.1) It is recommended to further emphasize the role of English within the programs to drive internationalization and student mobility.

E 4. (ASIIN 3.1) It is recommended to actively encourage and implement research support (e.g., in the form of sabbaticals).

For both the Bachelor Computer Engineering and Bachelor Informatics

E 5. (ASIIN 1.3) It is recommended that elements of technical ethics be integrated into the curriculum.

For the Bachelor Informatics

E 6. (ASIIN 1.3) It is recommended that the joint program be thoroughly revised to ensure reciprocity and mutual exchange.

For the Bachelor Information Systems

E 7. (ASIIN 1.3) It is recommended to increase the number of Business Fundamentals courses dealing with business core topics such as but not limited to finance, controlling, marketing, organization, management, logistics/ supply chain management.

E 8. (ASIIN 1.3) It is recommended to revisit the assignment of courses to the four areas business fundamentals, business informatics, informatics fundamentals, and other fundamentals based on common curricula of business informatics studies.

I Fulfilment of Requirements (12.12.2025)

Analysis of the experts and the Technical Committee (28.11.2025)

Requirements

For The Bachelor Informatics

A 1. (ASIIN 4.2) It must be ensured that the correct term is used for the joint degree qualification; double degree for two diplomas or joint degree for one diploma

Initial Treatment	
Experts	Fulfilled. Justification: The university provides several documents providing information on the joint degree such as: an agreement between the two universities, an exemplary transcript and certificate, and an approval letter from the Indonesian Ministry of Research, Technology and Higher Education. These documents prove that “Joint Degree” is the officially used term and as well matching the characteristics of the programme. Therefore, the experts consider the requirement as fulfilled.
TC 04	Fulfilled. Vote: unanimous Justification: The TC follows the experts’ assessment without any changes.

Decision of the Accreditation Commission (12.12.2025)

Degree programme	**ASIIN-label**	**Subject-specific label**	**Accreditation until max.**
Ba Informatics	All requirements fulfilled	-/-	30.09.2031

Appendix: Program Learning Outcomes and Curricula

According to the Self-Assessment Report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree program Computer Engineering:

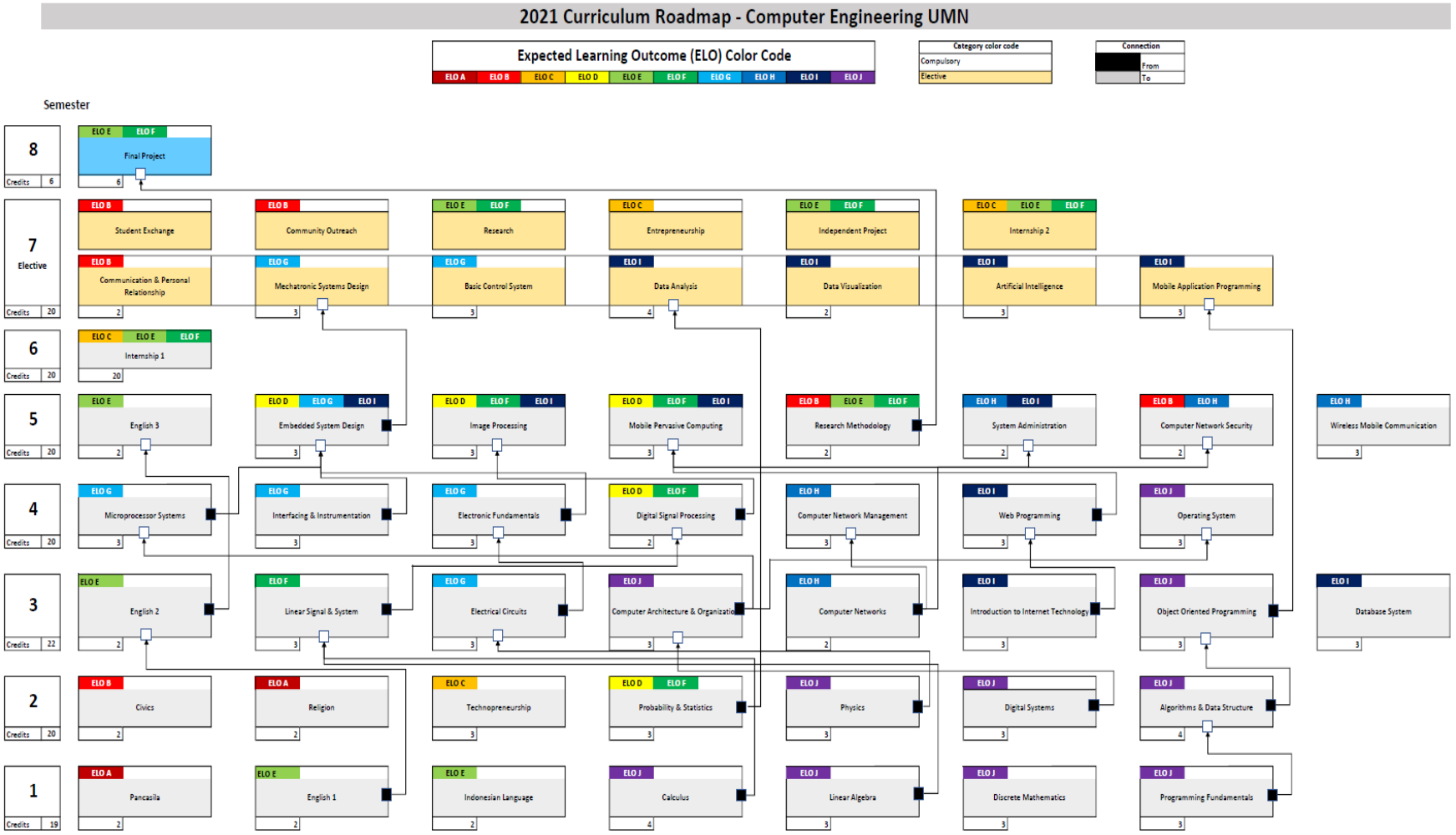
Program Educational Objectives (PEO)

