# ASIIN Seal

# Accreditation Report

## Bachelor's Degree Programmes
***Mathematics***
***Physics***

Provided by
**Universitas Islam Negeri Maulana Malik Ibrahim Malang**

Version: 26 September 2025

# Table of Content

# A About the Accreditation Process

| Name of the degree programme (in original language) | (Official) English translation of the name | Labels applied for [1] | Previous accreditation (issuing agency, validity) | Involved Technical Committees (TC)[2] |
|---|---|---|---|---|
| Program Studi Fisika | Physics Study Programme | ASIIN | | 13 |
| Program Studi Matematika | Mathematics Study Programme | ASIIN | | 12 |
| **Date of the contract:** 28.05.2024<br>**Submission of the final version of the self-assessment report:** 07.02.2025<br>**Date of the onsite visit:** 05.-06.05.2025<br>**at:** Campus UIN Malang | | | | |
| **Expert panel:**<br>Prof. Dr. Gert-Ludwig Ingold, University of Augsburg<br>Prof. Dr. Norbert Kalus, Berlin University of Applied Sciences and Technology<br>Prof. Dr. Setia Pramana, Politeknik Statistika STIS, BPS Statistics Indonesia<br>Ariqah Mumtazah, Student at the Hasanuddin University | | | | |
| **Representative of the ASIIN headquarter:** Dr. Natalia Vega | | | | |
| **Responsible decision-making committee:** Accreditation Commission for Degree Programmes | | | | |
| **Criteria used:** | | | | |

[1] ASIIN Seal for degree programmes.
[2] TC: Technical Committee for the following subject areas: TC 12 - Mathematics; TC 13 – Physics.

| | |
|---|---|
| European Standards and Guidelines as of May 15, 2015<br><br>ASIIN General Criteria, as of March 28, 2023<br><br>Subject-Specific Criteria of Technical Committee 12 – Mathematics as of December 9, 2016<br><br>Subject-Specific Criteria of Technical Committee 13 – Physics as of March 20, 2020 | |

# B Accreditation Status

## Result Overview

The most recent decision for the ASIIN Seal was made by the ASIIN Accreditation Commission on 26 September 2025.

| Degree Programmes | ASIIN Seal | Validity |
|---|---|---|
| Ba Physics | Accredited with requirements | 30.09.2025 - 17.01.2027 |
| Ba Mathematics | Accredited with requirements | 30.09.2025 - 17.01.2027 |

## Fulfilment of the Accreditation Criteria

| ASIIN General Criteria / Subject-Specific Criteria | Ba Physics | Ba Mathematics |
|---|---|---|
| **1 Degree programme: Concept, Content & Implementation** | | |
| *1.1 Objectives and learning outcomes (intended qualification profile)* | **Not fulfilled**<br>Requirement A4 | Fulfilled |
| *1.2 Title of the degree programme* | Fulfilled | Fulfilled |
| *1.3 Curriculum* | **Not fulfilled**<br>Requirements A5, A6 | **Not fulfilled**<br>Requirement A7 |
| *1.4 Admission requirements* | **Not fulfilled**<br>Requirement A1 | **Not fulfilled**<br>Requirement A1 |
| *1.5 Workload and credits* | **Not fulfilled**<br>Requirement A2 | **Not fulfilled**<br>Requirement A2 |
| *1.6 Didactics and teaching methodology* | Fulfilled | Fulfilled |

| **ASIIN General Criteria / Subject-Specific Criteria** | **Ba Physics** | **Ba Mathematics** |
|---|---|---|
| | | |
| **2 Exams: System, Concept and Organisation** | | |
| *2 Exams: System, Concept and Organisation* | Fulfilled | **Not fulfilled**<br>Requirement A7 |
| **3 Resources** | | |
| *3.1 Staff and staff development* | Fulfilled | Fulfilled |
| *3.2 Student support and student services* | Fulfilled | Fulfilled |
| *3.2 Funds and equipment* | Fulfilled | Fulfilled |
| **4 Transparency and Documentation** | | |
| *4.1 Module descriptions* | Fulfilled | **Not fulfilled**<br>Requirement A7 |
| *4.2 Diploma and Diploma Supplement* | **Not fulfilled**<br>Requirements A2, A3 | **Not fulfilled**<br>Requirements A2, A3 |
| *4.3 Relevant rules* | Fulfilled | Fulfilled |
| **5 Quality Management: Quality Assessment and Development** | | |
| *5 Quality Management: Quality Assessment and Development* | Fulfilled | Fulfilled |

# Requirements

**For all programmes**

A 1. (ASIIN 1.4) The admission regulations need to be modified. Students may not be excluded from admission on the basis of color blindness.

A 2. (ASIIN 1.5, 4.2) Ensure that the actual student workload for the Bachelor's thesis is adequately documented, for instance in terms of ECTS in the Diploma Supplement.

A 3. (ASIIN 4.2) Make individual student performance in the Diploma Supplement comparable by adding a grade distribution of the corresponding cohort.

**For The Bachelor's Programme Physics**

A 4. (ASIIN 1.1) The graduate profiles and the programme learning outcomes need to be aligned.

A 5. (ASIIN 1.3) The module titles need to be aligned with the module content.

A 6. (ASIIN 1.3) The module handbook needs to make clear in which compulsory modules basic aspects of molecular physics and elementary particle physics are taught.

**For The Bachelor's Programme Mathematics**

A 7. (ASIIN 1.3, 2, 4.1) The module handbook needs to be reviewed and updated. All compulsory courses including final thesis and electives need to be included in the module descriptions.

# Accreditation History

The programmes have not been previously accredited by ASIIN.

# C Characteristics of the Degree Programmes

| a) Name | Final degree (original/ English translation) | b) Areas of Specialization | c) Corres-ponding level of the EQF[3] | d) Mode of Study | e) Dou-ble/Joi nt Degree | f) Duration | g) Credit points/ unit | h) Intake rhythm & First time of offer |
|---|---|---|---|---|---|---|---|---|
| Program Studi Matematika/ Mathematics Study Programme | S.Mat./ B.Sc. | - Algebra<br>- Analysis<br>- Applied Mathematics<br>- Statistics<br>- Computation | 6 | Full time | No | 8 semesters (4 years) | 148 credits (217.56 ECTS) | 2002 |
| Program Studi Fisika/ Physics Study Programme | S.Si./ B.Sc. | - Physics Instrumentation<br>- Material physics<br>- Geophysics<br>- Biophysics and Medical physics | 6 | Full time | No | 8 semesters (4 years) | 148 credits (217.56 ECTS) | 2002 |

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

## Introduction

Universitas Islam Negeri Maulana Malik Ibrahim Malang (commonly known as UIN Malang or UIN Maliki) is a public Islamic university located in Malang, East Java, Indonesia. It was officially established on June 21, 2004, but its roots trace back to 1961. The study programmes offered by the UIN Malang combine Islamic teachings with modern sciences in its academic approach. It has, currently, 7 faculties and around 19,000 students.

The Faculty of Science and Technology at UIN Malang comprises eleven undergraduate programmes among which are the Bachelor's programmes in Physics and Mathematics which are subject of this accreditation, and two Masters programmes.

For the **Bachelor's degree programme Physics (BPP)**, the institution has presented the following profile on its website:

**Vision:**

"The realization of an integrative Physics Study Program in combining science and Islam with an international reputation."

**Mission:**

1. "Producing Physics graduates with ulul albab character
2. Producing science, technology, and art in Physics that is relevant and highly competitive."

**Scientific Vision:**

"Developing physics that combines science and Islam through learning and research in the fields of renewable energy, advanced materials, environment, health and food security to produce graduates with ulul albab character".

For the **Bachelor's degree programme Mathematics (BPM)**, the institution has presented the following profile on its website:

**Scientific vision:**

"The realization of a Mathematics Study Program that develops mathematics education and learning using local wisdom-based machine learning principles in combining science and Islam with an international reputation."

**Mission:**

1. “Organising education in the field of science, and technology that is superior and Islamic in spirit.
2. Organising research for the development of Science and Technology that contributes to the development of the people and the world.
3. Establish partnerships and provide services to the community based science and technology products.

Develop a good governance system based on the utilisation of information technology.”

## Summary

The expert panel conducted a comprehensive audit of the Bachelor's programmes in Mathematics and Physics and highlighted a number of positive aspects. One key strength is the faculty’s proactive approach in seeking external advice—such as through the Senior Expert Service — which has led to tangible improvements. Students reported being generally satisfied, demonstrated good English proficiency, and felt well supported by their lecturers, who take their concerns seriously. The university also shows a commendable commitment to supporting students with disabilities.

Another positive aspect is the requirement for first-year students to live in a dormitory, which appears to foster a supportive academic environment and may help to build strong peer networks and an engaged alumni community. The final theses submitted by students in both programmes were found to be of very high quality. Furthermore, staff expressed strong satisfaction with their working conditions. The university's external communication was also praised—its website is seen as effective in attracting prospective students, and informing students about the important news.

At the same time, the panel identified several areas for further improvement. It is important that UIN ensures equal access to study opportunities and does not exclude applicants on the basis of colour blindness. Additionally, the Diploma Supplements and module handbooks across all programmes should be revised and complemented. For the Physics programme, some module titles need to be aligned with the module content and the graduate profiles with the intended learning outcomes. Furthermore, the tracer study questionnaire should be revised to avoid potential misunderstandings by alumni.

For both programmes, the panel recommends enhancing the international experience of the teaching staff. In addition, to modernize laboratory equipment, the university should seek increased collaboration with other academic institutions and the private sector,

possibly through joint funding of centralized research labs. Lastly, stronger involvement of industry in curriculum development is encouraged, for example by inviting industry representatives to conduct workshops for students.

Overall, the programmes provide a solid foundation with significant potential for further development and alignment with international academic standards.

# D Expert Report for the ASIIN Seal

## 1. The Degree Programme: Concept, Content & Implementation

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

**Evidence:**

- Self-Assessment Report (SAR)
- Programme-specific Objectives and Learning Outcomes
- Relation between PLO and ASIIN SSC
- Mapping between PLO and Course
- Graduate Profiles and Competency Description
- Graduate Profile Linkage Matrix with PLOs
- Tracer Study Report
- Curriculum Book for each programmes
- PLO-Course Outcomes intercorrelation
- Module Handbook for each programme
- Diploma Supplement for each programme
- Website of BPM: https://matematika.uin-malang.ac.id/
- Website of BPP: https://fisika.uin-malang.ac.id/
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**

The experts refer to the respective ASIIN Subject Specific Criteria (SSC) of Technical Committee 13 (Physics) and 12 (Mathematics), to the learning module matrices for each programme and to the modules as a basis for assessing whether the intended learning outcomes of the programmes under review correspond to the competences as outlined in the SSC.

The objectives for each programme are described in the SAR and can be also found in the curriculum book as well as on the website (see **Appendix** below). The Programme

Educational Objectives (PEO) are based on the vision and mission of the programmes as well as the competency ranking of the Indonesian National Qualifications Framework (KKNI) Level 6 graduates. Additionally, several important indicators are taken into account including SWOT analysis and industry needs analysis. Regular evaluation is carried out annually. Curriculum review activities for preparing the PEO take place every four years and involve university and faculty leaders, academic staff, all lecturers, students, alumni, stakeholders, graduate users, and curriculum experts/professionals. The results are reported in the Outcome-Based Education (OBE) system, which enables the programme coordinators to analyse and evaluate the results for the purpose of continuous improvement. The results are then shared with the teachers. PLO development also includes SWOT analysis, needs analysis, market signals, alumni tracking (tracer study), stakeholders' feedback and recommendations from relevant study programme associations. Furthermore, advise from externals experts are considered such as Senior Expertise Service from Germany regarding **BPM**.

Following graduate profiles for **BPP** are provided:

| Graduate Profile | Code | Description | Competency |
|---|---|---|---|
| Research Assistant | GP-01 | Research assistant who is able to design appropriate physics research procedures, analyze data accurately, compile research reports according to scientific standards based on Islamic values. | - Able to design appropriate and accurate physics research procedures in the laboratory.<br>- Able to interpret physics research data appropriately using statistical analysis and related software.<br>- Able to compile systematic research reports according to scientific standards.<br>- Able to apply ethical and moral principles, based on Islamic values in research. |
| Practician | GP-02 | Physics Practitioner who can analyse physics concepts to solve industrial and technological problems, as well as create technopreneurship opportunities based on Islamic values. | - Able to apply physics concepts to solve practical problems in industry and technology<br>- Able to predict innovative solutions that follow market needs<br>- Able to create technopreneurship opportunities based on physics technology.<br>- Able to make decisions based on ethics, morals, and social responsibility under Islamic values, in every step of innovation and technology development. |
| Academician | GP-03 | Academician who develops physics knowledge for educational purposes based on Islamic values. | - Able to develop physics concepts effectively for educational purposes in physics.<br>- Able to design experiments that are relevant based on fundamental principles of physics.<br>- Able to communicate effectively, both orally and in writing, in areas related to physics. |

For **BPM**, the graduate profiles are as follows:

| Graduate Profiles | Code | Description | Competency |
|---|---|---|---|
| Academician | GP1 | A graduate who actively engages in the delivery of specialized educational services and responsibilities within their respective fields of expertise. | - Able to develop mathematics concepts for educational mathematics related areas.<br>- Able to solve mathematics related problems.<br>- Able to integrate mathematical concepts with character based on the Qur'an, Hadith, and Pancasila.<br>- Able to communicate orally and written form for mathematics related areas effectively. |
| Research Assistant | GP2 | A graduate who is tasked with gathering materials from archives, conducting comprehensive literature reviews, and conducting interviews to assist in publishing research findings. | - Able to design research procedures suitable for mathematics related problems.<br>- Able to interpret statistical analysis in various contexts.<br>- Able to exhibit noble character based on the Qur'an, Hadith, and Pancasila.<br>- Able to communicate orally and written form for mathematics related areas effectively. |
| Data Scientist | GP3 | A graduate who uses computer science, statistics, and mathematics to collect, evaluate, and analyze large and structured or unstructured datasets. | - Able to create routine programs to analyze data.<br>- Able to integrate different statistical methods for problem solving.<br>- Able to exhibit noble character based on the Qur'an, Hadith, and Pancasila.<br>- Able to communicate orally and written form for mathematics related areas effectively. |
| Programmer | GP4 | A graduate who is responsible for developing software by creating and implementing computational algorithms. | - Able to develop software computational algorithms.<br>- Able to analyze debugging results of the computational programming.<br>- Able to exhibit noble character based on the Qur'an, Hadith, and Pancasila.<br>- Able to communicate orally and written form for mathematics related areas effectively. |
| Practitioners (Industry, Services, Government) | GP5 | A graduate who specializes in Mathematical Modelling, Finance, and Optimization excels in building models for various industries. | - Able to evaluate mathematical models to solve real-world problems in industry.<br>- Able to analyze financial data and assess risk using quantitative methods.<br>- Able to create optimization strategies to improve efficiency and decision-making processes.<br>- Able to interpret results from complex models and simulations to support business and financial decisions.<br>- Able to evaluate resource allocation scenarios to maximize efficiency in operational contexts.<br>- Able to design predictive models for financial markets and business forecasting.<br>- Able to optimize processes and workflows using mathematical algorithms and techniques.<br>- Able to exhibit noble character based |
| **Graduate Profiles** | **Code** | **Description** | **Competency** |
| Entrepreneur | GP6 | A graduate who organizes and manages mathematical ventures on creating mathematics related new economic opportunities within mathematics. | - Able to develop innovative business models that leverage mathematical principles to create new economic opportunities.<br>- Abe to synthesize mathematical concepts into viable products or services for emerging markets. |

| Graduate Profiles | Code | Description | Competency |
|---|---|---|---|
| | | | - Able to formulate strategies for scaling mathematical ventures and maximizing impact in industry.<br>- Able to design comprehensive solutions to address complex market needs using advanced mathematical techniques.<br>- Able to evaluate the feasibility and profitability of new business ideas grounded in mathematical innovation.<br>- Able to generate innovative approaches to solving economic challenges by applying mathematical theories.<br>- Able to communicate effectively and act objectively.<br>- Able to exhibit noble character based on the Qur'an, Hadith, and Pancasila. |

The tracer study activities are carried out on an annual basis, and a university's tracer study report is distributed. According to the results of the tracer study from 2022 provided for **BPP**, 75% of respondents stated that they were in employment, with the majority of these working full-time. 25% of respondents stated that they were continuing their studies, while 0% of respondents indicated that they were not in employment or were entrepreneurial. In addition, the survey reveals that 64% of respondents were employed by educational institutions, 18% by private companies, 9% by government institutions, and 9% by state-owned enterprises. With regard to the waiting period that alumni experience when seeking their first position, 92% of respondents stated that they needed approximately 0-6 months to secure their initial employment.

It is noteworthy that the alumni's opinions on the relevance of the field of science or the subject studied in **BPP** to work are, according to the tracer study, as follows: In terms of the suitability of the field of science for work, 0% of respondents found it very suitable, 27% found it suitable, 27% found it less suitable, and 46% found it not suitable.

The tracer study results for the **Bachelor's Programme in Mathematics (BPM)** indicate that 68% of graduates were employed in 2022, most of which in full time job. Among those not employed, 16% stated that they were not working, 14% indicated that they were continuing their studies, and 2% declared that they were entrepreneurial. The majority of **BPM** alumni are employed by educational institutions, while 22% work for private companies. For the majority of respondents (84%), the waiting period to secure a position is between 0 and 6 months. Furthermore, 9% of respondents indicated that the field of knowledge they obtained was highly suitable for their professional endeavours. Meanwhile, 49% of respondents stated that it was somewhat suitable, 39% indicated that it was less suitable, and 3% stated that it was not suitable.

The experts observe that, according to the results of the tracer study, for **BPP**, the tracer study shows that only 27% of students find that their field of study is suitable for their job. Therefore, they inquired about the reasons for this situation and the reasons why only 55% of Physics alumni stated that the programme supports employment. The programme coordinators assume that alumni may not realise that they use subject-specific knowledge in their job, neglecting the other competencies acquired during their studies. This can create the impression that their studies are not directly related to their current area of work. Therefore, there may have been a misunderstanding because the question is too general, and alumni expect total alignment, which would be unrealistic. The team of experts understands this well. In contrast, discussions with alumni revealed that they believe their studies contributed to their professional success.