(PEO-1) – Computer Fundamental	Have a breadth of knowledge in mathematics and computer fundamentals with preparation for professional practice.
(PEO-2) – Systems Infrastructure	Have the ability to design networking hardware solutions with additional specifications that exceed simple configuration and assembly.
(PEO-3) – Hardware Engineering	Have the ability to design circuits and computer-based systems and analyze computer hardware components.
(PEO-4) – Systems Integration	Have the ability to integrate aptitudes of electrical engineering, software engineering, and computer science.
(PEO-5) – Engineering Ethics	Understand the societal context and effects in which engineering is practiced.
(PEO-6) – Scientific Research	Have the ability to conduct scientific research and communicate their work in appropriate formats (written, oral, graphical).
(PEO-7) – Entrepreneurship	Have a passion for lifelong learning and the ability to devise technology-based business ideas.

Expected Learning Outcomes (ELO)

(ELO-A) Religiosity	– demonstrate respect for human values and diversities conforming to religion and morals.
(ELO-B) Civics	– demonstrate ethics, social sensitivity, awareness of the nontechnical effects, health, safety, and legal issues as an engineer.
(ELO-C) Entrepreneurship	– develop business concepts for technology-related business based on market analysis.
(ELO-D) Teamwork	– able to work in a team.
(ELO-E) Research	– able to conduct scientific research and construct scientific research documents in accordance with appropriate scientific methods, principles, procedures, and ethics.
(ELO-F) Problem Solving	– Able to identify problems based on data analytics, paired with problem-solving ability that is founded on logical, critical, and systematic thinking.
(ELO-G) Embedded Systems	– able to develop embedded systems with the proper methodologies, techniques, and tools according to user needs.
ELO-H) Infrastructure Technologies	– able to design network and hardware infrastructure in an organizational setup.
(ELO-I) Technology Integration	– able to develop and integrate software and hardware as a distributed system, connected in an infrastructure setup, for the purpose of solving engineering problems adaptively.
(ELO-J) Computer Basics	– have understanding in mathematics, logics, and computer system concepts pertaining to solving engineering problems

The following curriculum is presented:


2021 Curriculum Roadmap - Computer Engineering UMN
Expected Learning Outcome (ELO) Color Code
ELO A ELO B ELO C ELO D ELO E ELO F ELO G ELO H ELO I ELO J
Category color code
Compulsory
Elective
Connection
From
To
Semester
8
Credits 6
Final Project 6
7
Elective
Credits 20
Student Exchange
Community Outreach
Research
Entrepreneurship
Independent Project
Internship 2
Communication & Personal Relationship 2
Mechatronic Systems Design 3
Basic Control System 3
Data Analysis 4
Data Visualization 2
Artificial Intelligence 3
Mobile Application Programming 3
6
Credits 20
Internship 1 20
5
Credits 20
English 3 2
Embedded System Design 3
Image Processing 3
Mobile Pervasive Computing 3
Research Methodology 2
System Administration 2
Computer Network Security 2
Wireless Mobile Communication 3
4
Credits 20
Microprocessor Systems 3
Interfacing & Instrumentation 3
Electronic Fundamentals 3
Digital Signal Processing 2
Computer Network Management 3
Web Programming 3
Operating System 3
3
Credits 22
English 2 2
Linear Signal & System 3
Electrical Circuits 3
Computer Architecture & Organizatio 3
Computer Networks 2
Introduction to Internet Technology 3
Object Oriented Programming 3
Database System 3
2
Credits 20
Civics 2
Religion 2
Technopreneurship 3
Probability & Statistics 3
Physics 3
Digital Systems 3
Algorithms & Data Structure 4
1
Credits 19
Pancasila 2
English 1 2
Indonesian Language 2
Calculus 4
Linear Algebra 3
Discrete Mathematics 3
Programming Fundamentals 3