The experts confirm that the module descriptions include learning outcomes for each module of the programmes under review. As explained by the programme coordinators, learning outcomes are updated based on alumni and employer feedback in a general review every four years and for minor revisions every two years.

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

The descriptions of the qualification objectives for both programmes include the competences achieved and the possible career opportunities for graduates. The objectives and learning outcomes are made available to all stakeholders as they can be found on the university's website. Based on a learning objectives-module matrix describing the modules in which students learn the competences envisaged in the PLOs, the expert group considers that the intended learning outcomes of the programmes are suitable for producing qualified graduates. One key strength is the faculty's proactive approach in seeking external advice—such as through the Senior Expertise Service for BPM — that has led to tangible improvements.

However, the experts observe that the graduate profiles of **BPP** seem to stress more the experimental side while programme learning outcomes emphasize more the theoretical side and experimental physics is not mentioned explicitly. For these reasons, the experts are of the opinion that for the **BPP**, the graduate profiles and the programme learning outcomes need to be aligned.

Additionally, modifications to the questionnaire for the tracer studies for the **Bachelor's Physics Programme** are necessary to ensure clarity and avoid potential misunderstandings by the alumni (see also below **5**). Furthermore, the experts have been informed that the most recent tracer study was conducted in 2024, whereas the results provided for **BPP** are

from 2022. Therefore, they request that the university provide the results of the 2024 tracer study for **BPP**.

## Criterion 1.2 Name of the Degree Programme

**Evidence:**

- Self-Assessment Report (SAR)
- Curriculum Book for each programme
- Module Handbook for each programme
- Website of BPM: https://matematika.uin-malang.ac.id/
- Website of BPP: https://fisika.uin-malang.ac.id/
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**
As stated in the SAR, the names of the programmes under review are in accordance with the "Decree of the Minister of Research, Technology and Higher Education of the Republic of Indonesia No. 163/E/KPT/2022".

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

The English translation and the original Indonesian name of the Bachelor's degree programmes under review correspond with the intended aims and learning outcomes. They agree that the teaching and learning content and the competence profile are consistent with the proposed titles of both programmes.

## Criterion 1.3 Curriculum

**Evidence:**

- Self-Assessment Report (SAR)
- Study Plan for each programme
- Module Handbook for each programme
- Curriculum Book for each programme
- Mapping between PLO and Course
- Matrix of Linkage of Study Materials with Courses
- Research Roadmaps
- Curriculum development guidelines in the industrial era 4.0 to support independent learning - Merdeka Campus

- Student Exchange activities
- International Cooperation Agreements
- Website of BPM: https://matematika.uin-malang.ac.id/
- Website of BPP: https://fisika.uin-malang.ac.id/
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**
Content and structure of the programme

Both study programmes are four-year programmes (8 semesters) with a maximum of 14 semesters according to the regulations of Minister of Education and Culture with 148 credits (equivalent to 217.56 ECTS), upon completion of which graduates are awarded a Bachelor of Sciences (B.Sc.).

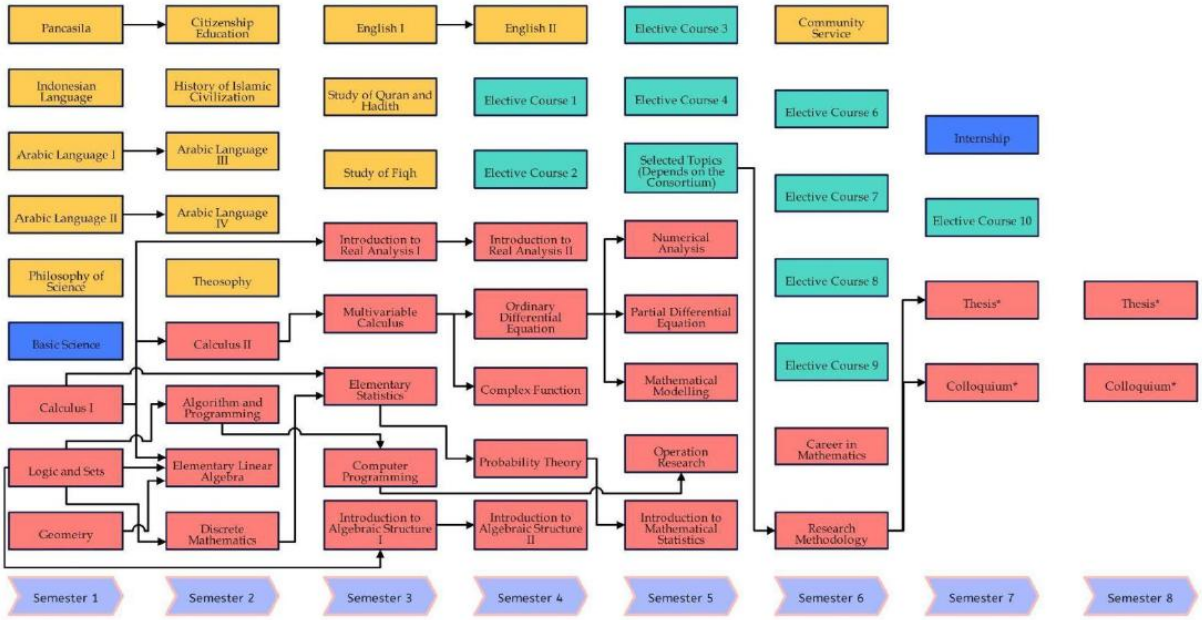
Both bachelor programmes include general compulsory courses (e.g. Indonesian, Arabic, History of Islamic Civilisation and Pancasila) in the first three semesters. English Language courses are also offered in the third and fourth semesters. From the fifth to the seventh semester, students can choose to take elective courses or participate in the Independent Study Programme (MBKM) which includes participation in several activities such as student exchanges, summer schools, workshops etc. The programmes also include an internship programme (PKL) and community service (KKM). The internship is mandatory, counting 2.94 ECTS. To take part in the internship, students are required to have completed 100 credits (160 ECTS) which is normally the case in the fifth semester. The internship is carried out in groups or individually in industrial or research organisations related to the programme and its duration is one month following the local institution's rules. The internship locations are chosen by the students based on the specialization field selected. The programme provides cover letters for applications. During and after the internship, students undergo assessments by their supervisors, one at the location and one from their faculty. The students are required to prepare a report and register for the PKL seminar exam. The final grade for the PKL is based on the field supervisor's and academic supervisor's evaluations.

For **BPP**, the following study plan is presented:

| Semester 1 | Semester 2 | Semester 3 | Semester 4 | Semester 5 | Semester 6 | Semester 7 | Semester 8 |
|---|---|---|---|---|---|---|---|
| Pancasila | Civic Education | English Language I | English Language II | Mathematical Physics III | Student Work Course | Undergraduate Thesis | |
| Indonesian Language | Arabic Language III: Advanced Listening and Speaking | Study of the Qur'an and Al Hadith | Instrumentation and Measurement | Electricity and Magnetism II | Internship | Elective Course | |
| Arabic Language I: Intermediate Listening and Speaking | Arabic IV | Study of Fiqh | Renewable Energy | Introduction of Nuclear Physics | Statistical Physics | | |
| Arabic Language II: Intermediate Reading and Writing | History of Islamic Civilization | Fluid Physics | Mathematical Physics II | Optics | Introduction of Solid State | | |
| Philosophy of Science | Theosophy | Mathematical Physics I | Electronics II | Quantum Physics | Physics Seminars | | |
| Fundamental of Mathematics I | Fundamental of Mathematics II | Electronics I | Waves | Thermodynamics | Elective Course | | |
| Biology | Fundamental of Physics II | Classical Mechanics | Digital Electronics | Research Methods | | | |
| Fundamental of Chemistry | Earth Science | Modern Physics | Electricity and Magnetism I | Entrepreneurship | | | |
| Fundamental of Physics I | Statistics | Alternating Current | Signal Processing | Elective Course | | | |
| Practical Astronomy | Algorithms and Programming | Experimental Physics | Experimental Physics I | | | | |

**BPP** curriculum integrates several scientific disciplines, such as Instrumentation and Computing (integration of expertise in instrumentation systems supported by mastery of computing science), Geophysics (integration of physics and its application in geology), Biophysics (integration of physics and its application in biology), and Materials Physics (integration of physics to study the characteristics of materials), with theoretical physics forming the basis. Based on these areas of interest, students can choose 10 elective courses from a catalogue of 50 elective courses. Two are available in semester 5, six in semester 6 and two in semester 7. A comprehensive list of electives is included in the module handbook.

**BPM** presents the following curriculum structure:




**BPM** comprises five scientific consortiums: Analysis, Algebra, Applied Mathematics, Statistics, and Computation. In the semester break between third and fourth semester, a placement test is conducted to group students according to research groups of called “scientific consortiums”. All elective courses taken by students must be in accordance with the chosen consortium. Two elective courses can be selected in the 4th semester, three in the 5th semester (one of them having to be Capita Selecta), four in the 6th semester and one in the 7th semester. Each of these courses has a weight of 3 credits or 4.41 ECTS.

The experts discuss the integration of Islamic knowledge and science with the programme coordinators, as well as the formation of an ulul albab character as mentioned in the SAR. The programme coordinators explain that students must understand the Quran and find links between the topics discussed in the course and some Quran passages. They also emphasise that the ulul albab character involves developing a good character, positive personality and a willingness to share knowledge with others. Students interviewed expressed their appreciation for UIN Malang's Islamic focus and its approach to the interrelation between science and religion.

Regarding the internship, the students express satisfaction with the possibility to undertake one, and are confident that the programme will prepare them well by improving their practical skills. The industrial representatives who were present and had hosted UIN Malang interns emphasise that UIN students have a solid knowledge and skill base, are quick learners and can work well in a team.

Student mobility

In the SAR, several programmes for national mobility implemented by the Faculty are mentioned such as student exchange activities with UIN North Sumatra, UIN Sunan Kalijaga Yogyakarta and Jember State University. In addition, internship activities at research institutions and companies are also offered. Furthermore, the Faculty of Science and Technology offers students the opportunity to study for one semester at other Indonesian universities through a national student mobility programme (PERMATA), organized by the Ministry of Indonesian Religious Affairs.

The rectorate emphasises that UIN Malang collaborates with several institutions abroad such as California Polytechnic State University, Fukuoka University and Hiroshima University in Japan, King Mongkuts University of Technology Thonburi (KMUTT) in Thailand, Universiti Malaysia, University Sains Islam Malaysia (USIM) and Technological University of Malaysia. Scholarships offered by the Ministry are available to support stays abroad.

**BPP** has run summer school activities at universities abroad, e.g. Universiti Kebangsaan Malaysia (UKM), University Sains Malaysia (USM), Chulalongkorn University in Thailand and Fukuoka University in Japan. Students of **BPM** have also completed internships abroad at King Mongkut's University of Technology Thonburi (KMUTT) in Thailand and Ondokuz Mayis University in Turkey. In terms of incoming students, UIN Malang has hosted several international students for short stays, including some from Turkey and a group of students from Australia. Currently, the Mathematics programme has a student from Tajikistan.

During on-site discussions, some students reported on their experiences of short stays in countries such as France and Thailand. They emphasised that they were encouraged to apply for scholarships and that all relevant information could be found on the department's website. The international students present at the on-site discussion feel well-supported by the university.

Periodic Review of the Curriculum

As stated in the SAR, the curricula of the programmes under review are developed based on the Indonesian National Qualifications Framework (KKNI), the recommendations from professional associations i.e. the Indonesian Physics Society (PSI) for **BPP** and the Indonesian Mathematical Society (IndoMS) for **BPM**, as well as alumni survey results. The curriculum is reviewed once a year.

In 2021, it became compulsory for all study programmes to implement the Outcome Based Education (OBE) curriculum. As a result, in 2021 the Mathematics Study Programme and in early 2022 the Physics Programme conducted a review of the old curriculum.

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

The curricula of both programmes under review are generally well structured. They consist of compulsory foundation courses in the first semesters. The electives offered provide opportunities for individual focus and study. In addition, students and graduates appear to be very satisfied with their respective programmes and feel well prepared for their future careers. The experts also are of the opinion that the curriculum is regularly reviewed and that suggestions and input from stakeholders are used as important considerations in the curriculum review process. Furthermore, the experts agree that UIN Malang adequately supports and promotes national and international student mobility.

Nevertheless, there are some important aspects in the curriculum to be improved in order to enable that the learning outcomes can be achieved. Firstly, with regard to **BPP**, the module titles need to be aligned with the module content. This point concerns mainly the modules "Advanced Computational Physics" where quantum computing is taught, "Artificial Intelligence" which focusses on neural networks, and "Computational Biophysics" which does not contain content with obvious relation to biology and could be better described by computational physics. The experts emphasize that there is no need to modify the content of the modules unless their titles should be maintained.

Furthermore, in accordance with the requirements for Bachelor's Degree programmes outlined in ASIIN-Subject-Specific Criteria of the Technical Committee 13 (p. 3), graduates of Bachelor's degree programmes in physics are familiar with the fundamentals of quantum, atomic and molecular, nuclear, elementary particle and solid state physics. However, an examination of the module handbook of **BPP** reveals that fundamental aspects of molecular physics or elementary particle physics are not covered by existing modules. Therefore, the experts conclude that the module descriptions of **BPP** needs to make clear in which compulsory modules fundamentals of molecular physics like molecular bonds and molecular excitations and elementary particle physics like basic ideas of the standard model are taught (see below **Criterion 4.1**).

Following the discussion with the industry representatives, the experts also gain the impression that the inclusion of the industry in curriculum development and involvement in the programme should be strengthened to improve lecturers' and students' skills and knowledge about professional prospects. For example, the experts suggest inviting industry partners to deliver workshops for students.

## Criterion 1.4 Admission Requirements

**Evidence:**

- Self-Assessment Report (SAR)
- Guidelines for Admission UIN Malang
- Statistical data
- Discussions during the audit

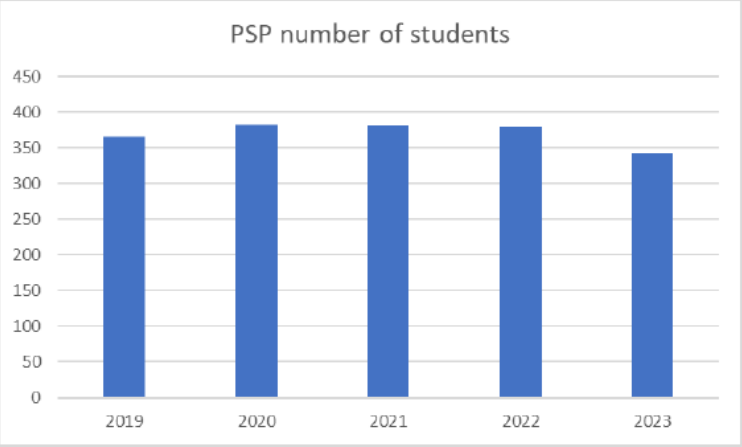
**Preliminary assessment and analysis of the experts:**

As stated in the SAR, the admission procedure for Bachelor's degree programmes at UIN Malang follows the national procedure and the university procedure. The regular admission consists of different pathways: the national general admission pathways (SNBP, SNBT) and the Ministry of Religious Affairs procedures (SPAN-PTKIN, UM-PTKIN), both based on students' academic achievements through a national selection pattern or through a written exam. There are other admission paths through independent entrance exam at the UIN Malang campus. Additionally, high-achieving students can apply for the Student Achievement Scholarship Programme or others that provide financial support. The selection process is carried out at the Regional Office of the Indonesian Ministry of Religion. Prospective students with foreign citizenship can be admitted through bilateral cooperation programmes between the Indonesian government and the government of another country, or through a non-cooperation programme.

Transferring from one programme of study to another within the same university, or transferring to or from another university, is regulated in detail in UIN Malang's educational guidelines. The UIN Malang Information Center Office oversees the admission process.

As following data reveal, in recent years, the number of new students admitted to both programmes has shown a declining trend, especially in the Mathematics programme:

| | | 2020/2021 | 2021/2022 | 2022/2023 | 2023/2024 |
|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1 | Grade Point Average | | | | |
| | Mathematics Study Program | 3,5 | 3 | 3,33 | 3,32 |
| 2 | Study Period (Year) | | | | |
| | Mathematics Study Program | 5,3 | 5,1 | 4,9 | 4,7 |
| 3 | Number of New Students | | | | |
| | Number of Registrants | 684 | 648 | 627 | 510 |
| | Number of Accepted Students | 130 | 130 | 130 | 130 |
| | Number of Incoming Students (Registration) | 106 | 103 | 97 | 78 |
| 4 | Drop Out | 0% | 0% | 0% | 0% |




The rectorate explains that this pattern reflects a general phenomenon observed across Indonesia, where similar institutions are experiencing a comparable decrease in student intake. One contributing factor is the limited admission capacity, which is strictly regulated due to dormitory availability — capped at 6,000 students per year. This constraint also serves as a means of maintaining quality control over the student body. In addition, the programmes in Mathematics and Physics do not seem to attract too much young people who perhaps prefer to study informatics and others fields. To address this trend, several strategies have been implemented. One key initiative is the development of a more application-oriented curriculum for the Physics programme. By aligning the programme more closely with practical and industry-relevant aspects of physics, the institution aims to attract a broader range of prospective students.

In addition, the experts note that, according to Article 20, point 1g of the admission policy, applicants are required to submit a certificate verifying that they are not fully colour blind. The programme coordinators explain that this requirement is particularly relevant for the Physics programme, since it is important to be able to differentiate e.g. colour-coded resistors in certain courses, such as the electronics module. They believe that full colour blindness could significantly hinder a student's ability to perform in these areas. Applicants with partial colour blindness may still be eligible for the Mathematics programme. Students who are fully colour blind are advised to consider alternative programmes that are better suited to their abilities.

Furthermore, article 7, point 1d of the student admission guidelines states that applicants must possess adequate health to ensure their participation in the academic process is not disrupted. The university's representatives clarify that this requirement is not intended to discriminate against individuals with disabilities. On the contrary, the institution is committed to supporting students with disabilities through various dedicated facilities and services. Specialized staff is available to provide guidance and assistance, and accommodations are made wherever possible. Students with disabilities are encouraged

to seek support, and in cases where their condition may significantly affect their ability to succeed in a chosen programme, they are advised on potential alternatives that better match their needs and capabilities. The institution currently has students with disabilities enrolled and is actively working to ensure an inclusive and supportive learning environment for all.

**In their summative evaluation of the admission regulations, the ASIIN expert team comes to the following conclusions:**

The admission rules are published on the university's website and provide potential students with detailed information on the requirements and steps necessary to apply for admission to the programmes. The experts recognise the university's policy of treating all individuals equally. However, in cases where colour blindness presents a significant challenge in the field of physics, effective solutions can be found through collaborative efforts with fellow students within the same working group in the laboratory setting. Consequently, the experts conclude that students may not be excluded on the basis of colour blindness.

**Criterion 1.5 Workload and Credits**

**Evidence:**

- Self-Assessment Report (SAR)
- Study Plan for each programme
- Module Handbook for each programme
- Curriculum Book for each programme
- Report Workload Survey
- Website of BPM: https://matematika.uin-malang.ac.id/
- Website of BPP: https://fisika.uin-malang.ac.id/
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**
The study programmes at UIN Malang use a credit system based on student workload. According to the Regulation of the Minister of Education and Culture, both study programmes consist of 148 credits (equivalent to 217.56 ECTS). A minimum of eight semesters is required to complete the degree which can be extended to a maximum of 14 semesters.

The distribution of the credits between compulsory and electives courses for both programmes under review is shown in the following overview:

| Course | Physics Program Study | | | Mathematics Program Study | | |
|---|---|---|---|---|---|---|
| | Module | Credit | ECTS | Module | Credit | ECTS |
| Compulsory | 54 | 128 | 188.16 | 43 | 118 | 173.46 |
| Elective | 10 | 20 | 29.4 | 10 | 30 | 44.10 |
| Total | 64 | 148 | 217.56 | 53 | 148 | 217.56 |

One credit (sks) equates to 170 minutes of learning per session, including 50 minutes of face-to-face learning, 60 minutes of structured assignments and 60 minutes of independent study. As there are 16 sessions in a semester, the total learning load of the student per semester is 45 hours and 20 minutes. At UIN Malang, one credit unit is equivalent to 1.47 ECTS.

Students have the right to apply for study leave at least in the third semester with a maximum duration of leave of two consecutive semesters.

The student workload in the first and second semesters is 22 SKS (32,34 ECTS). For subsequent semesters, student workload depends on the Grade Point Average (GPA) achieved in the previous semester, in accordance with following table which shows the maximum permitted workload limit based on GPA:

| Previous semester GPA (scale 4) | Maximum credits that can be taken | Conversion in ECTS |
|---|---|---|
| ≥3.00 | 24 | 35.28 |
| 2.50 – 2.99 | 21 | 30.87 |
| 2.00 – 2.49 | 18 | 26.46 |
| 1.50 – 1.99 | 15 | 22.05 |
| < 1.50 | 12 | 17.64 |

According to the university, to ensure that the credits awarded for each module correspond to the actual student workload regular student surveys and workload assessments are conducted. These surveys gather feedback on the time students spend on various course activities, including lectures, assignments, and independent study. The data collected is then analysed to verify that the workload is manageable and aligns with the credits awarded. For instance, the Physics programme provides the results of the workload survey for the year 2022-2023. From a total of 137 respondents consisting of students from various classes, it was found that most students chose to take 22-24 credits in one semester. This finding indicates that these students have the ability to maintain a good Cumulative Grade Point Average (GPA). In addition, most students felt that the credit load they were undertaking in the semester was quite appropriate to their capacity and expectations, with the majority considering it very appropriate.

In the meeting with the programme coordinators, the experts point out that there appears to be a difference in the duration allocated for the thesis between the Mathematics programme and the Physics programme. While the thesis is typically planned to be completed within one semester, in the Mathematics programme, it often spans across two semesters. The programme coordinators explain that this difference is primarily due to the structure and scheduling of the thesis course. The course is offered in different semesters, and students are expected to complete their thesis in the seventh semester. However, if a student is unable to complete it within that time frame, they are allowed to continue and finish it in the eighth semester. It is important to note that the thesis credit is only counted once, regardless of whether it is completed in one or two semesters. The flexibility in scheduling ensures that students who need additional time can complete their work without academic penalty, while also maintaining the integrity of the credit system.

**In their summative evaluation of the admission regulations, the ASIIN expert team comes to the following conclusions:**

The credit system used by UIN Sunan Kalijaga is based on student workload. As the workload for each semester is reflected in the GPA, the experts believe that the estimated workload is realistic and transparently anchored, as confirmed by students, and that the workload is regularly monitored.

However, the experts find the attribution of six SKS (equivalent to 8.82 ECTS) to the Thesis in both Bachelor's programmes insufficient in reflecting the actual workload required to draft a Bachelor's thesis. The programme coordinators explain that, in the reality, the work on the thesis is initiated and considered in several modules such as Selected Topics and Research Methodology in **BPM** and not only in the module called Final Thesis. This is confirmed by the students interviewed who believe that this structure is very adequate. In addition, the credit volume for the thesis has been decided in accordance with mandatory provisions on credit allocation. The review team recognizes these particularities and limitations imposed by the national regulation. However, they believe that options should be explored to adequately document the student workload for the Bachelor's thesis, for example, in the Diploma Supplement. This could make it easier for foreign institutions to recognise credits for the thesis.

**Criterion 1.6 Didactic and Teaching Methodology**

**Evidence:**

- Self-Assessment Report (SAR)
- Study Plan for each programme
- Module Handbook for each programme

- Curriculum Book for each programme
- Mapping between teaching methods and courses
- Website of BPM: https://matematika.uin-malang.ac.id/
- Website of BPP: https://fisika.uin-malang.ac.id/
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**
As explained in the SAR, teachers in the programmes under review use a variety of teaching approaches, including interactive lectures, group discussions, case studies and literature reviews, collaborative learning, community service, seminars and thesis work, independent studies, projects in certain courses, internships etc. Problem-based learning and project-based learning methods are often used and focus on developing problem-solving skills by engaging students in real-world challenges. Students work individually or in teams to identify problems, conduct research, design solutions, and implement projects. The approach fosters critical thinking, creativity, and collaboration, encouraging students to integrate theoretical knowledge with practical application. It is widely used in courses where innovation and hands-on experience are essential, promoting both independent learning and teamwork.

Internship and Community Service are designed to bring students closer to the applications and technology in the world of work, both in research institutions, hospitals, industry and other institutions. Apart from that, it also fosters students' soft skills, awareness and concern for the community environment.

The university highlights that each lecturer is given pedagogical training and is evaluated through measuring the lecturer performance and student satisfaction index which can be used as an indicator of whether the teaching staff has been able to apply learning methods and instruments.

During the course of the discussions, the experts address the use of AI in the courses and the handling of tools such as Chat-GPT. The lecturers explain that they use AI for teaching preparation, finding literature, finding suitable literature and for enhancing grammar, for example in English. In addition, they provide guidance to students on how to utilise tools such as Chat-GPT efficiently in problem-solving, enhancing skills and identifying effective solutions.

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

The experts appreciate the diversity of teaching methods and believe that they ensure that the course objectives and the overall intended learning outcomes are achieved.

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

With regard to the alignment of **BPP** graduate profiles and learning outcomes, UIN Malang provides a table containing the revised Graduate Profiles of BPP. Competencies were added to align the Graduate Profile with the PLO, particularly in theoretical aspects. It is clarified that this update will be approved by the Dean following the curriculum evaluation in August 2025 and the website will be updated after the approval process is complete. The experts acknowledge these measures and observe that graduate profiles and PLOs have been aligned, with a greater emphasis placed on the theoretical side in the graduate profiles. However, as this measure has not yet been implemented and still requires approval, they have decided to maintain this requirement (**A4**).

In addition, the 2024 tracer study report for **BPP** is provided and explained. The experts believe that the results are very reasonable and that there is no longer any reason to maintain a requirement in this regard.

The admission requirements for new students at UIN Malang have been revised and the clause regarding colour blindness has been removed. New admission decrees have been submitted as evidence of this change. These revisions will be implemented starting with the admission process for the 2025/26 academic year. Experts appreciate these measures and confirm that the clause with respect to colour blindness has been removed — except for the Faculty of Tarbiyah and Teacher Training, which is irrelevant to the current procedure. As these changes have not yet been implemented and the new admission rules have not yet been published, the requirement (**A1**) remains in place.

In addition, the precise workload for the Bachelor's thesis (for BPM 14 SKS and for BPP 10 SKS) will be documented as part of the annual curriculum review process in December 2025, as stated by UIN Malang. This will be included in the diploma supplement, as samples provided show. The experts acknowledge this measure and found that the workload for the Bachelor's thesis is clearly outlined in the new diploma supplement template for both study programmes. Nevertheless, as this has not yet been implemented, the requirement (**A2**) is being maintained (see also below **4.2**).

# 2. Exams: System, Concept and Organisation

**Criterion 2 Exams: System, Concept and Organisation**

**Evidence:**

- Self-Assessment Report (SAR)
- Study Plan for each programme
- Module Handbook for each programme
- Curriculum Book for each programme
- Examination regulations
- SOP for inclusive learning
- Educational Guidelines
- Website of BPM: https://matematika.uin-malang.ac.id/
- Website of BPP: https://fisika.uin-malang.ac.id/
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**

Examinations for the programmes under review are conducted in accordance with the examination regulations set out in the Academic Regulations for Undergraduate Programmes at UIN Malang.

As stated in the SAR, various forms of assessments are employed, including but not limited to written tests, oral examinations, presentations, project reports, and laboratory work. The module descriptions include detailed information on assessment formats, criteria, and weightings, which are made available to students via module handbooks and the university's academic portal. Students are informed on time about examination procedures, including registration, withdrawal, failure, grade improvement opportunities, and academic misconduct policies. Grading criteria are standardized and consistently applied to ensure fairness and reliability. In addition, lecturers provide learning media in accessible format for students with disabilities.

Examinations are centrally scheduled and coordinated by the academic office in collaboration with course instructors. There is one mid-term and one final examination per semester. In order to take part in the end of semester exam students have to be present at 80% of the lectures. The quality of examinations and assessment practices is regularly reviewed as part of the internal quality assurance system. Examination results are analysed

to assess overall student performance and identify areas requiring pedagogical or curricular adjustments.

Feedback is collected from both students and academic staff to inform improvements in assessment design and delivery. Where applicable, external reviewers or examiners are involved in validating assessment standards and ensuring alignment with international benchmarks. Transparent communication of assessment results and feedback are emphasized. Students have access to their graded work and are encouraged to seek clarification or contest results through established appeals procedures, which promote accountability and continuous improvement. Students have a one-week period following grade announcements to discuss or appeal their results with lecturers.

Furthermore, support for students with disabilities or special needs is in place to facilitate an inclusive and accessible learning environment. In case of pregnancy, childcare responsibilities, or disabilities, students are eligible for adjustments, which may include additional time, alternate exam formats, or accessible testing venues.

As shown in following table, course grades with the letters A, B+, B, C+, and C are declared passed. Course grades with the letters D and E are declared failed:

| Value Range 0 – 100 | Letter Value | Score | Description |
|---|---|---|---|
| 85 – 100 | A | 4 | Passed |
| 76 – 84 | B+ | 3,5 | Passed |
| 71 – 75 | B | 3 | Passed |
| 66 – 70 | C+ | 2,5 | Passed |
| 61 – 65 | C | 2 | Passed |
| 51 – 60 | D | 1 | Not Pass |
| < 50 | E | 0 | Not Pass |

If students fail a course, they must retake it according to the relevant procedures.

The students interviewed are satisfied with the number and distribution of exams, and report that they mostly have enough time to prepare for them. They are of the opinion that the preparation of the exams depends on the difficulty of the subject and each person’s abilities.

According to the SAR, the final project assesses students' ability to work independently on complex, specialised topics at an academically rigorous level. On the one hand, the final projects in **BPP** tend to cover experimental research, data analysis and advanced simulations. These projects demonstrate the practical applications of theoretical concepts. On the other hand, in **BPM**, final projects focus on in-depth analysis, usually in areas such

as numerical analysis, designing algorithms, or creating mathematical models to solve difficult problems.

As outlined in the SAR, both programmes include a placement test in the fourth semester, which assesses students' skills and interests to help guide them towards suitable areas of expertise. From the fifth semester onwards, students specialise in a specific area, aligning their elective courses with their final project. Each specialisation group (consortium) evaluates students' performance in specific courses differently, taking into account grades and abilities that are relevant to their area of focus.

Students are free to choose their own thesis topics and are advised by their academic advisor. Each student is assigned two supervisors. Two extra examiners are appointed for the final thesis exam. In **BPM**, the thesis evaluation comprises three stages: the proposal seminar, the results seminar and the thesis examination. These components carry weights of 20%, 35% and 45% respectively. For **BPP** students, the final thesis is assessed using a comprehensive assessment (10%), a results seminar (10%), and a final defence (80%). Proposal and result seminars are open events, allowing students to display their research progress to a wider audience. By contrast, the final thesis examination is conducted in a closed setting, where students must present and defend their thesis findings in front of a board of examiners. The overall assessment takes into account various factors, including the quality of the written content, the complexity of the subject matter, the student's mastery of the subject, and the effectiveness of the thesis presentation.

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

The auditors examine samples of examinations and final projects submitted by the programmes under review. According to them, the documents show that the level of the students' academic performance and the content of the modules are sufficient for the programmes concerned. The final projects are of a very high standard and show that students are able to work independently. They also consider that the number and distribution of examinations ensure an appropriate workload and sufficient time for preparation.

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

No comments are provided related to this criterion.

# 3. Resources

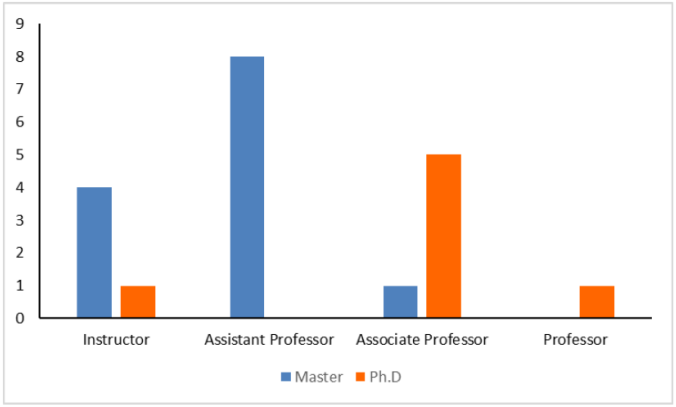
**Criterion 3.1 Staff and Development**

**Evidence:**

- Self-Assessment Report (SAR)
- Staff Handbook for each programme
- Website of BPM: https://matematika.uin-malang.ac.id/
- Website of BPP: https://fisika.uin-malang.ac.id/
- Research and Community Development Program granted during 2019-2023
- Discussions during the audit

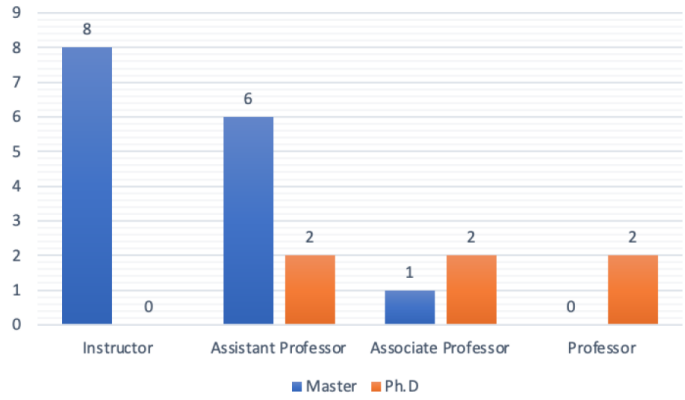
**Preliminary assessment and analysis of the experts:**

In the **BPP**, 20 permanent lecturers are involved, 35% of whom hold doctoral degrees, 55% of whom hold master's degrees, and 10% of whom are currently pursuing doctoral studies. The following table, provided by UIN Malang, shows how teaching staff positions are distributed:




In addition to the permanent lecturing staff, the Physics programme employs three laboratory technicians and one administrative assistant. In 2022, the number of **BPP** students was 379, resulting in a lecturer-student ratio of 1:18.

**BPM** has 21 permanent lecturers. 31.8% hold a PhD, while 68.6% hold a master's degree. Teaching staff positions distribution is as follows:




There is also one laboratory staff member and one administrative staff member. In 2023, the number of students increased to 458, resulting in an average lecturer-student ratio of 1:25.9. The ratios for BPP and BPM are in line with the Ministry of Education and Culture and Research Technology Regulation No. 105/M/V1/2015, which states that a 1:30 faculty-to-student ratio is ideal for exact sciences.

Furthermore, as stated in the SAR, national and international guest lecturers are regularly invited by both programmes to broaden students' perspectives.

Faculty research projects and involvement in community activities are supported mostly by government funds. According to UIN Malang, updates to teaching materials and valuable opportunities for students to participate in research projects have resulted from the teaching staff's research, deepening students' understanding of their chosen field of study.

Faculty and staff actively participate in various training programmes designed to update and enrich their skills. Faculty development involves training such as pedagogical training, the Professional Competence of Civil Servants programme (PKDP), and national and international seminars, conferences and guest lectures. It also includes study visits abroad (to Malaysia, Thailand and Germany) and the opportunity to pursue advanced studies (PhD). Meanwhile, educational staff is provided with training based on their needs, offering opportunities to further their studies and participate in training programmes within the Ministry of Religious Affairs. Promotion is based on Government Regulation (PP) No. 11 of 2017 concerning the management of civil servants. Institutional support, including adequate resource allocation and training facilities, enables faculty and staff to continuously enhance the quality of their teaching. The results of these efforts are evident in an enhanced learning experience for students and in the achievement of the institution's educational goals. Ongoing skill development efforts reflect a strong commitment to improving the quality of education at institutional level.

Lecturers confirm that they feel supported by the university and faculty and that several training and development opportunities are available. The experts question whether the

support for research is sufficient. The teaching staff interviewed explains that government and university support them in terms of not only time for research, but also funds and trainings. They emphasize that there are programmes to support their further qualification and UIN Malang supports them to pursue doctoral studies. However, the majority of the lecturers feel that they need more support from UIN Malang to facilitate international collaboration. In addition, regarding the **BPP**, the lecturers consider the improvement of the equipment in the labs essential, in order to be able to publish in renowned journals and carry out research at an international level (see below section **3.3**).

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

The composition and academic orientation of the teaching staff are appropriate for the successful implementation and sustainability of the two programmes under review. The university and the faculty support their staff and provide adequate opportunities for professional and pedagogical development. However, the experts conclude that the university/faculty should develop a strategy to increase the international experience of lecturers.

**Criterion 3.2 Student Support and Student Services**

**Evidence:**

- Self-Assessment Report (SAR)
- Staff Handbook for each programme
- Student Satisfaction Survey Report on Lecturer Performance
- Guidelines of Disability students' services
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**

An academic supervisor is assigned to assist students with academic issues and personal development. Each semester, at least one face-to-face meeting is conducted between academic advisors and students, enabling academic evaluation and effective planning. Online counselling is also possible through messages or video platforms such as Zoom when physical presence is not possible. Additionally, for course selection, students can easily consult with academic advisors through the UIN Malang Academic Information System (SIAKAD) application, ensuring that they choose courses aligned with their educational goals.

There is also an e-Counselling service from the Faculty which provides psychological counselling to students. Health services are provided at the Polyclinic including free health services for students, lecturers, and employees.

In addition, there are two supervisors who assist the students in the completion of their undergraduate thesis. Based on the selected topic for the thesis, the study programme appoints the first supervisor according to the competence of the lecturer as well as a second special supervisor for the integration of Islamic values.

Support for students with disabilities or special needs is in place to facilitate an inclusive and accessible learning environment. Students encountering challenges such as pregnancy, childcare responsibilities, or disabilities are eligible for adjustments, which may include additional time, alternate exam formats, or accessible testing venues.

According to the results of the lecturer performance evaluation and student satisfaction survey, students are satisfied with their lecturers and the support they receive. During the on-site discussion, students confirm that they are content with the assistance offered by their teachers. Lecturers are attentive and supportive, providing advice during counselling sessions and at other times as required. Furthermore, some offers by UIN Malang such as dormitories, student organisations and student activities are greatly appreciated by the students.

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

Students feel well supported by the university and their lecturers and their needs and interests are taken seriously. Furthermore, the experts acknowledge the university's commitment to addressing the needs of students with disabilities. Requiring students to live together in a dormitory in their first year may lead to a better study atmosphere, with students working and helping each other. It may also facilitate to form a network of alumni. The experts believe that this support system helps students achieve the intended learning outcomes, completing their studies successfully and without delay. Students are well informed about the services available to them. The experts consider the guidance and mentoring system to be adequate.

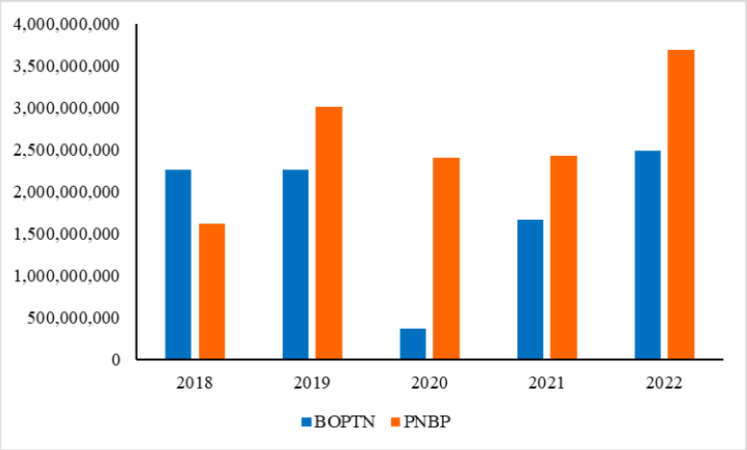
### Criterion 3.3 Funds and equipment

**Evidence:**

- Self-Assessment Report (SAR)
- Cooperation Agreement
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**

In terms of financial resources, the university explains in the SAR that the sources used for operational activities of the Faculty of Science and Technology mainly come from BOPTN (State College Operational Assistance) and PNBP (Non-tax State Acceptance). The generated funds are allocated to several activities, among others: education, research, dedication, development of facilities, and human resource investments. Following figure shows distribution of Faculty's financial sources:




The Faculty of Science and Technology at UIN Malang covers a total area of approximately 1,642.04 m². Facilities include laboratories, classrooms, lecturer and administration rooms, a greenhouse, open spaces, student affairs offices, warehouses, reading rooms, meeting rooms, and two auditoriums. Apart from that, there are special disability facilities in several facilities on the main campus, such as parking areas, lifts, ramps, guiding blocks, etc.

**BPP** has thirteen laboratories and collaborative laboratory equipment, while **BPM** owns four laboratories, each of which has 20 computer units with software required for laboratory practices and research activities, such as Maple, MATLAB, Python, MySQL, PHP, and R-Studio.

The satisfaction of students with the facilities and infrastructure of the programmes is measured through surveys conducted each semester by the Faculty. During the course of the discussions on-site, students conveyed a high level of satisfaction with both the campus and its environment, with particular reference to the dormitories.

During the on-site visit, the experts inspect the university's facilities, library, computer rooms, dorms and laboratories. They visit among others the Basic Physics Laboratory, Computing Physics Laboratory, Sensors, Optics, Thermodynamics and Magnetic field labs. For the Mathematics programme, the visit includes the Algebra and Analysis Laboratory, the Computational and Programming Laboratory, and the Applied Mathematics Laboratory. All three of these places are equipped with computer facilities. In the basic

physics laboratory, a reasonably small group size favours active participation of all students. At each experiment station, a QR code is provided to facilitate students' access to learning materials and to record their attendance. The team of experts also visited Campus 3, which is still under construction and appears to offer a modern, spacious environment.

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

UIN Malang has secure funding and reliable financial planning. The big campus and infrastructure as well as existing dorms for students are adequate. The new campus under construction and its spacious dormitories made a favourable impression on the experts. However, as mentioned above (see **3.1**), the experts believe that, in order to modernize laboratory equipment of **BPP**, the university should seek increased collaboration with other academic institutions and the private sector, possibly through joint funding of centralized research labs.

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

UIN Malang states that the faculty has initiated several measures to promote international exposure among lecturers.

In addition, UIN Malang describes several measures that have been undertaken regarding the modernization of **BPP** laboratory equipment including collaboration with BRIN (National Research and Innovation Agency) and the Industrial Research and Standardization Center (Baristan) to access laboratory facilities and equipment. A laboratory revitalization proposal has been prepared related to funding opportunities from the Ministry of Religious Affairs and the Science and Technology Facility Development (SFD) programme. These measures have been positively received by the experts, who encouraged UIN Malang to continue increasing lecturers' international experience, collaboration with other academic institutions and the private sector, and seeking support to modernise BPP labs equipment. The impact of this strategy will be evaluated during the reaccreditation process.

# 4. Transparency and Documentation

**Criterion 4.1 Module Descriptions**

**Evidence:**

- Self-Assessment Report (SAR)
- Module Handbooks for each programme
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**
The module handbooks for both degree programmes under review are published on the university's websites and are thus accessible to the students as well as to all stakeholders in both Indonesian and English language.

The experts found that the module descriptions are accessible and contain the required information for each module. It includes module name, responsible persons, language, relation to curriculum teaching methods, credit points awarded and workload (including contact hours and self-study time), module objectives/intended learning outcomes, content, form of examination, examination requirements, media employed, reading list and details explaining how the final grade is calculated.

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

The experts note that not all modules are included in the **Mathematics programme**'s module handbook. They therefore conclude that the **BPM** module handbook needs to be reviewed and updated. All compulsory and elective courses must be included in the module descriptions. Furthermore, as mentioned above (see section 1.3), for **BPP**, the module handbook needs to clarify which compulsory modules cover the fundamentals of molecular physics and elementary particle physics.

**Criterion 4.2 Diploma and Diploma Supplement**

**Evidence:**

- Self-Assessment Report (SAR)
- Samples of diploma supplement, transcript of records and certificate
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**
The graduates of each study programme receive a diploma certificate, transcript of records, and a diploma supplement (SKPI). The diploma certificate includes information such as the full name of the diploma holder, the name of the degree obtained, the name of the university, the graduation date, and the authorized official's signature. It is also formal proof that a person has completed specific higher education. SKPI contains information about the academic achievements or qualifications of higher education graduates with a degree. It is issued in Indonesian and in English language. The transcript of records is a detailed list of all student's courses during their college studies and records each grade a student has obtained for each course including the total score, grade average and other information relevant to academic performance.

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

The diploma supplements of the two programmes under review do not include data on the GPA distribution of graduates in the same cohort or information on workload. This information should be included in the Diploma Supplement to ensure fair transfer and recognition of grades for mobile students. As explained above in section 1.5, the experts believe that options should be explored to adequately document student workload for the Bachelor's thesis in the Diploma Supplement, for example. This could facilitate recognition of thesis credits by foreign institutions. The diploma supplement could include a statement or clarification to make it clear that the effective workload of the thesis represents more than six SKS (equivalent to 8.82 ECTS).

**Criterion 4.3 Relevant Rules**

**Evidence:**

- Self-Assessment Report (SAR)
- Educational Guidelines UIN Malang 2023
- Code of ethic and discipline regulation
- Statutes of the State Islamic University of Maulana Malik Ibrahim Malang
- Website of BPM: https://matematika.uin-malang.ac.id/
- Website of BPP: https://fisika.uin-malang.ac.id/
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**
As stated in the SAR, rules regarding the rights, obligations, and sanctions for students are included in the Statutes of the State Islamic University of Maulana Malik Ibrahim Malang

and the Academic Guidebook, which students can easily access via the website. All new students at UIN Malang must participate in PBAK activities, thus supporting to socialize with other students.

The Statutes of the UIN Malang are the basic rules for managing the university and are used as a basis for preparing operational regulations and procedures at the university. Regulations for the implementation of education and the learning process are provided in the Educational Guidelines.

The students interviewed seem to be satisfied with the website and the academic intranet. They can find all information required on the website and are informed via email or LMS about the specific information or news to the courses.

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

The rights and obligations of both UIN Malang and the students are clearly defined and binding. The experts acknowledge that they can find all relevant course-related information. In addition, the website seems efficient in attracting students, and outside communications also appear to be effective.

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

UIN Malang has provided updated module handbooks for both Bachelor programmes under review. The experts have reviewed the revised module handbooks and have confirmed that these now contain all of the mandatory modules included in the curriculum. For **BPM**, all modules offered are now included. According to the new **BPP** module handbook, changes have been made to ensure that module titles and module content are aligned. In two cases, the titles have been adapted, while in one case the content was changed to be consistent with the title. Furthermore, molecular physics and elementary particle physics are now sufficiently present in some of the modules. Nevertheless, as the module handbooks have not yet been published and are still awaiting approval, the requirements relating to the module handbook (A5–A7) remain in place.

The workload for the Bachelor's thesis is clearly outlined in the new diploma supplement template for both study programmes. The grade distribution information for the relevant cohort has now been incorporated into the new diploma supplement template, presenting the data in a transparent manner. However, as UIN Malang has not provided any evidence that the new diploma supplement templates have been implemented, the requirements remain in place (**A2, A3**).

# 5. Quality management: quality assessment and development

**Criterion 5 Quality management: quality assessment and development**

**Evidence:**

- Self-Assessment Report (SAR)
- Website of BPM: https://matematika.uin-malang.ac.id/
- Website of BPP: https://fisika.uin-malang.ac.id/
- Strategic Plan of the Faculty Science and Technology
- Samples and reports Student Satisfaction Survey for both programmes
- Sample Tracer Study Questionnaire and reports for both programmes
- Student Workload Survey results
- Statistical data about the progress of studies
- Discussions during the audit

**Preliminary assessment and analysis of the experts:**

As stated in the SAR, UIN Malang's quality assurance system includes internal and external quality assurance procedures. The Physics and Mathematics Study Programmes at UIN Malang operate within a structured and continuous internal quality assurance (QA) framework designed to uphold academic standards and foster ongoing programme development. This QA system is aligned with national regulations and ASIIN's expectations for programme quality, relevance, and stakeholder involvement.

Internal quality assurance processes are carried out periodically and systematically at multiple levels—university, faculty, and study programme. The Internal Quality Assurance System, coordinated by the university's Quality Assurance Institute (LPM), ensures that programme development is evidence-based and stakeholder-driven. Responsibilities for quality development are clearly defined. The Study Programme Quality Assurance Team works in tandem with the Faculty's QA Unit and LPM. Lecturers contribute to curriculum review and course improvement through structured evaluations and academic meetings. Student and alumni organizations are consulted during programme revisions and institutional planning.

Annual quality assessments are implemented through Internal Quality Audits (AMI), which cover curriculum implementation, graduate outcomes, academic services, and teaching

effectiveness. These audits involve inputs from lecturers, students, alumni, and external stakeholders, including industry partners and graduate users.

The results of internal evaluations are used to revise curricula, teaching methodologies, and student support mechanisms. These improvements are based on course evaluations and lecturer performance reviews, tracer studies tracking graduate employability and relevance of competencies, as well as feedback from curriculum review workshops involving all stakeholders. Actions derived from these inputs have included curriculum restructuring, incorporation of soft skill components, and expansion of elective course offerings aligned with market needs.

The external quality assurance (QA) is conducted by the National Accreditation Board for Higher Education (BAN-PT) and the Indonesian Accreditation Agency for Higher Education in Natural and Formal Sciences (LAMSAMA), with recent efforts directed at achieving international accreditation from ASIIN. These processes involve rigorous evaluations of programme content, learning outcomes, faculty qualifications, facilities, and stakeholder engagement. The feedback and recommendations from external evaluations are systematically integrated into programme improvements. Key areas of enhancement based on external reviews have included curriculum updates aligned with international benchmarks, development of Outcome-Based Education (OBE) frameworks, and strengthening of soft skills and industry-relevant competencies.

According to the university, several follow-up actions were carried out by both programmes under review to improve their quality over the last three years such as:

1. Reconstruction of the Mathematics Study Programme curriculum (2022) and the Physics Study Programme curriculum
2. Recruitment of new lecturers (Regulation)
3. Actively participate in both national and international competition activities for BPP
4. Improving Laboratory Services: laboratory website link
5. Improving Administration Services Through management information system (SIM)
6. One lecturer, Intan Nisfulaila, M.SI, received financial support to attend the 2020 CIMPA School on Numeration and Fractals at the University of the Philippines Diliman. Physics lecturers receive English language training scholarships as evidence in the form of certificates.
7. One lecturer in the name of Dewi Ismiarti, M.SI received financial support to attend the SEAMS School on Arithmetic, Geometry, and Model Theory in 2020 at the Institute of Mathematics (VAST) Hanoi Vietnam.
8. Student mobility programme in 2023.

During the discussions, the lecturers explain that satisfaction surveys are carried out in the middle and end of semester in the courses. The results are discussed with the head of the programme. In a meeting, the satisfaction of the students is discussed. The report containing the results of the surveys is published on the website. The report is also available for students. In addition, the lecturers interviewed confirm that they discuss shortly at the end of the course the results with the students and take their feedback in consideration for the next semester.

The students interviewed express a high degree of satisfaction with the various methods of providing feedback, and they confirm that they regularly complete multiple surveys pertaining to their study programme, the performance of their lecturers and the administrative staff as well as to the workload. They appreciate the lecturers' willingness to discuss their feedback and are open to suggestions. In addition to the formal channels, students report the use of alternative means of feedback, including group chats within the university system or through the student organizations. Students interviewed are confident that their feedback is duly considered and measures are taken accordingly.

**In their summative evaluation of this criterion, the ASIIN expert team comes to the following conclusions:**

The overall quality management system is effective in identifying weaknesses and improving programmes. All stakeholders are involved in the process. The results of these processes are incorporated into the continuous development of the programme. Processes and responsibilities seem to be well defined for the further development of the programme. The results and any measures derived from the evaluations are communicated to the students. Nevertheless, as explained above in criterion **1.1**, the experts suggest that providing a clarification of the questions in the tracer study for **BPP** might yield more informative and precise results. The questions could also be made more precise. The experts' consensus is that modifications to the questionnaire for the tracer studies for the Physics Programme are necessary to ensure clarity and avoid potential misunderstandings by the alumni. Furthermore, the experts have been informed that the most recent tracer study was conducted in 2024, whereas the results provided for **BPP** are from 2022. Therefore, they request that the university provides the results of the 2024 tracer study for this programme.

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

With regard to the **BBP** Tracer Study from the year 2024 see above Criterion **1.1.**

# E Additional Documents

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

**D 1.** Results/Report of tracer study (alumni satisfaction survey) 2024 for **BPP**.

# F Comment of the Higher Education Institution (27.07.2025)

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

- Report of tracer study (alumni satisfaction survey) 2024 for **BPP**

The following quotes the comment of the institution:

| No. | Report | Comment |
|---|---|---|
| 1 | Page 5<br><br>In the table of characteristics of the Degree Programmes, for Mathematics Study Programme, the areas of specialization was written there are **four** areas, such as **Algebra**, **Analysis**, **Applied Mathematics**, and **Statistics**. | **The field of study has been updated to include *Computation* as a recognized area within the academic curriculum.** The details of the areas could be seen in https://matematika.uin-malang.ac.id/sebaran-mata-kuliah/.<br><br>However, it already stated on page 16 of the Accreditation Report that BMP has five scientific consortiums. |
| 2 | Page 5<br><br>The Faculty of Science and Technology at UIN Malang comprises **six undergraduate programmes** among which are the Bachelor's programmes in Physics and | **In the previous report, it was stated that there were six study programs under the Faculty of Science and Technology. This has been updated to reflect the current number, which is eleven programs**. Those undergraduate study programmes are mathematics, physics, chemistry, biology, informatics engineering, architectural engineering, library and information science. Moreover, we have new four study programmes, i.e. civil engineering, mechanical engineering, electrical engineering, and environmental engineering. Meanwhile the number of master programmes is right, that are biology and informatics. |

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| | Mathematics which are subject of this accreditation, and two Masters programmes. | |
| 3 | Page 7<br><br>For the **Bachelor's degree programme Mathematics (BPM)**, the institution has presented the following profile on its website:<br><br>"VISION OF THE STUDY PROGRAM<br><br>The realization of an integrative Mathematics Study Program in combining science and Islam with an international reputation".<br><br>"MISSION OF THE STUDY PROGRAM<br><br>1. Producing mathematics graduates with ulul albab character; and<br><br>2. Producing relevant and highly competitive mathematical science". | The latest Scientific Vision of the BPM is "The realization of a Mathematics Study Program that develops mathematics education and learning using local wisdom-based machine learning principles in combining science and Islam with an international reputation" and there is no mission in the BPM, but the objectives of the Study Program, as stated in the 2020 Rector's Decree and on the mathematics website https://matematika.uin-malang.ac.id/visi-misi-dan-tujuan/. |

<table>
<tr><td></td><td></td><td></td></tr>
<tr><td>4</td><td>Page 12<br><br>However, the experts observe that the graduate profiles of BPP seem to stress more the experimental side while programme learning outcomes emphasize more the theoretical side and experimental physics is not mentioned explicitly. For these reasons, the experts are of the opinion that for the BPP, the graduate profiles and the program learning outcomes need to be aligned.</td><td>The meeting between the study program and stakeholders follows up on notes from the ASIIN team. The addition of competencies was implemented to align the Graduate Profile with the PLO, particularly in theoretical aspects. This update will be approved by the Dean following the curriculum evaluation in August 2025. The website will be updated after the approval process is complete.<br><br>The following is a revision of Table 1.1 of the Graduate Profiles of PSP, which aligns the Graduate Profile with the PLO, particularly in theoretical aspects:<br><br>
<table>
<tr><th>Graduate Profile</th><th>Code</th><th>Description</th><th>Competency</th></tr>
<tr><td>Research Assistant</td><td>GP-01</td><td>Research assistant who is able to design appropriate physics research procedures, analyze data accurately, compile research reports according to scientific standards based on Islamic values.</td><td>- Able to design physics research procedures based on classical and modern physics theories and concepts.<br>- Able to analyze physics simulation data using physical theory principles and mathematical approaches.Able to compile research reports based on a sound and correct scientific structure.<br>- Able to connect fundamental physics theories such as mechanics, electromagnetism, and thermodynamics within the research context.<br>- Able to apply Islamic values in report preparation and research implementation.</td></tr>
<tr><td>Practician</td><td>GP-02</td><td>Physics Practitioner who can analyse physics concepts to solve industrial and technological problems, as well as create technopreneurship opportunities based on Islamic values.</td><td>• Able to apply the laws of physics (mechanics, fluids, electricity and magnetism, optics, and modern physics) to solve practical problems.<br>• Able to develop technical solutions based on theoretical models and computational physics simulations.<br>• Able to identify industry needs based on theoretical analysis and predictions based on physics concepts.<br>• Able to develop technopreneurship plans based on scientific reasoning, basic physics theory, and technology.<br>• Demonstrate social responsibility and Islamic ethics in every decision-making process.<br>•</td></tr>
<tr><td>Academician</td><td>GP-03</td><td>Academician who develops physics knowledge for educational purposes based on Islamic values.</td><td>Able to communicate concepts of classical physics, modern physics, and mathematical physics to students.</td></tr>
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| | | | | | | |
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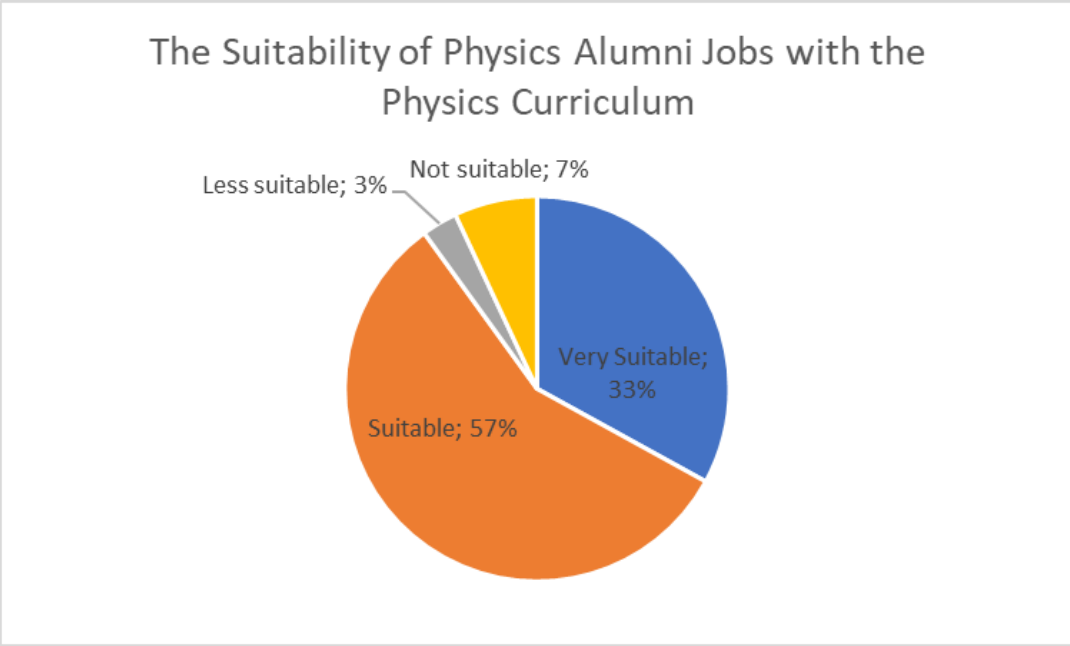
| | | | | | | - Able to develop teaching materials and learning tools based on basic physics theories and principles.<br>- Able to disseminate scientific ideas in writing and orally.<br>- Able to conduct literature reviews and theoretical studies as a basis for developing physics.<br>- Able to synergize Islamic values in the physics learning process. |
| 5 | Page 12<br><br>Additionally, modifications to the questionnaire for the tracer studies for the **Bachelor's Physics Programme** are necessary to ensure clarity and avoid potential misunderstandings by the alumni (see also below **5**). Furthermore, the experts have been informed that the most recent tracer study was conducted in 2024, whereas the results provided for **BPP** are from 2022. Therefore, they request that the university provide the results of the 2024 tracer study for **BPP**. | Based on the results of a 2024 tracer study of SIC alumni, 90% stated that there was a connection between the physics curriculum and the world of work they were currently engaged in.3% stated that the curriculum overlapped with their current jobs, but only in a significant way. Only 7% of respondents worked in fields that did not overlap with the physics curriculum. Although theoretically not aligned with the physics curriculum, the attitudes applied in learning certainly influenced alumni attitudes. The following is a summary of the survey of alumni.<br><br>**Tracer study results of Physics Study Program 2024** | | | | |




Based on the figure above, the relationship between the field of study and employment for S1-Physics graduates shows quite diverse variations. Based on the data, only 33% of graduates reported that their work had a 'Close' relationship with their physics field of study, which suggests that a small proportion of graduates work in highly suitable fields, such as physics research, education, or engineering fields that require a deep understanding of physics concepts. A total of 57% of graduates reported a "Fairly Close" connection between their studies and their work, which may include jobs that require analytical or technical skills, but are not entirely focused on physics. On the other hand, there were 3% of graduates who stated a "Less Close" relationship and 7% who reported that their jobs were "Not at All" related to physics studies. This suggests that there are some graduates who end up choosing jobs outside of physics, perhaps due to the flexibility of their skills or more diverse career opportunities outside of pure science. A total of 3.70% of graduates reported a "Higher Level" relationship, which could indicate a role with higher responsibility or a managerial role within the relevant field. This data reflects that physics graduates

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| | | have a wide range of career options, both directly related to their studies and outside of the discipline. the instrument used during the 2024 tracer study is the link. |
| 6 | Page 21<br><br>Furthermore, article 7, point 1d of the student admission guidelines states that applicants must possess adequate health to ensure their participation in the academic process is not disrupted. The university's representatives clarify that this requirement is not intended to discriminate against individuals with disabilities. On the contrary, the institution is committed to supporting students with disabilities through various dedicated facilities and services. Specialized staff is available to provide guidance and assistance, and accommodations are made wherever possible. Students with disabilities are encouraged to seek support, and in cases where their condition may significantly affect their ability to succeed in a chosen | The Study Program, Faculty, and University have followed up on the recommendations from the ASIIN assessors by revising the admission requirements for new students, particularly by removing the clause regarding color blindness. These revisions will be implemented starting with the admission process for the 2025/2026 academic year. Complete information regarding the admission rules for new students can be accessed this link |

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| | programme, they are advised on potential alternatives that better match their needs and capabilities. The institution currently has students with disabilities enrolled and is actively working to ensure an inclusive and supportive learning environment for all. | |
| 7 | However, the experts find the attribution of six SKS (equivalent to 8.82 ECTS) to the Thesis in both Bachelor's programmes insufficient in reflecting the actual workload required to draft a Bachelor's thesis. The programme coordinators explain that, in reality, the work on the thesis is initiated and considered in several modules such as Selected Topics and Research Methodology in BPM and not only in the module called Final Thesis. This is confirmed by the students interviewed who believe that this structure is very adequate. In addition, the credit | The undergraduate thesis process in the Mathematics Study Program (BPM) comprises a total of 14 SKS, systematically embedded within a series of courses: "Selected Topics" (3 SKS, 4.41 ETCS) in the fifth semester, followed by "Research Methodology" (3 SKS, 4.41 ECTS) in the sixth semester, and "Mathematics Seminar" (2 SKS, 2.94 ECTS) in the seventh semester. This sequence equips students with in-depth knowledge of selected topics, scientific research methods, and academic communication skills as a strong foundation for writing an independent and high-quality thesis. This detailed structure is intended to be incorporated into the diploma supplement description as part of the annual curriculum review process in December 2025.<br><br>The credits for a thesis are set at 6 credits, that equals 10 credits. This detailed structure is intended to be incorporated into the diploma supplement description as part of the annual curriculum review process in December 2025. The additional allocation credits for Research Methods in fifth semester and 2 credits for Physics Seminar in sixth semester , which support the thesis preparation process. This brings the total credit load for the thesis to 10 credits. This can be seen in the updated module handbook on pages 25-31. |

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| | volume for the thesis has been decided in accordance with mandatory provisions on credit allocation. The review team recognizes these particularities and limitations imposed by the national regulation. However, they believe that options should be explored to adequately document the student workload for the Bachelor's thesis, for example, in the Diploma Supplement. This could make it easier for foreign institutions to recognise credits for the thesis. | |
| 8 | Page 32<br><br>The composition and academic orientation of the teaching staff are appropriate for the successful implementation and sustainability of the two programmes under review. The university and the faculty support their staff and provide adequate opportunities for profes- | In response to the recommendation, the faculty has initiated several measures to promote international exposure among lecturers, including:<br><br>● Encouraging and facilitating participation in international conferences, seminars, and short courses.<br>● Establishing academic collaborations and joint research projects with partner universities abroad.<br>● Promoting lecturer exchange and joint supervision programs through Memoranda of Understanding (MoUs) and cooperation agreements (PKS) with international institutions.<br>● Supporting lecturers in applying for international scholarships and academic mobility programs, such as those provided by LPDP (Indonesia Endowment Fund for Education) and other global funding schemes.<br><br>The Faculty of Science and Technology's program performance indicators related to internationalization can be seen in the following table, taken from the Faculty's Strategic Plan. (Link evidence: Faculty's Strategic Plan) |

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| | sional and pedagogical development. However, the experts conclude that the university/faculty should develop a strategy to increase the international experience of lecturers. | |

| CODE | STRATEGY - PROGRAM | CODE | PROGRAM - ACTIVITY | INDICATOR | UNIT | BASELINE | TARGET | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 2021 | 2022 | 2023 | 2024 | 2025 |
| S-1 | Expanding Access, Improving Service Quality, Relevance and Competitiveness, and Student Development | | | | | | | | | | |
| PS.5 | Improving the Quality of Student and Alumni Development | KPS.5.1 | Student development, soft skills, leadership, and entrepreneurship. | Number of students who have achieved national and international achievements | Amount | 5 | 7 | 9 | 12 | 15 | 18 |
| | | KPS.5.2 | Strengthening cooperation with graduate users | Number of MoUs with international graduate user agencies | Amount | 2 | 3 | 4 | 5 | 6 | 7 |
| SS-2 | Increasing the Capacity, Quantity and Quality of Human Resources | | | | | | | | | | |
| PS.6 | Increasing the Number of Associate Lecturers and Professors | KPS.6.2 | Assistance with promotion and proposal for professorship | Formation of a team to accelerate publication of reputable international | Amount | 1 | 1 | 1 | 1 | 1 | 1 |
| SS-6 | Improving the Quality of Faculty Community Service | | | | | | | | | | |
| PS.13 | Strengthening research and community service management | KPS.13.3 | Improving Access to International Journals | The number of international journals that can be accessed by academic | Amount | 5 | 7 | 9 | 12 | 14 | 20 |
| | | KPS.13.4 | Increasing research collaboration at national and/or international levels | Increasing research or community service collaboration at national and/or international level/year | Amount | 4 | 6 | 6 | 6 | 10 | 10 |
| PS.14 | Improving Publication, Protection, and Utilization of Research Results | KPS.14.1 | Increased dissemination and publication in national and international journals | Number of publications in Scopus-indexed international journals | Amount | 23 | 27 | 34 | 42 | 50 | 60 |
| PS.15 | Improving governance and relevance of research and community service | KPS.15.1 | Increasing citations of scientific articles as recognition of lecturers' expertise at the international/study program level | The number of citations of scientific articles as a recognition of lecturer expertise at the international level/study | Amount | 2 | 4 | 4 | 8 | 8 | 8 |
| SS-7 | Improving Recognition of Educational Quality | | | | | | | | | | |
| PS.18 | Internationally certified/accredited universities/study programs | KPS.18.1 | Recognition of international certification, accreditation and ranking | The number of human resource competency developments according to international accreditation/certification | Amount | 2 | 4 | 4 | 4 | 4 | 4 |

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| 9 | Page 34<br><br>UIN Malang has secure funding and reliable financial planning. The big campus and infrastructure as well as existing dorms for students are adequate. The new campus under construction and its spacious dormitories made a favourable impression on the experts. However, as mentioned above (see 3.1), the experts believe that, in order to modernize laboratory equipment of | In response to the experts' recommendation regarding the modernization of laboratory equipment at BPP, we acknowledge that this is a critical aspect in supporting the quality of research and teaching. Several measures have been undertaken to address this need, including:<br><br>● Utilizing the university's central laboratory facilities, which are accessible to all study programs and serve to support activities in the product development laboratory.<br>● Establishing collaboration with BRIN (National Research and Innovation Agency) to gain access to laboratory facilities that support research and learning in physics. Among the laboratories utilized are the Integrated Research Laboratory (IRL), the Photonics Research Laboratory, BMKG, and the Advanced Materials Laboratory.<br>● Collaborating with the Industrial Research and Standardization Center (Baristan) to access laboratory equipment that supports applied research and industrial standardization processes.<br><br>In addition, we have prepared and submitted a laboratory revitalization proposal through funding opportunities from the Ministry of Religious Affairs and the Science and Technology Facility Development (SFD) program, as part of a long-term effort to comprehensively improve laboratory capacity. |

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| | BPP, the university should seek increased collaboration with other academic institutions and the private sector, possibly through joint funding of centralized research labs. | |
| 10 | Page 35<br><br>The experts note that not all modules are included in the **Mathematics programme**'s module handbook. They therefore conclude that the **BPM** module handbook needs to be reviewed and updated. All compulsory and elective courses must be included in the module descriptions. Furthermore, as mentioned above (see section 1.3), for **BPP**, the module handbook needs to clarify which compulsory modules cover the fundamentals of molecular physics and elementary particle physics. | All module handbooks for the Bachelor Programme of Mathematics (BPM) have been completed and updated to ensure comprehensive and up-to-date documentation of all modules offered. This revision addresses the previous gaps and ensures consistency with the current curriculum structure.<br><br>The physics study program's module handbook has been updated to include materials on molecular physics and elementary particle physics in the required courses on electromagnetism (Pg. 10-12), solid state physics (pg. 7-9), material characterisation (Pg. 23-24), statistical physics (Pg. 19-22), and modern physics (Pg. 13-15) (the updated module handbook is attached). |
| 11 | Page 36 | In response to the review findings, the Diploma Supplement has been revised accordingly. The updated version now includes the GPA distribution of graduates within the same cohort, detailed information on student workload, and a clarification that |

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| | The diploma supplements of the two programmes under review do not include data on the GPA distribution of graduates in the same cohort or information on workload. This information should be included in the Diploma Supplement to ensure fair transfer and recognition of grades for mobile students. As explained above in section 1.5, the experts believe that options should be explored to adequately document student workload for the Bachelor's thesis in the Diploma Supplement, for example. This could facilitate recognition of thesis credits by foreign institutions. The diploma supplement could include a statement or clarification to make it clear that the effective workload of the thesis represents more than six SKS (equivalent to 8.82 ECTS). | the final thesis (6 credits) is the culmination of a structured academic process. This process begins in the fifth semester through Selected Topics (3 credits), followed by Research Methodology (3 credits) in the sixth semester, and Mathematics Seminar (2 credits) in the seventh semester. These enhancements aim to ensure transparency, facilitate academic recognition, and support fair grade transfer for mobile students. The example of Mathematics Diploma Supplement could be seen here. Meanwhile, the Physics Diploma Supplement Study Program also has been revised following the suggestion of the ASIIN reviewers. |
| 12 | Page 40 | **Tracer study results of Physics Study Program 2024** |

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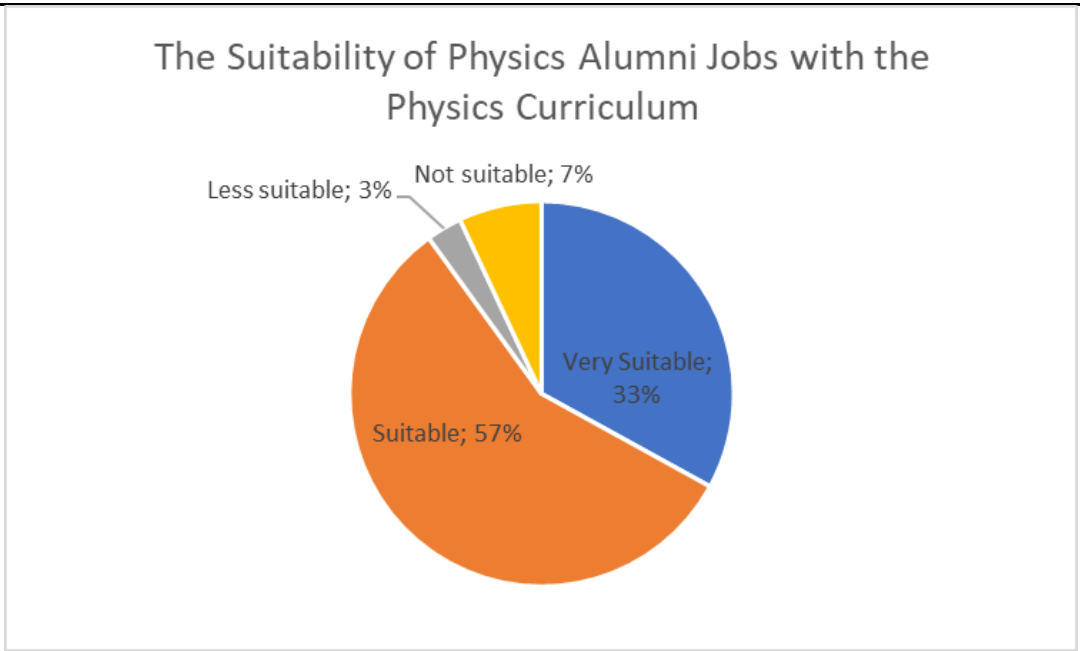
| | The overall quality management system is effective in identifying weaknesses and improving programmes. All stakeholders are involved in the process. The results of these processes are incorporated into the continuous development of the programme. Processes and responsibilities seem to be well defined for the further development of the programme. The results and any measures derived from the evaluations are communicated to the students. Nevertheless, as explained above in criterion 1.1, the experts suggest that providing a clarification of the questions in the tracer study for BPP might yield more informative and precise results. The questions could also be made more precise. The experts' consensus is that modifications to the questionnaire for the tracer studies for the Physics Programme |  <br>Based on the figure above, the relationship between the field of study and employment for S1-Physics graduates shows quite diverse variations. Based on the data, only 33% of graduates reported that their work had a 'Close' relationship with their physics field of study, which suggests that a small proportion of graduates work in highly suitable fields, such as physics research, education, or engineering fields that require a deep understanding of physics concepts. A total of 57% of graduates reported a "Fairly Close" connection between their studies and their work, which may include jobs that require analytical or technical skills, but are not entirely focused on physics. On the other hand, there were 3% of graduates who stated a "Less Close" relationship and 7% who reported that their jobs were "Not at All" related to physics studies. This suggests that there are some graduates who end up choosing jobs outside of physics, perhaps due to the flexibility of their skills or more diverse career opportunities outside of pure science. A total of 3.70% of graduates reported a "Higher Level" relationship, which could indicate a role with higher responsibility or a managerial role within the relevant field. This data reflects that physics graduates |

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| | are necessary to ensure clarity and avoid potential misunderstandings by the alumni. Furthermore, the experts have been informed that the most recent tracer study was conducted in 2024, whereas the results provided for BPP are from 2022. Therefore, they request that the university provides the results of the 2024 tracer study for this programme. | have a wide range of career options, both directly related to their studies and outside of the discipline. the instrument used during the 2024 tracer study is the link. |

# G Summary: Expert recommendations (06.08.2025)

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

| Degree Programme | ASIIN Seal | Maximum duration of accreditation |
|---|---|---|
| Ba Mathematics | With requirements for one year | 30.09.2031 |
| Ba Physics | With requirements for one year | 30.09.2031 |

**Requirements**

**For all degree programmes**

A 1. (ASIIN 1.4) The admission regulations need to be modified. Students may not be excluded from admission on the basis of color blindness.

A 2. (ASIIN 1.5, 4.2) Ensure that the actual student workload for the Bachelor's thesis is adequately documented, for instance in terms of ECTS in the Diploma Supplement.

A 3. (ASIIN 4.2) Make individual student performance in the Diploma Supplement comparable by adding a grade distribution of the corresponding cohort.

**For The Bachelor's Programme Physics**

A 4. (ASIIN 1.1) The graduate profiles and the programme learning outcomes need to be aligned.

A 5. (ASIIN 1.3) The module titles need to be aligned with the module content.

A 6. (ASIIN 1.3) The module handbook needs to make clear in which compulsory modules basic aspects of molecular physics and elementary particle physics are taught.

**For The Bachelor's Programme Mathematics**

A 7. (ASIIN 1.3, 2, 4.1) The module handbook needs to be reviewed and updated. All compulsory courses including final thesis and electives need to be included in the module descriptions.

## Recommendations

### For all degree programmes

E 1. (ASIIN 3.1) It is recommended to develop a strategy to increase the international experience of lecturers.

### For The Bachelor’s Programme Physics

E 2. (ASIIN 1.3) It is recommended to enhance the collaboration with others institutions and with the private sector to get more funds for modernize the department’s labs in order to consistently strengthen the high quality of the practical parts of the curriculum.

### For The Bachelor’s Programme Mathematics

E 3. (ASIIN 3.3) It is recommended to increase cooperation with external partners and/or industry for curriculum development and improvement of students' skills and career opportunities.

# H Comment of the Technical Committees

## Technical Committee 12 – Mathematics (29.08.2025)

*Assessment and analysis for the award of the ASIIN seal:*

The technical committee follows the assessment of the experts without changes.

The Technical Committee 12 – Mathematics recommends the award of the seals as follows:

| Degree Programme | ASIIN Seal | Maximum duration of accreditation |
|---|---|---|
| Ba Mathematics | With requirements for one year | 30.09.2031 |

## Technical Committee 13 – Physics (05.09.2025)

*Assessment and analysis for the award of the ASIIN seal:*

The TC discusses the procedure and, particularly, the curriculum of the bachelor's programme Physics and the requirement A6. The members agree that molecular physics and elementary particle physics need to be included as required by the ASIIN-SSC of the TC 13 –Physics. The technical committee follows the assessment of the experts without changes.

The Technical Committee 13 – Physics recommends the award of the seals as follows:

| Degree Programme | ASIIN Seal | Maximum duration of accreditation |
|---|---|---|
| Ba Physics | With requirements for one year | 30.09.2031 |

# I Decision of the Accreditation Commission (26.09.2025)

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

The accreditation commission follows the assessment of the experts without changes.

The Accreditation Commission decides to award the following seals:

| Degree Programme | ASIIN Seal | Maximum duration of accreditation |
|---|---|---|
| Ba Mathematics | With requirements for one year | 30.09.2031 |
| Ba Physics | With requirements for one year | 30.09.2031 |

**Requirements**

**For all degree programmes**

A 1. (ASIIN 1.4) The admission regulations need to be modified. Students may not be excluded from admission on the basis of color blindness.

A 2. (ASIIN 1.5, 4.2) Ensure that the actual student workload for the Bachelor's thesis is adequately documented, for instance in terms of ECTS in the Diploma Supplement.

A 3. (ASIIN 4.2) Make individual student performance in the Diploma Supplement comparable by adding a grade distribution of the corresponding cohort.

**For The Bachelor's Programme Physics**

A 4. (ASIIN 1.1) The graduate profiles and the programme learning outcomes need to be aligned.

A 5. (ASIIN 1.3) The module titles need to be aligned with the module content.

A 6. (ASIIN 1.3) The module handbook needs to make clear in which compulsory modules basic aspects of molecular physics and elementary particle physics are taught.

**For The Bachelor's Programme Mathematics**

A 7. (ASIIN 1.3, 2, 4.1) The module handbook needs to be reviewed and updated. All compulsory courses including final thesis and electives need to be included in the module descriptions.

## Recommendations

### For all degree programmes

E 1. (ASIIN 3.1) It is recommended to develop a strategy to increase the international experience of lecturers.

### For The Bachelor's Programme Physics

E 2. (ASIIN 1.3) It is recommended to enhance the collaboration with others institutions and with the private sector to get more funds for modernize the department's labs in order to consistently strengthen the high quality of the practical parts of the curriculum.

### For The Bachelor's Programme Mathematics

E 3. (ASIIN 3.3) It is recommended to increase cooperation with external partners and/or industry for curriculum development and improvement of students' skills and career opportunities.

# Appendix: Programme Learning Outcomes and Curricula

According to the website, the following **objectives (PEO)** and **learning outcomes (PLO) (intended qualifications profile)** shall be achieved by the **Bachelor degree programme Physics (BPP):**

The PEO of the **BPP** are as follows:

"**PEO1**: Able to master and use Physics concepts in professional practice.

**PEO2**: Able to think critically, creatively and innovatively in the field of work.

**PEO3**: Responsible for carrying out his work and upholding professional ethics based on Islamic values.

**PEO4**: Have independence and the ability to work together to improve and develop Physics and its applications in the form of technopreneurship in society.

**PEO5**: Become an individual who has the ability to further study."

The PLOS of **BPP** are as follows:

| PLO | Description |
|---|---|
| PLO-1 | Able to adapt academic norms and ethics in the implementation of science and technology in religious social, national, and state life based on Islamic values |
| PLO-2 | Able to build a responsible attitude, spirit of independence, and entrepreneurship according to their field of expertise |
| PLO-3 | Able to develop logical, systematic, innovative and independent thinking in science and technology to support technopreneurship based on Islamic values. |
| PLO-4 | Able to develop networks and work together in teams based on scientific ethics to produce scientific ideas based on science and technology. |
| PLO-5 | Able to analyze theoretical concepts of classical and modern physics, mathematical methods, and knowledge of technology in relevant problems. |
| PLO-6 | Able to correlate Islamic knowledge, integration of Islam, and science as a scientific paradigm. |
| PLO-7 | Able to formulate physical problems, mathematical models, and alternative solutions that are in accordance with hypotheses based on the results of observations and experiments in the fields of technology and physics science. |
| PLO-8 | Able to disseminate the results of scientific studies in oral and written communication according to the rules of physics science. |

Following curriculum is presented for **BPP**:

| No. | Course Code | Name of Course | Credits (SKS/ECTS) |
|---|---|---|---|
| | | **SEMESTER I** | |
| 1 | 20000011A01 | Pancasila | 2 / 2.94 |
| 2 | 20000011A03 | Indonesian Language | 2 / 2.94 |
| 3 | 20000011A04 | Arabic Language I: Intermediate Listening and Speaking | 2 / 2.94 |
| 4 | 20000011A05 | Arabic Language II: Intermediate Reading and Writing | 2 / 2.94 |
| 5 | 20000011A010 | Philosophy of Science | 2 / 2.94 |
| 6 | 22060411C02 | Fundamental of Mathematics I | 3 / 4.41 |
| 7 | 22060411E01 | Biology | 2 / 2.94 |
| 8 | 22060411E02 | Fundamental of Chemistry | 2 / 2.94 |
| 9 | 22060411E04 | Fundamental of Physics I | 3 / 4.41 |
| 10 | 22060411E08 | Astronomy | 2 / 2.94 |
| | | Total Credits (SKS / ECTS) | 22 /32.34 |
| | | **SEMESTER II** | |
| 1 | 20000011A02 | Civic Education | 2 / 2.94 |
| 2 | 20000011A06 | Arabic Language III: Advanced Listening and Speaking | 2 / 2.94 |
| 3 | 20000011A07 | Arabic IV | 2 / 2.94 |
| 4 | 20000011A11 | History of Islamic Civilization | 2 / 2.94 |
| 5 | 20000011A12 | Theosophy | 2 / 2.94 |
| 6 | 22060411E03 | Fundamental of Mathematics II | 3 / 4.41 |
| 7 | 22060411E05 | Fundamental of Physics II | 3 / 4.41 |
| 8 | 22060411E07 | Earth Science | 2 / 2.94 |
| 9 | 22060411E09 | Statistics | 2 / 2.94 |
| 10 | 22060411E12 | Algorithms and Programming | 2 / 2.94 |
| | | Total Credits (SKS / ECTS) | 22/32.34 |
| | | **SEMESTER III** | |
| 1 | 20000011A08 | English Language I | 3 / 4.41 |
| 2 | 20000011A13 | Study of Al-Qur'an and Al-Hadith | 2 / 2.94 |
| 3 | 20000011A14 | Fiqh | 2 / 2.94 |
| 4 | 22060411E06 | Fluid Physics | 2 / 2.94 |
| 5 | 22060411E13 | Mathematical Physics I | 3 / 4.41 |
| 6 | 22060411E16 | Electronics I | 2 / 2.94 |
| 7 | 22060411E18 | Classical Mechanics | 3 / 4.41 |
| 8 | 22060411E19 | Modern Physics | 3 / 4.41 |
| 9 | 22060411E20 | Alternating Current | 2 / 2.94 |
| 10 | 22060411D25 | Experimental Physics I | 2 / 2.94 |

| | | | |
|---|---|---|---|
| | | Total Credits (SKS/ECTS) | 24 / 35.28 |
| | | **SEMESTER IV** | |
| 1 | 20000011A09 | English Language II | 3 / 4.41 |
| 2 | 22060411E10 | Instrumentation and Measurement | 2 / 2.94 |
| 3 | 22060411E11 | Renewable Energy | 2 / 2.94 |
| 4 | 22060411E14 | Mathematical Physics II | 3 / 4.41 |
| 5 | 22060411E17 | Electronics II | 2 / 2.94 |
| 6 | 22060411E21 | Waves | 3 / 4.41 |
| 7 | 22060411E22 | Digital Electronics | 2 / 2.94 |
| 8 | 22060411E23 | Electricity and Magnetism I | 2 / 2.94 |
| 9 | 22060411E25 | Signal Processing | 2 / 2.94 |
| 10 | 22060411E29 | Experimental Physics II | 2 / 2.94 |
| | | Total Credits (SKS/ECTS) | 23 / 33.81 |
| | | **SEMESTER V** | |
| 1 | 22060411E15 | Mathematical Physics III | 3 / 4.41 |
| 2 | 22060411E24 | Electricity and Magnetism II | 2 / 2.94 |
| 3 | 22060411E26 | Introduction to Nuclear Physics | 2 / 2.94 |
| 4 | 22060411E27 | Optics | 2 / 2.94 |
| 5 | 22060411E30 | Quantum Physics | 3 / 4.41 |
| 6 | 22060411E31 | Thermodynamics | 3 / 4.41 |
| 7 | 22060411E32 | Research Methods | 2 / 2.94 |
| 8 | 22060411E36 | Entrepreneurship | 2 / 2.94 |
| | | Elective Courses | 4 / 5.88 |
| | | Total Credits (SKS/ECTS) | 23 / 33.81 |
| | | **SEMESTER VI** | |
| 1 | 20000011A15 | Community Services | 2 / 2.94 |
| 2 | 22060411C01 | Internship | 2 / 2.94 |
| 3 | 22060411E33 | Statistical Physics | 3 / 4.41 |
| 4 | 22060411E34 | Introduction to Solid State Physiscs | 3 / 4.41 |
| 5 | 22060411E35 | Physics Seminars | 2 / 2.94 |
| | | Elective Courses | 12 / 17.64 |
| | | Total Credits (SKS/ECTS) | 24 / 35.28 |
| | | **SEMESTER VII** | |
| 1 | 22060411E37 | Undergraduate Thesis | 6 / 8.82 |
| | | Elective Courses | 4 / 5.88 |
| | | Total Credits (SKS/ECTS) | 10 / 14.7 |
| | | **SEMESTER VIII** | |
| | | | |
| | | Total Credits (SKS/ECTS) | |

**2.1.1. Elective Courses**

| No. | Course Code | Name of Course | Credits (SKS / ECTS) |
|---|---|---|---|
| | | **SEMESTER V** | |
| 1 | 22060411F01 | Theory of Special Relativity | 2 / 2.94 |

| | | | |
|---|---|---|---|
| 2 | 22060411F02 | Introduction to Astrophysics and Cosmology | 2 / 2.94 |
| 3 | 22060411F11 | Sensor and Transducer | 2 / 2.94 |
| 4 | 22060411F12 | Control System | 2 / 2.94 |
| 5 | 22060411F21 | Seismology | 2 / 2.94 |
| 6 | 22060411F22 | Petroleum Geology | 2 / 2.94 |
| 7 | 22060411F31 | Anatomy and Physiology | 2 / 2.94 |
| 8 | 22060411F32 | Radiation Physics | 2 / 2.94 |
| 9 | 22060411F41 | Introduction to Material Physics | 2 / 2.94 |
| 10 | 22060411F42 | Composite Materials | 2 / 2.94 |
| | | **SEMESTER VI** | |
| 1 | 22060411F03 | Introduction to Particle Physics | 2 / 2.94 |
| 2 | 22060411F04 | Group Theory | 2 / 2.94 |
| 3 | 22060411F05 | Theory of General Relativity | 2 / 2.94 |
| 4 | 22060411F06 | Quantum Mechanics | 2 / 2.94 |
| 5 | 22060411F07 | Advanced Computational Physics | 2 / 2.94 |
| 6 | 22060411F08 | Capita Selecta in Theoretical Physics | 2 / 2.94 |
| 7 | 22060411F13 | Electric Motor | 2 / 2.94 |
| 8 | 22060411F14 | Microcontroller | 2 / 2.94 |
| 9 | 22060411F15 | Analog Electronics | 2 / 2.94 |
| 10 | 22060411F16 | Interfacing | 2 / 2.94 |
| 11 | 22060411F17 | Modern Optics | 2 / 2.94 |
| 12 | 22060411F19 | Artificial Intelligence | 2 / 2.94 |
| 13 | 22060411F23 | Vulcanology and Geothermal | 2 / 2.94 |
| 14 | 22060411F24 | Seismic Exploration | 2 / 2.94 |
| 15 | 22060411F25 | Gravity Fields and Geomagnetic Exploration | 2 / 2.94 |
| 16 | 22060411F27 | Stratigraphy and Geology Structure | 2 / 2.94 |
| 17 | 22060411F28 | Geoelectric and Electromagnetics Exploration | 2 / 2.94 |
| 18 | 22060411F30 | Formation Evaluation | 2 / 2.94 |
| 19 | 22060411F33 | Biomechanics and Bioelectric | 2 / 2.94 |
| 20 | 22060411F34 | Biomaterials | 2 / 2.94 |
| 21 | 22060411F35 | Computational Biophysics | 2 / 2.94 |
| 22 | 22060411F36 | Biosensor | 2 / 2.94 |
| 23 | 22060411F37 | Laser and Bio-optic | 2 / 2.94 |
| 24 | 22060411F38 | Medical Instrumentation | 2 / 2.94 |
| 25 | 22060411F43 | Material Processing | 2 / 2.94 |
| 26 | 22060411F44 | Material Characterizations | 2 / 2.94 |
| 27 | 22060411F45 | Advanced Materials | 2 / 2.94 |
| 28 | 22060411F46 | Electronic Materials | 2 / 2.94 |
| 29 | 22060411F49 | Capita Selecta in Material Physics | 2 / 2.94 |
| 30 | 22060411F50 | Computational of Material Physics | 2 / 2.94 |
| | | **SEMESTER VII** | |
| 1 | 22060411F09 | Relativistic Quantum Theory | 2 / 2.94 |

| | | | |
|---|---|---|---|
| 2 | 22060411F10 | Quantum Field Theory | 2 / 2.94 |
| 3 | 22060411F18 | Robotics | 2 / 2.94 |
| 4 | 22060411F20 | Electronics Workshop | 2 / 2.94 |
| 5 | 22060411F26 | Meteorology and Climatology | 2 / 2.94 |
| 6 | 22060411F29 | GIS and Remote Sensing | 2 / 2.94 |
| 7 | 22060411F39 | Imaging Physics | 2 / 2.94 |
| 8 | 22060411F40 | Biomagnetics | 2 / 2.94 |
| 9 | 22060411F47 | Crystal Diffraction | 2 / 2.94 |
| 10 | 22060411F48 | Materials Experiment | 2 / 2.94 |

According to the website, the following **objectives (PEO)** and **learning outcomes (PLO) (intended qualifications profile)** shall be achieved by the **Bachelor degree programme Mathematics (BPM)**:

The Programme Educational Objectives (PEO) of **BPM** are as follows:

**"Character:** Graduate who

**PEO1**: has a Pancasila spirit and an ulul albab character based on spiritual depth, moral nobility, breadth of knowledge and professional maturity.