According to the Self-Assessment Report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree program in Information Systems:

Program Educational Objectives (PEO)

PEO01:	have the capability to continuously apply knowledge and skills in analysing, designing, creating, and evaluating information systems.
PEO02:	have the capability to integrate and utilise appropriate methods or techniques to produce information system solutions that bring value to the organisation.
PEO03:	have the capability to manage data to produce valuable and easy-to-understand information.
PEO04:	have the capability to collaborate and develop business ideas related to the latest information technology.

Expected Learning Outcomes (ELO)

ELO A: Data Expertise	Have the ability identify, process, present, and interpret data to produce valuable and easy-to-understand information.
ELO B: Analytical Thinking	Able to understand and use various system development methodologies along with system modelling tools and analyse user needs in building information systems to achieve organisational goals.
ELO C: Decision-Making	Able to understand, analyse, and assess the basic concepts and roles of information systems in managing data and providing decision-making recommendations on organisational system processes.
ELO D: Design Skills	Able to understand, design, and use database management systems as well as process and analyse data with data processing tools and techniques
ELO E: Ethical Skills	Able to understand and apply the code of ethics in the use of information and data in the design, implementation, and use of a system.
ELO F: Professional Skills	Have the ability to perform independently, be qualified, and be measurable.
ELO G: Entrepreneur Skills	Able to understand the basics of business and business management and develop business ideas related to information technology.
ELO H: Communication Skills	Have the ability to communicate well and cooperate in groups also able to supervise and evaluate the performance of their groups.
ELO I: Teamwork	Have the ability to work together in teams to achieve common goals and can evaluate team performances.
ELO J: Lifelong Learning	Have the awareness to update their knowledge throughout life continuously.

The following curriculum is presented:

SEMESTER 1

NO	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
				Lecture	Lab	Total	
1	IS100	Management Information Systems	Compulsory	3	0	3	5.04

NO	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
2	IS230	Algorithm and Programming	Compulsory	2	1	3	5.04
3	IS105	ERP Fundamental	Compulsory	3	0	3	5.04
4	IS104	Operating System Concept	Compulsory	2	0	2	3.36
5	IF120	Discrete Mathematics	Compulsory	3	0	3	5.04
6	UM152	Religion	Compulsory	2	0	2	3.36
7	UM162	Pancasila	Compulsory	2	0	2	3.36
8	UM122	English I	Compulsory	2	0	2	3.36
				19	**1**	**20**	**33.60**

SEMESTER 2

O	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
				Lecture	Lab	Total	
1	IS321	Information Systems Analysis and Design	Compulsory	3	0	3	5.04
2	IS240	Probability and Statistics	Compulsory	2	1	3	5.04
3	IS202	Object-Oriented Programming	Compulsory	2	1	3	5.04
4	IS203	Applied ERP	Compulsory	2	1	3	5.04
5	IS652	Seminars on Information Systems	Compulsory	3	0	3	5.04
6	IS341	Database Systems	Compulsory	2	1	3	5.04
7	UM223	English II	Compulsory	2	0	2	3.36
				16	**4**	**20**	**33.60**

SEMESTER 3

NO	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
				Lecture	Lab	Total	
1	IS311	Security and Computer Network	Compulsory	1	1	2	3.36

NO	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
2	IS556	Web Design and Development	Compulsory	2	1	3	5.04
3	IS388	Data Analysis	Compulsory	2	2	4	6.72
4	IS301	User Experience	Compulsory	3	0	3	5.04
5	IS545	Data Warehouse	Compulsory	2	1	3	5.04
6	IS511	Governance, Risk and Compliance	Compulsory	2	0	2	3.36
7	IS429	Big Data Analytics	Compulsory	2	1	3	5.04
				14	**6**	**20**	**33.60**