**Professional Career**: Graduates who are successful in professional careers according to their scientific fields, have mathematical competence, develop knowledge professionally which aims to produce graduates:

**PEO2**: comprehensive theoretical knowledge of Algebra, Analysis, Applied Mathematics, Statistics and Actuarial Mathematics and Computational Mathematics;

**PEO3:** excel and be competitive in utilizing technology and information in various contexts of solving daily life problems;

**PEO4:** superior and competitive in integrating mathematical knowledge with Islamic values;

**PEO5:** superior and competitive in developing creativity and innovation to solve problems in the world of work".

The Programme Learning Outcomes of **BPM** are as follows:

"**PLO1.** Able to adapt ethical values and be committed to humanitarian norms, local cultural values and national interests (Attitude).

**PLO2.** Able to associate an active role individually and in a team to achieve common goals and can adapt to the work environment (Attitude, apply).

**PLO3.** Able to explain in depth the theoretical concepts of algebra, analysis, applied mathematics, statistics and actuarial, and computing. (Apply, analyze).

**PLO4.** Able to choose basic strategies for exploring mathematical concepts in real problems. (Analyze, evaluate).

**PLO5.** Able to integrate Islamic values with mathematical concepts and apply them in long life education.(Apply, analyze, evaluate).

**PLO6.** Able to apply mathematical modeling principles using appropriate theory. (Apply, analyze, evaluate).

**PLO7.** Able to use thought logically and systematically to analyze real problems in algebra theory, analysis, applied, statistics and actuarial, and computing. (Apply, analyze, evaluate). **PLO8.** Able to experiment follow developments in information technology and use software mathematics to apply algebraic, analytical, applied, statistical and actuarial theory, and computing in solving real problems. (Apply, evaluate, create)

**PLO9.** Able to solve mathematical algorithms real problems. (Analyze, evaluate, create).

**PLO10.** Able to develop mathematical skills to carry out analogies, generalizations and abstractions. (Evaluate, create)

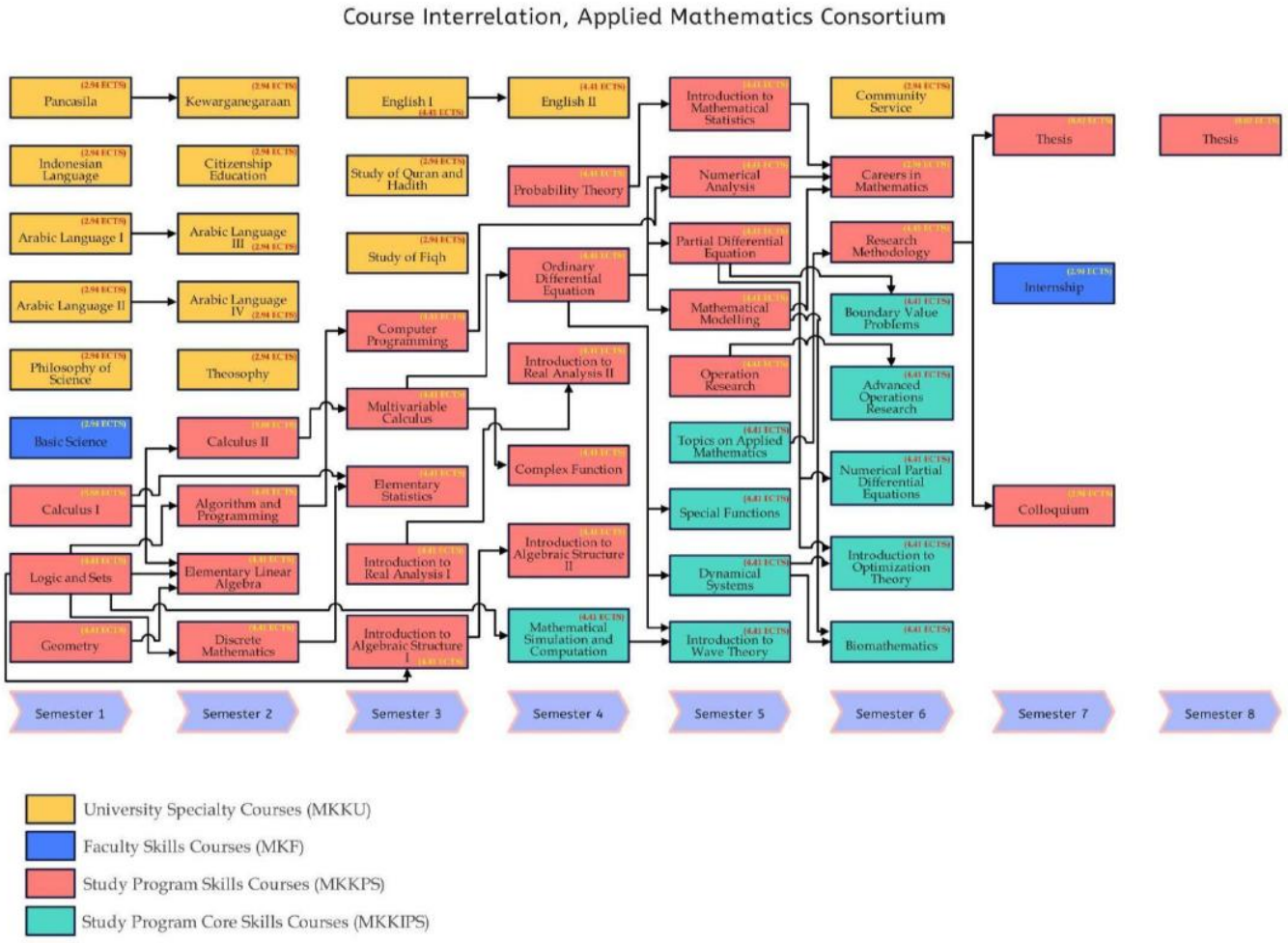
**PLO11.** Able to simulate simple scientific writing and present the results well and correctly orally and writing. (Evaluate, create)

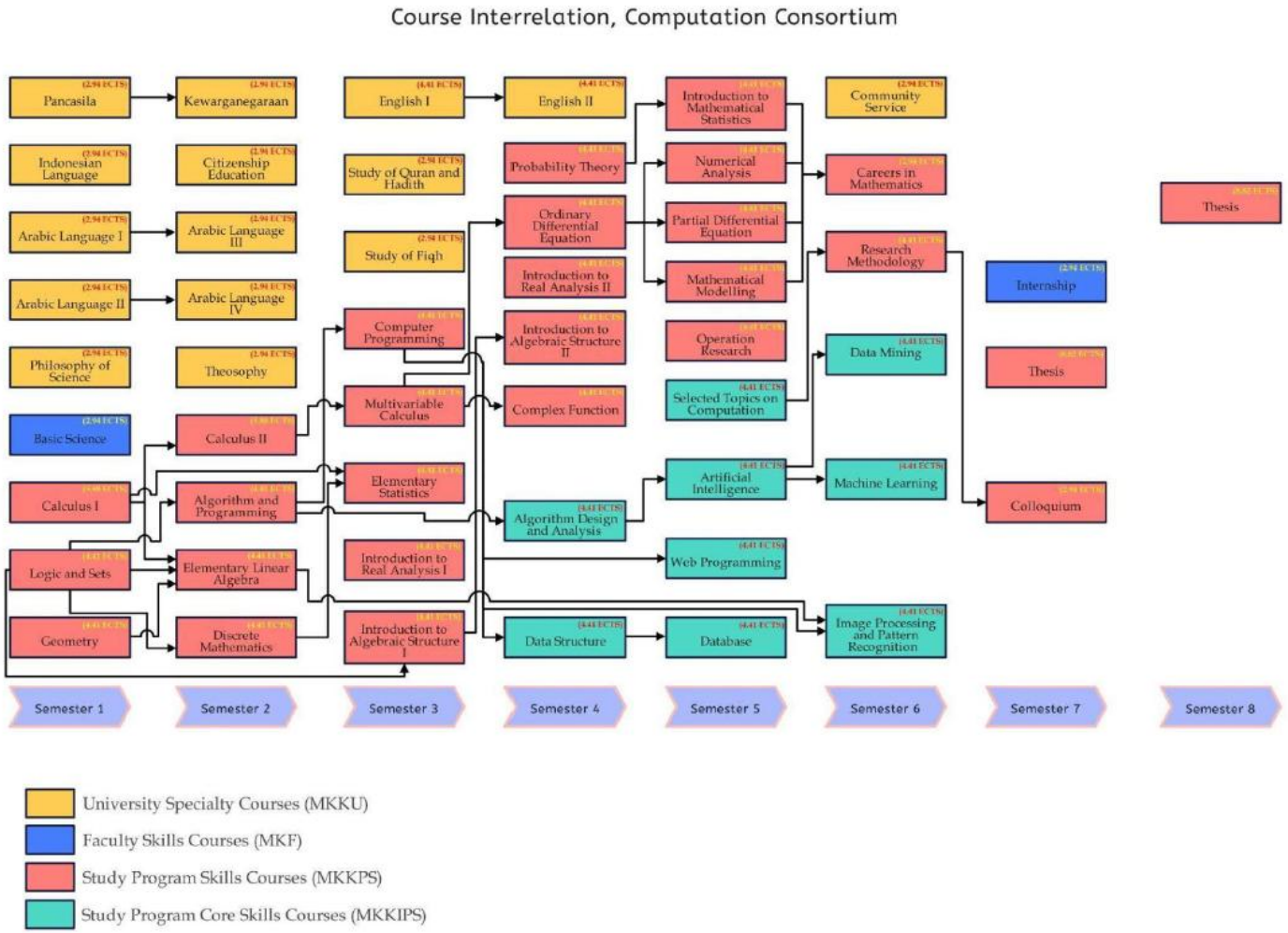
The following **curriculum** is presented for the **Bachelor in Mathematics (BPM)**:

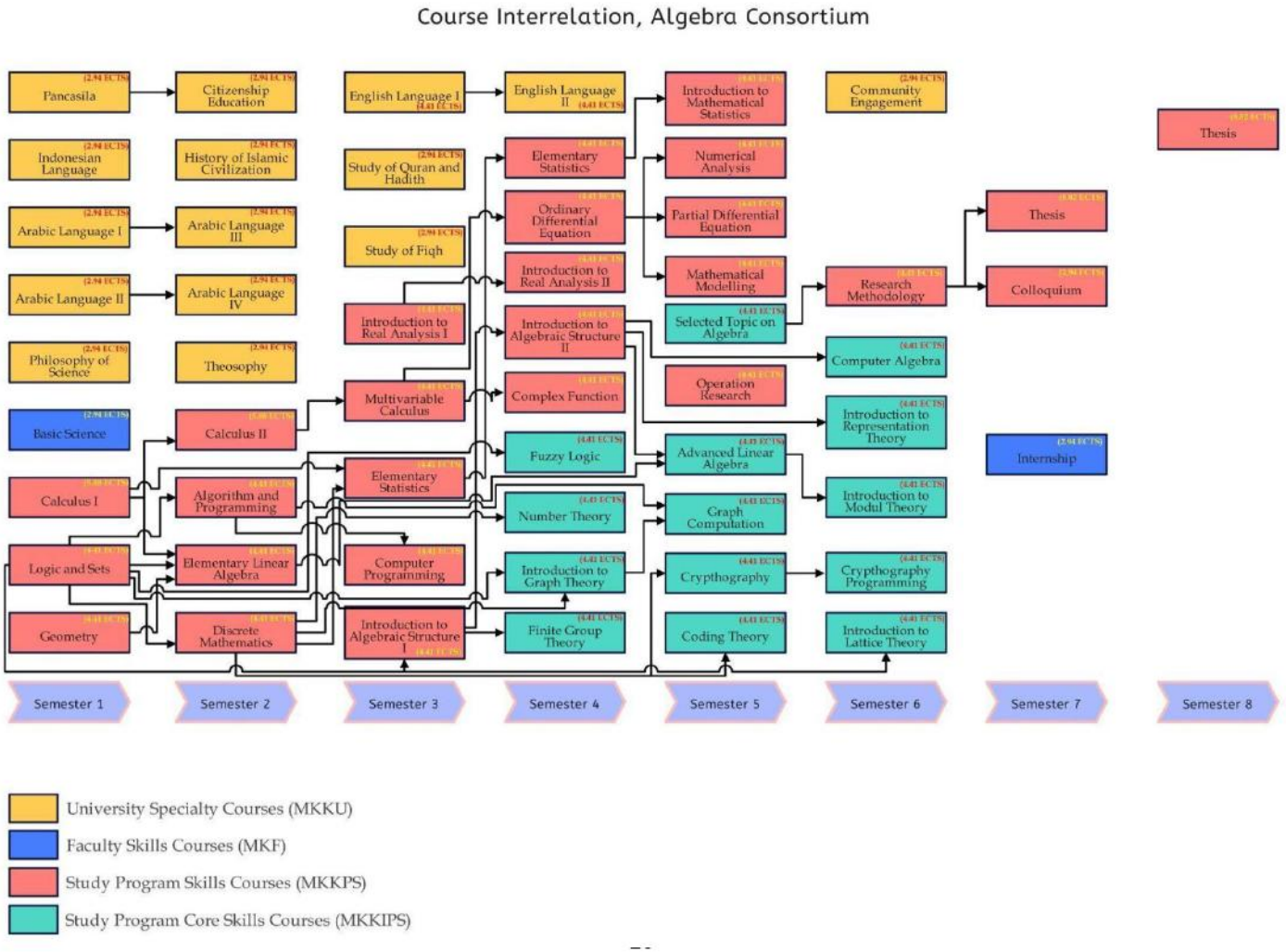
| Semester | Course | SKS | ECTS | Workload |
|---|---|---|---|---|
| I | 1. Pancasila | 2 | 2.94 | |
| | 2. Bahasa Indonesia | 2 | 2.94 | |
| | 3. Basic Science | 2 | 2.94 | |
| | 4. Arabic I | 2 | 2.94 | Charged to Language Learning |
| | 5. Arabic II | 2 | 2.94 | Charged to Language Learning |
| | 6. Philosophy of Science | 2 | 2.94 | |
| | 7. Calculus I | 4 | 5.88 | |
| | 8. Logic and Sets | 3 | 4.41 | |
| | 7. Geometry | 3 | 4.41 | |
| | | | | |
| | Total | 22 | 32.34 | |
| | PKPBA | 4 | 5.88 | |
| | Financing Charges (SKS) | 18 | 26.46 | |
| II | 1. Citizenship | 2 | 2.94 | |
| | 2. Arabic III | 2 | 2.94 | Charged to Language Learning |
| | 3. Arabic IV | 2 | 2.94 | Charged to Language Learning |
| | 4. History of Islamic Civilization | 2 | 2.94 | |
| | 5. Theosophy | 2 | 2.94 | |
| | 6. Calculus II | 4 | 5.88 | |
| | 7. Algorithms and Programming | 3 | 4.41 | Practicum Class (1 credit/2 js) |
| | 8. Elementary Linear Algebra | 3 | 4.41 | |
| | 9. Discrete Mathematics | 3 | 4.41 | |
| | | | | |
| | Total | 23 | 33.81 | |
| | PKPBA | 2 | 2.94 | |
| | Practicum | 2 | 2.94 | |
| | Financing Charges (SKS) | 19 | 27.93 | |
| III | 1. English I | 3 | 4.41 | |
| | 2. Qur'an and Hadith Studies | 2 | 2.94 | |
| | 3. Fiqh Studies | 2 | 2.94 | |
| | 4. Computer Programming | 3 | 4.41 | Practicum Class (1 credit/2 js) |
| | 5. Multivariable Calculus | 4 | 5.88 | |
| | 6. Elementary Statistics | 3 | 4.41 | Practicum Class (1 credit/2 js) |
| | 7. Introduction to Real Analysis I | 3 | 4.41 | |
| | 8. Introduction to Algebraic Structures | 3 | 4.41 | |
| | | | | |
| | Financing Charges (SKS) | 23 | 33.81 | |
| | Practicum | 2 | 2.94 | |
| | Financing Charges (SKS) | 21 | 30.87 | |
| IV | 1. English II | 3 | 4.41 | |
| | 2. Ordinary Differential Equation | 3 | 4.41 | |
| | 3. Theory of Chance | 3 | 4.41 | |
| | 4. Introduction to Real Analysis II | 3 | 4.41 | |
| | 5. Introduction to Algebraic Structures | 3 | 4.41 | |
| | 6. Complex Functions | 3 | 4.41 | |
| | 7. Elective Course | 3 | 4.41 | Practicum Class (2 credits/2 js) |
| | 8. Elective Course | 3 | 4.41 | Practicum Class (2 credits/2 js) |
| | | | | |
| | Financing Charges (SKS) | 24 | 35.28 | |
| | Practicum | 4 | 5.88 | |
| | Financing Charges (SKS) | 20 | 29.4 | |
| V | 1. Introduction to Mathematical Statis | 3 | 4.41 | |
| | 2. Numerical Analysis | 3 | 4.41 | Practicum Class (1 credit/2 js) |
| | 3. Partial Differential Equation | 3 | 4.41 | |
| | 4. Mathematical Modeling | 3 | 4.41 | Practicum Class (1 credit/2 js) |
| | 5. Operations Research | 3 | 4.41 | |
| | 6. Elective Course | 3 | 4.41 | Practicum Class (2 credits/2 js) |
| | 7. Elective Course | 3 | 4.41 | Practicum Class (2 credits/2 js) |

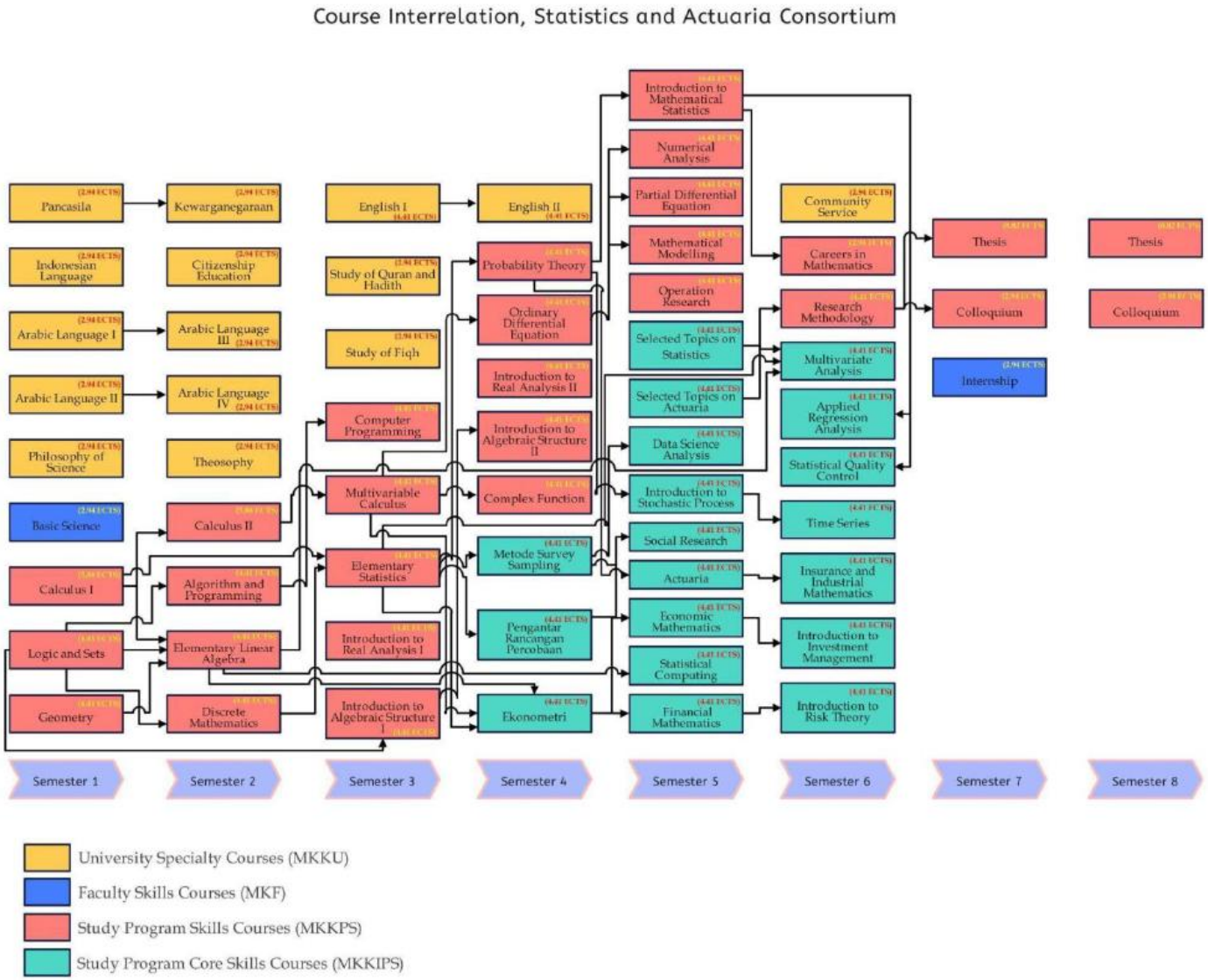
| | | | | |
|---|---|---|---|---|
| | 8. Elective Course, Selected Topics | 3 | 4.41 | |
| | | | | |
| | Total | 24 | 35.28 | |
| | Practicum | 6 | 8.82 | |
| | Financing Charges (SKS) | 18 | 26.46 | |
| VI | 1. KKM | 2 | 2.94 | |
| | 2. Careers in Mathematics | 2 | 2.94 | |
| | 3. Research Methodology | 3 | 4.41 | |
| | 4. Elective Course | 3 | 4.41 | Practicum Class (2 credits/2 js) |
| | 5. Elective Course | 3 | 4.41 | Practicum Class (2 credits/2 js) |
| | 6. Elective Course | 3 | 4.41 | Practicum Class (2 credits/2 js) |
| | 7. Elective Course | 3 | 4.41 | Practicum Class (2 credits/2 js) |
| | | | | |
| | Total | 19 | 27.93 | |
| | Practicum | 8 | 11.76 | |
| | Financing Charges (SKS) | 11 | 16.17 | |
| VII | 1. PKL | 2 | 2.94 | |
| | 2. Math Seminar* | 2 | 2.94 | |
| | 3. Thesis* | 6 | 8.82 | |
| | 4. Elective Course | 3 | 4.41 | |
| | | | | |
| | Total | 13 | 19.11 | |
| | carried out separately | 10 | 14.7 | |
| | Financing Charges (SKS) | 3 | 4.41 | |
| | | | | |
| VIII | 1. Math Seminar* | 2 | 2.94 | |
| | 2. Thesis* | 6 | 8.82 | |
| | | | | |
| | carried out separately | 8 | 11.76 | |
| | TOTAL SKS | 148 | 217.56 | |

The courses distribution for each consortium of **BPM** is as follows:


Course Interrelation, Applied Mathematics Consortium
Pancasila
Kewarganegaraan
Indonesian Language
Citizenship Education
Arabic Language I
Arabic Language III
Arabic Language II
Arabic Language IV
Philosophy of Science
Theosophy
Basic Science
Calculus II
Calculus I
Algorithm and Programming
Logic and Sets
Elementary Linear Algebra
Geometry
Discrete Mathematics
English I
English II
Study of Quran and Hadith
Probability Theory
Study of Fiqh
Ordinary Differential Equation
Computer Programming
Introduction to Real Analysis II
Multivariable Calculus
Complex Function
Elementary Statistics
Introduction to Algebraic Structure II
Introduction to Real Analysis I
Mathematical Simulation and Computation
Introduction to Algebraic Structure I
Introduction to Mathematical Statistics
Community Service
Numerical Analysis
Careers in Mathematics
Partial Differential Equation
Research Methodology
Mathematical Modelling
Boundary Value Problems
Operation Research
Advanced Operations Research
Topics on Applied Mathematics
Numerical Partial Differential Equations
Special Functions
Introduction to Optimization Theory
Dynamical Systems
Introduction to Wave Theory
Biomathematics
Thesis
Thesis
Internship
Colloquium
Semester 1
Semester 2
Semester 3
Semester 4
Semester 5
Semester 6
Semester 7
Semester 8
University Specialty Courses (MKKU)
Faculty Skills Courses (MKF)
Study Program Skills Courses (MKKPS)
Study Program Core Skills Courses (MKKIPS)


Course Interrelation, Computation Consortium
Pancasila
Kewarganegaraan
English I
English II
Introduction to Mathematical Statistics
Community Service
Indonesian Language
Citizenship Education
Study of Quran and Hadith
Probability Theory
Numerical Analysis
Careers in Mathematics
Thesis
Arabic Language I
Arabic Language III
Study of Fiqh
Ordinary Differential Equation
Partial Differential Equation
Research Methodology
Arabic Language II
Arabic Language IV
Introduction to Real Analysis II
Mathematical Modelling
Internship
Computer Programming
Introduction to Algebraic Structure II
Operation Research
Data Mining
Philosophy of Science
Theosophy
Thesis
Multivariable Calculus
Complex Function
Selected Topics on Computation
Basic Science
Calculus II
Elementary Statistics
Artificial Intelligence
Machine Learning
Calculus I
Algorithm and Programming
Algorithm Design and Analysis
Colloquium
Logic and Sets
Elementary Linear Algebra
Introduction to Real Analysis I
Web Programming
Geometry
Discrete Mathematics
Introduction to Algebraic Structure I
Data Structure
Database
Image Processing and Pattern Recognition
Semester 1
Semester 2
Semester 3
Semester 4
Semester 5
Semester 6
Semester 7
Semester 8
University Specialty Courses (MKKU)
Faculty Skills Courses (MKF)
Study Program Skills Courses (MKKPS)
Study Program Core Skills Courses (MKKIPS)


Course Interrelation, Algebra Consortium
Pancasila
Citizenship Education
Indonesian Language
History of Islamic Civilization
Arabic Language I
Arabic Language III
Arabic Language II
Arabic Language IV
Philosophy of Science
Theosophy
Basic Science
Calculus II
Calculus I
Algorithm and Programming
Logic and Sets
Elementary Linear Algebra
Geometry
Discrete Mathematics
English Language I
Study of Quran and Hadith
Study of Fiqh
Introduction to Real Analysis I
Multivariable Calculus
Elementary Statistics
Computer Programming
Introduction to Algebraic Structure I
English Language II
Elementary Statistics
Ordinary Differential Equation
Introduction to Real Analysis II
Introduction to Algebraic Structure II
Complex Function
Fuzzy Logic
Number Theory
Introduction to Graph Theory
Finite Group Theory
Introduction to Mathematical Statistics
Numerical Analysis
Partial Differential Equation
Mathematical Modelling
Selected Topic on Algebra
Operation Research
Advanced Linear Algebra
Graph Computation
Cryptography
Coding Theory
Community Engagement
Research Methodology
Computer Algebra
Introduction to Representation Theory
Introduction to Modul Theory
Cryptography Programming
Introduction to Lattice Theory
Thesis
Colloquium
Internship
Thesis
Semester 1
Semester 2
Semester 3
Semester 4
Semester 5
Semester 6
Semester 7
Semester 8
University Specialty Courses (MKKU)
Faculty Skills Courses (MKF)
Study Program Skills Courses (MKKPS)
Study Program Core Skills Courses (MKKIPS)


Course Interrelation, Statistics and Actuaria Consortium
Pancasila
Kewarganegaraan
Indonesian Language
Citizenship Education
Arabic Language I
Arabic Language III
Arabic Language II
Arabic Language IV
Philosophy of Science
Theosophy
Basic Science
Calculus II
Calculus I
Algorithm and Programming
Logic and Sets
Elementary Linear Algebra
Geometry
Discrete Mathematics
English I
English II
Study of Quran and Hadith
Study of Fiqh
Computer Programming
Multivariable Calculus
Elementary Statistics
Introduction to Real Analysis I
Introduction to Algebraic Structure I
Probability Theory
Ordinary Differential Equation
Introduction to Real Analysis II
Introduction to Algebraic Structure II
Complex Function
Metode Survey Sampling
Pengantar Rancangan Percobaan
Ekonometri
Introduction to Mathematical Statistics
Numerical Analysis
Partial Differential Equation
Mathematical Modelling
Operation Research
Selected Topics on Statistics
Selected Topics on Actuaria
Data Science Analysis
Introduction to Stochastic Process
Social Research
Actuaria
Economic Mathematics
Statistical Computing
Financial Mathematics
Community Service
Careers in Mathematics
Research Methodology
Multivariate Analysis
Applied Regression Analysis
Statistical Quality Control
Time Series
Insurance and Industrial Mathematics
Introduction to Investment Management
Introduction to Risk Theory
Thesis
Colloquium
Internship
Thesis
Colloquium
Semester 1
Semester 2
Semester 3
Semester 4
Semester 5
Semester 6
Semester 7
Semester 8
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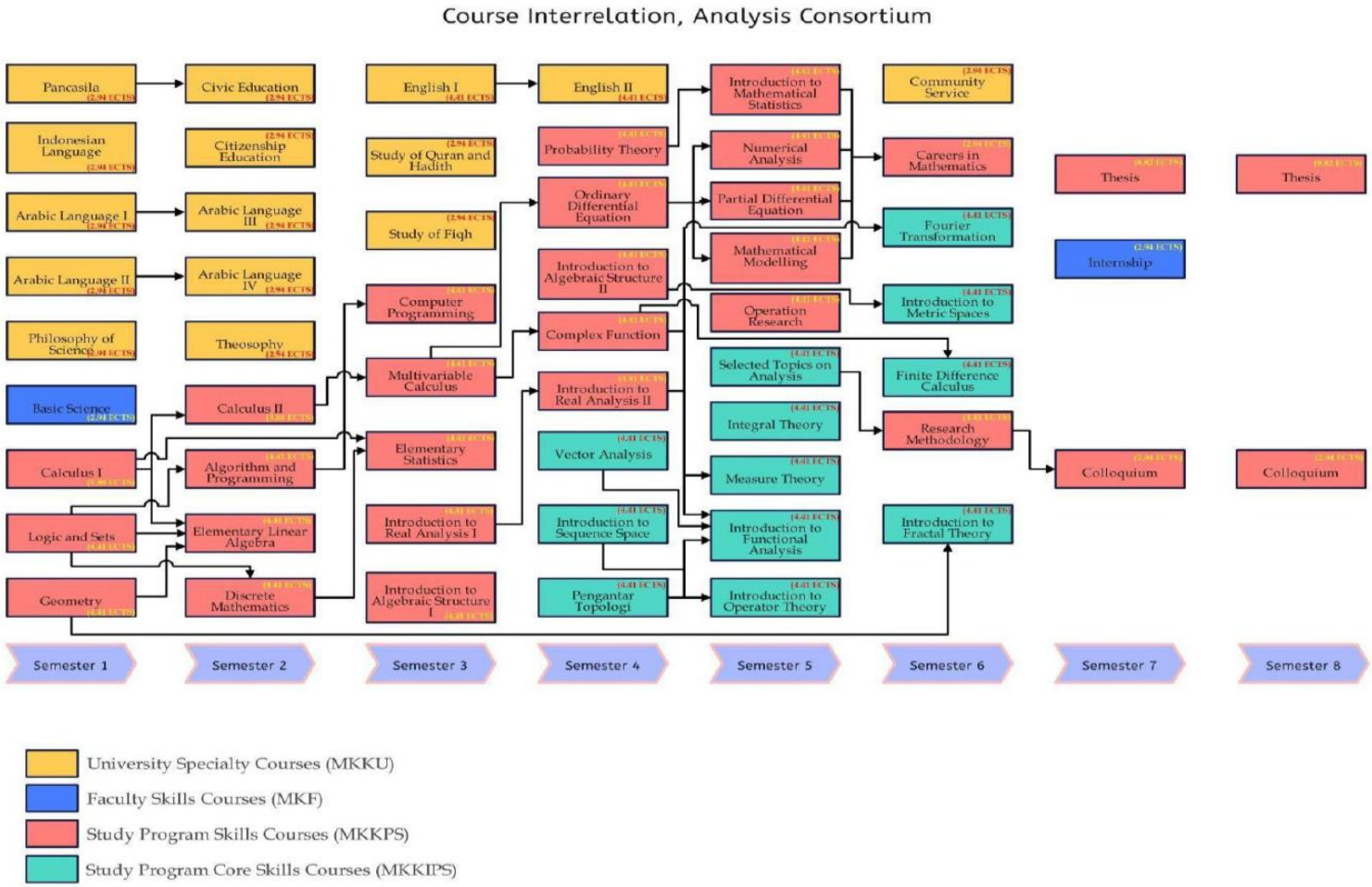
Course Interrelation, Analysis Consortium
Pancasila
Civic Education
Indonesian Language
Citizenship Education
Arabic Language I
Arabic Language III
Arabic Language II
Arabic Language IV
Philosophy of Science
Theosophy
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Study of Quran and Hadith
Probability Theory
Study of Fiqh
Ordinary Differential Equation
Introduction to Algebraic Structure II
Computer Programming
Complex Function
Multivariable Calculus
Introduction to Real Analysis II
Elementary Statistics
Vector Analysis
Introduction to Real Analysis I
Introduction to Sequence Space
Introduction to Algebraic Structure I
Pengantar Topologi
Introduction to Mathematical Statistics
Community Service
Numerical Analysis
Careers in Mathematics
Partial Differential Equation
Fourier Transformation
Mathematical Modelling
Introduction to Metric Spaces
Operation Research
Selected Topics on Analysis
Finite Difference Calculus
Integral Theory
Research Methodology
Measure Theory
Introduction to Functional Analysis
Introduction to Fractal Theory
Introduction to Operator Theory
Thesis
Thesis
Internship
Colloquium
Colloquium
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