SEMESTER 4

NO	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
				Lecture	Lab	Total	
1	IS513	E-Business	Compulsory	2	0	2	3.36
2	IS412	Data Visualization	Compulsory	1	1	2	3.36
3	IS401	Ethics in Information Technology	Compulsory	2	0	2	3.36
4	IS512	IS Project Management	Compulsory	3	0	3	5.04
5	IS431	Visual Programming	Compulsory	2	1	3	5.04
6	IS411	Data Modeling	Compulsory	1	1	2	3.36
7	EM105	Technopreneurship	Compulsory	3	0	3	5.04
8	IS529	Advanced Big Data Analytics	Compulsory	2	1	3	5.04
				16	**4**	**20**	**33.60**

SEMESTER 5

NO	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
				Lecture	Lab	Total	

NO	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
1	IS660	Information Systems Research Methodology	Compulsory	3	0	3	5.04
2	IS589	IT Service Management	Compulsory	3	0	3	5.04
3	IS794	Deep Learning	Compulsory	2	1	3	5.04
4	IS598	Enterprise Architecture	Compulsory	3	0	3	5.04
5	UM142	Indonesian Language	Compulsory	2	0	2	3.36
6	UM163	Civics	Compulsory	2	0	2	3.36
7	UM321	English III	Compulsory	2	0	2	3.36
				17	**1**	**18**	**30.24**

SEMESTER 6

NO	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
				Lecture	Lab	Total	
1	IS611	Professional Business Ethics	Compulsory	3	0	3	5.04
2	IS612	Industry Experience	Compulsory	7	0	7	11.76
3	IS613	Industry Model Validation	Compulsory	7	0	7	11.76
4	IS614	Evaluation and Reporting	Compulsory	3	0	3	5.04
				20	**0**	**20**	**33.60**

SEMESTER 7

NO	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
				Lecture	Lab	Total	
1	IS711	Internship- Industry Pipeline Knowledge	Elective Internship Track	6	0	6	10.08
2	IS712	Internship – Professional Literacy	Elective Internship Track	4	0	4	6.72

NO	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
3	IS713	Internship – Industry Pipeline Validation	Elective Internship Track	4	0	4	6.72
4	IS714	Internship – Industry Based Project	Elective Internship Track	6	0	6	10.08
				20	**0**	**20**	**33.60**

*In addition to internships, students can choose Cross-Program Elective Course

SEMESTER 8

O	COURSE CODE	COURSE NAME	COURSE TYPE	CREDIT			ECTS
				Lecture	Lab	Total	
1	SI863	Final Project	Compulsory	6	0	6	10.08
				6	**0**	**6**	**10.08**

According to the Self-Assessment Report, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Bachelor's degree program Informatics:

Program Educational Objectives (PEO)

(PEO 1)	produce graduates who are competent in the fields of intelligent systems, software development, computer systems and networks, and use their expertise to build and develop systems based on computer science.
(PEO 2)	- produce graduates who understand the development, engineering, and construction of systems in the fields of intelligent systems, software development, systems, and network security based on professional ethics imposed in computer science
(PEO 3)	- produce graduates who carry out lifelong learning and innovating solution with technopreneur concept in the field of informatics which then continues to be applied when graduates work nationally and internationally, conduct research, community service in order to face the global era of industry 4.0.

Expected Learning Outcomes (ELO)

(ELO 1)	Ethical and Religiosity Skill: Students can apply religious and divine values, ethics, and morals in learning and teamwork in their studies in the field of informatics studies
(ELO 2)	Analytical Thinking: Students are able to master basic concepts and theories as well as applied concepts and are able to implement these relationships with an informatics scientific approach and utilize this knowledge to find solutions to problems related to the fields of intelligent systems, information security, game development, and software development.
(ELO 3)	Communication Skill: Students can communicate effectively independently or in groups and are able to conduct measurable performance appraisals.
(ELO 4)	Professional Skill: Students have work skills and are able to collaborate in the field of informatics to be able to compete nationally and globally.
(ELO 5)	Technopreneur Skill: Students are able to combine technical skills and entrepreneurial concepts in meeting business demands and societal demands.
(ELO 6)	Software Developing Skill: Students are able to apply Informatics science theoretically and technically in the form of system requirements gathering and analysis, design and implementation using programming
(ELO 7)	System Administrator: Students are able to manage certain applications or software, including computer systems, database management systems, security systems and intranet systems.
(ELO 8)	Research Skill: Students are able to implement Informatics science and compile scientific descriptions of research results.
(ELO 9)	Long life learning: Students can improve their skills in Informatics through lifelong learning.

The following curriculum is presented: