ASIIN Seal & Eurobachelor®
Accreditation Report

Bachelor's Degree Programs
Applied Mathematics
Chemistry
Physics

Master's Degree Program
Mathematics

Provided by
Imam Mohammad Ibn Saud Islamic University

Version: 24 September 2024

Table of Content

A About the Accreditation Process

Name of the degree program (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
بكالوريوس العلوم في الرياضيات التطبيقية	Bachelor of Science in Applied Mathematics	ASIIN	ASIIN 07.12.2018 – 30.09.2024.	12
بكالوريوس العلوم في الكيمياء	Bachelor of Science in Chemistry	ASIIN, Eurobachelor®	ASIIN, Eurobachelor® 07.12.2018 – 30.09.2024.	09
بكالوريوس العلوم في الفيزياء	Bachelor of Science in Physics	ASIIN	ASIIN 07.12.2018 – 30.09.2024	13
ماجستير العلوم في الرياضيات	Master of Science in Mathematics	ASIIN	ASIIN 07.12.2018 – 30.09.2024.	12
Date of the contract: 14.11.2023 **Submission of the final version of the self-assessment report:** 11.03.2024 **Date of the onsite visit:** 15.–16.05.2023 **at**: Main university campus in Riyadh (University City for Male Students and King Abdullah City for Female Students)				
Expert panel: Prof. Dr. Claudia Cottin, Hochschule Bielefeld - University of Applied Sciences and Arts				

[1] ASIIN Seal for degree programs; Eurobachelor®/Euromaster® Label: European Chemistry Label for the Bachelor of Science in Chemistry

[2] TC: Technical Committee for the following subject areas: TC 09 - Chemistry; TC 12 - Mathematics; TC 13 – Physics.

Prof. Dr. Barbara Hahn, University of Applied Sciences Koblenz Prof. Dr. Nasser Said Fayal Al-Salti, National University of Science and Technology Prof. Dr. Jörn Volkher Wochnowski, University of Applied Sciences Lübeck Dr. Marc Vandemeulebroecke, UCB Rebekka Pech, student at the King Abdullah University for Science and Technology	
Representative of the ASIIN headquarter: Dr. Andrea Kern	
Responsible decision-making committee: Accreditation Commission for Degree Programs	
Criteria used: European Standards and Guidelines as of May 15, 2015 ASIIN General Criteria, as of December 10, 2015 Subject-Specific Criteria of Technical Committee 09 – Chemistry, Pharmacy as of March 29, 2019 Subject-Specific Criteria of Technical Committee 12 – Mathematics as of December 9, 2016 Subject-Specific Criteria of Technical Committee 13 – Physics as of March 20, 2020	

B Characteristics of the Degree Programs

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Applied Mathematics	B.Sc.		6	Full time	-	12 trimester (4 years)	243.6 ECTS/ 174 NQF	Second semester / 2005-2006
Chemistry	B.Sc.		6	Full time	-	12 trimester (4 years)	243.6 ECTS/ 174 NQF	Second semester / 2005-2006
Physics	B.Sc.		6	Full time	-	12 trimester (4 years)	243.6 ECTS/ 174 NQF	First semester / 2011-2012
Mathematics	M.Sc.		7	Full time	-	6 trimester (2 years)	69.6 ECTS/ 51 NQF	First semester / 2014-2015

Imam Mohammad Ibn Saud Islamic University (IMSIU), located in Riyadh, Saudi Arabia, is a prominent institution. Established in 1974, the university aims to provide a comprehensive education that integrates Islamic values with modern knowledge. IMSIU is overseen by a structured governance system, which includes a Board of Trustees and a University Council. The Board of Trustees, often chaired by a high-ranking government official, sets strategic directions and policies, ensuring the university's alignment with national educational goals. The University Council, led by the university president, manages academic and administrative affairs, ensuring smooth operation and quality education. IMSIU's vision encompasses the aim to reach "Excellence in teaching and research, and dissemination of knowledge to serve the homeland, Islam and humanity". The university has defined the following values: moderateness, transparency, proactivity, excellence, engagement, sustainability, and responsibility. Its development further aligns with the "Vision 2030" of the Kingdom of Saudi Arabia. IMSIU has developed its strategic plan for the period 2021–2025, which focuses on enhancing the students' soft skills and their learning environment. Moreover, IMSIU plans to achieve national and international accreditation. Currently, ISMIU ranks 49th in the QS ranking of Arabian universities and 1st as an excellence indicator for e-learning.

The university is organized into fourteen colleges and five institutes, each specializing in different fields of study. These include College of Science, College of Business, College of

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

Computer and Information Sciences, College of Arabic Language, College of Languages and Translation, College of Media and Communication, College of Sari'ah, College of Fundamentals of Religion and Da'wah, College of Social Sciences, College of Medicine, College of Engineering, College of Education, College of Nursing, Applied College, Higher Institute of Judiciary, Arabic Language Teaching Institute, and English Language Institute. It operates Arabic and Islamic Science Institute in Indonesia, and the Islamic Institute in Djibouti. The university is divided in the University City for Male Students and King Abdullah City for Female Students. On its webpage, ISMIU lists more than 75,000 students in PhD, master and bachelor programs plus additional students in pursing higher and intermediate diplomas.

All study programs under review are managed by the College of Science. On its webpage, the College of Science has outlined a profile with the following mission, vision and objectives [accessed 19.06.2024].

It has defined the following as its mission to "Provide distinguished academic programs accredited in fundamental sciences and their applications to qualify national cadres to meet the requirements of development and plans to localize technology in order to contribute effectively to the development of scientific research and community service."

In addition, the College of Science has published as its vision to provide "Access to excellence in education, scientific research and community service in accordance with national and international standards."

The College of Science targets to reach the following objectives as defined online:

1. Prepare qualified graduates with high scientific skills to suit the labor market requirements.
2. Create new graduate degree programs and expand bachelor's programs.
3. Maintain the excellence in scientific research.
4. Develop learning resources.
5. Improve the role of the college to serve the community.

For the bachelor study program *Applied Mathematics*, IMSIU has presented the following reason for establishing the program in its official Program Specifications document:

"Mathematics plays a critical role in our efforts to understand the nature of the physical universe and in the continuing development of our technological society. There is also a long tradition that recognizes the value of mathematics for its aesthetic appeal to the human spirit. Many students decide to study mathematics for one or both of these reasons.

Students also study mathematics in order to develop critical reasoning skills that can significantly contribute to many personal goals. Of course, the study of mathematics can lead directly to interesting employment opportunities in the mathematical sciences and to future study in graduate school. Within the last few years, the frenetic pace of research and development in computers and high technology has led to strong new imperatives for more mathematical expertise, and the need to nurture a new generation of mathematically competent men and women has never been more crucial for the development of our kingdom. For these reasons, TODAY, there is a growing demand of teachers and researchers in mathematics who are able to combine between Mathematics and other disciplines."

For the bachelor study program ***Chemistry***, the institution has presented the following reason for establishing the program in its official Program Specifications document:

i. "Economic reasons
   Satisfy the consistent demand of the job market for students who can combine chemistry with other disciplines.
   1. Supplying highly qualified chemists for research and development laboratories
   2. Satisfy the growing demand for teachers and researchers in Chemistry.
   3. Participate in the country's economic growth.

ii. Social or cultural reasons
   4. Communal awareness and safety education on hazardous materials affecting health and protection of the environment
   5. To set bases for staff and students to acquire international recognition and efficiently compete for international awards and national prizes."

For the bachelor study program ***Physics***, the institution has presented the following reason for establishing the program in its official Program Specifications document:

"The Physics serves as a fundamental science underlying the study of all natural phenomena, i.e., knowing and understanding the fundamental laws of nature is important for all areas of scientific investigation. The elegant experiments and fundamental theories in Physics have provided much of the advancements in present-day science and technology. From the smallest subatomic particles to the vastness of cosmic expansion, and at the intermediate scales of our lives for solid-state electronics, superconductivity and physical events-Physics profoundly impacts our understanding of nature and our ability to harness its secrets for the progress of human kind.

Several universities in KSA have a good presence in natural sciences and its applications, since their foundation. Consequently, our department offers fundamental roles in making IMSIU successful in its role as an anchor university in Riyadh according to its mission. The Physics department has a clear and published mission statement that is appropriate for higher education and consonant with the mission and strategic priorities of the university and college.

The Physics program is designed to offer a solid foundation in both classical and modern Physics. Students take a range of introductory and advanced classes in different physical fields. In addition, the laboratory courses give student valuable skills and knowledge in experimental Physics in connection with theoretical Physics. Moreover, students develop a comprehensive set of valuable skills such as: mathematical and conceptual reasoning, computer skills, leadership and communication skills, problem solving, creativity, synthesizing and applying theory to real world problems. University requirement courses are concerned with religion, moral and historical aspects which enhance the global moral values and professional ethics adapting to scientists and social values."

For the master's degree program ***Mathematics***, the institution has presented the following reason for establishing the program in its official Program Specifications document:

I. "To contribute in filling the shortage of mathematical sciences graduate study programs in the higher education system at Saudi Arabia.
II. To utilize local graduate studies in mathematical sciences for student's – especially females – that for social or other reasons - can't seek their graduate studies outside the kingdom.
III. Graduate student of this program is expected to be well prepared for professional careers in disciplines which make use of the mathematical sciences.
IV. The graduate student of this program will be able to compete successfully for internship and employment positions in government, industry, and non-profit organizations.
V. Graduates of this program will have the readiness for outreach toward application areas such as physical sciences, financial services, and social sciences and have the knowledge, experience, and motivation to bring the tools of mathematics to bear on real-world problems.
VI. The program will produce qualified lecturers in the academic fields of mathematical sciences to cover the needs of community colleges and professional institutes in Saudi Arabia.

VII. Graduates of this program will have the intellectual curiosity and flexibility to keep up with developing technology applied in science and with the new methods in contemporary mathematical fields.

VIII. Graduates of this program are expected to become sufficiently proficient in the core academic material to permit further study at the PhD level in pure and applied mathematics and related scientific fields in engineering disciplines and computer sciences."

C Expert Report for the ASIIN Seal[4]

1. The Degree Program: Concept, Content & Implementation

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

Evidence:

- Self-assessment report
- Documents “Program Specification”
- IMSIU strategic plan
- National Qualification Framework of the Kingdom of Saudi Arabia (second edition, 2023)
- Saudi Standard Classification of Educational Levels and Specializations
- Webpage IMSIU https://imamu.edu.sa/en/Pages/default.aspx
- Webpage College of Science https://units.imamu.edu.sa/colleges/en/science/Pages/default.aspx
- Webpage Ba Applied Mathematics https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of%20_M/acp/Pages/Bsc-Applied-Mathematics-.aspx
- Webpage Ba Chemistry https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of_C/ap/Pages/Bsc-Chemistry.aspx
- Webpage Ba Physics https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of_Ph/ap/Pages/BSc-Physics.aspx
- Webpage Ma Mathematics https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of%20_M/acp/Pages/MSc-Mathematics.aspx
- Discussion of the audit

[4] This part of the report applies also for the assessment for the European subject-specific labels. After the conclusion of the procedure, the stated requirements and/or recommendations and the deadlines are equally valid for the ASIIN seal as well as for the sought subject-specific label.

Preliminary assessment and analysis of the experts:
IMSIU describes in its self-assessment report that it defines a mission, goals, program learning outcomes (PLOs) and a qualification profile for all its study programs. The design of the study programs follows the National Qualification Framework of the Kingdom of Saudi Arabia (second edition, 2023) and the Saudi Standard Classification of Educational Levels and Specializations. Both national documents guide the structure and the content of the study programs. At IMSIU, responsible curriculum committees are monitoring the study programs, who develop improvements based on the feedback from various internal and external stakeholders and the developments in the respected fields and the job market. In addition, benchmarking of their study programs against national and international programs is conducted during regular reviews. All quality management processes are coordinated with the Deanship of Development and Quality and require approval by the University Council. The design of the study programs follows national regulations from the NCAAA and international standards such as the ASIIN criteria.

According to the self-assessment report and the presentation of the bachelor program *Applied Mathematics* on IMSIU's webpage [accessed on 20.06.2024], the university has defined the following program learning outcomes (PLOs)

Knowledge and understanding	
K1	Outline the basics of Mathematics.
K2	Describe the development of the application of Mathematics in a wide range of situations.
Skills	
S1	Develop critical abilities of an analytical, creative and problem-solving nature.
S2	Design basic mathematical models of real-life problems.
S3	Develop critical skills.
S4	Communicate mathematical ideas orally and in writing.
S5	Use computer technology and software for solving mathematical problems.
Values	
V1	Demonstrate integrity, professional and academic ethics.
V2	Self-evaluate of the level of learning and performance, and make logical decisions supported by evidence and arguments independently.

V3	Lead teamwork with functional flexibility and effectiveness, and take responsibility for professional development.

IMSIU further presents a matrix, which compares the skills and competences achieved in the bachelor program Applied Mathematics with the criteria of the ASIIN Technical Committee 12 – Mathematics. The experts review the presented documentation and confirm that these align with the subject-specific criteria developed by the Technical Committee 12.

IMSIU describes in its self-assessment report that the employment possibilities of graduates in the bachelor program *Applied Mathematics* include the education sector (schools, universities and research institutes) and the private sector (e.g. banks, insurance companies and other private companies). In addition, students are qualified to continue their higher education. This has been confirmed during the interviews.

IMSIU describes that students in the bachelor program Physics shall reach the following competences at graduation:

Knowledge and understanding	
K1	Recognize a broad set of knowledge concerning the fundamental principles and concepts of physics.
K2	Outline a knowledge and specialized understanding of processes, tools, methods, and practices based on recent developments in physics.
Skills	
S1	Apply the concepts, principles and theories involved in addressing issues and problems in a range of different contexts.
S2	Critically evaluate knowledge and use it to provide innovative solutions to contemporary issues and problems in physics.
S3	Practice statistical methods and analysis in investigating different issues and case study research.
S4	Communicate in different ways demonstrating an understanding of theoretical knowledge, transferring knowledge and specialized skills, and sharing ideas within a variety of audience.

S5	Choose and use a variety of digital technology, information, communication technology tools, to process, analyze and produce data and information; to support and promote specialized research and projects.
Values	
V1	Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some societal issues, and a commitment to responsible citizenship.
V2	Self-evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.
V3	Lead teamwork with functional flexibility and effectiveness, and take responsibility for professional development, participating in developing the group's performance, and enhancing the quality of life.

As presented in the self-assessment report and on the webpage [accessed on 26.06.2024], the PLOs of the study programs align with the criteria of the ASIIN Technical Committee 13 – Physics. IMSIU demonstrates that specialist competences and social competences are researched based on several key performance indicators.

IMSIU outlines the job opportunities for the graduates in the bachelor program ***Physics*** in the self-assessment report. Next to various opportunities in the education sector, graduates can find employment in the industry at companies or governmental laboratories.

Similarly, IMSIU presents the PLOs of the bachelor study program ***Chemistry*** in its self-assessment report and on the webpage of the study program [accessed on 26.06.2024]

Knowledge and understanding	
K1	Recall the fundamentals and application of all topics of chemistry and their relevant.
K2	Describe principals of different instruments and their functionality and applications.
K3	Identify and elucidate chemical compounds in terms of structures, reactivity and applications.
Skills	

S1	Develop skills in problem-solving, critical thinking, and scientific, logical reasoning.
S2	Create awareness about the impact of chemistry on the society and environment as well as develop research skills for a specific target.
S3	Utilize a well -developed skills for analysis and evaluation of the complex scientific problem.
S4	Be updating for all advanced techniques and chemistry experiments performance added for developing solving solutions to complex problems related to a professional target. And applying all fundamental principles for the complex field tasks.
Values	
V1	Create awareness to maintain intellectual and scientific integrity during assignments, projects, and reports.
V2	Appraise teamwork, decision-making in unpredictable work, and management of resources and time.

The experts consider that the PLOs of the bachelor program Chemistry fulfill the ASIIN subject specific criteria of the Technical Committee 09 – Chemistry, Pharmacy.

In addition, the experts evaluate if the bachelor program ***Chemistry*** qualifies for receiving the Eurobachelor® label. The experts compare the learning outcomes of the study programs with the Eurobachelor® Guidelines for Applications of the European Chemistry Thematic Network considering the subject knowledge, abilities and skills students need to achieve at graduation. After studying the submitted documentation and after completing the discussions during the on-site visit, the experts conclude that the study programs under review cover all the required competence highlighted by European Chemistry Thematic Network. They consider that the intended learning outcomes of the bachelor program ***Chemistry*** aligns with the requirements for the Eurobachelor® label. Consequently, the experts recommend the bachelor program ***Chemistry*** to receive the Eurobachelor® label.

IMSIU states in its self-assessment report that graduates from the bachelor program ***Chemistry*** often find employment in schools, colleges and universities. Additional demand is in governmental areas such as chemical laboratories, research and development laboratories and as administration employers. Jobs opportunities in the industry exist in quality control laboratories, in, for example, the pharmaceutical industry, the mining industry, the food industry or within environmental protection agencies.

IMSIU has defined a competence profile for the master program *Mathematics* in accordance with the national regulations and the needs of various stakeholders. Based on their previous analysis, they have defined the following PLOs as presented in the self-assessment report and on the webpage of the study program [accessed on 26.06.2024]

Knowledge and understanding	
K1	Demonstrate a solid understanding of advanced topics in Mathematics.
K2	Outline the areas of specialization through studying specific topics relevant to research in mathematics.
Skills	
S1	Apply advanced mathematical knowledge to analyze problems and develop innovative solutions.
S2	Develop critical skills with regard to literature searching, appraising and evaluating from a variety of sources and synthesizing the results.
S3	Communicate in a clear and concise manner orally, on paper and using IT.
S4	Make efficient use of computer for acquiring, analyzing and presenting information.
Values	
V1	Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some societal issues, and a commitment to responsible citizenship.
V2	Self-evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.
V3	Lead teamwork with functional flexibility and effectiveness, and take responsibility for professional development, participating in developing the group's performance, and enhancing the quality of life.

In addition, IMSIU presents evidence demonstrating that the PLOs are in agreement with the requirements for a master program in Mathematics according to the ASIIN Technical Committee 12 – Mathematics.

According the self-assessment report, graduates from the master program *Mathematics* find potential occupation at universities and research centers; in addition, some are also recruited by companies from the financial and industrial sector or continue to pursue their PhD.

The experts discuss with the program coordinators whether in their view their university focusses rather on research or teaching. They explain that in their opinion, IMSIU is both, a research and a teaching university. Although the staff's main responsibility lies on teaching, the university management is actively supporting research across all colleges. The program coordinators mention incentives and various awards as tokens of motivation. The university management also fosters research projects among different colleges as well as international collaborations.

The experts are further interested in how ISMIU manages its collaboration with the industry, especially regarding the study programs under review. The representatives of the rector's office describe that as the most important measure, IMSIU remains in contact with their alumni to collect their feedback. Several of the alumni, especially those employed in the private sector, are often highly motivated to remain in contact and establish collaborations. Since the beginning of 2024, each college of IMSIU has initiated an Advisory Committee. The program coordinators add that interactions with the industry take place in all branches of the College of Science. IMSIU highlights that they are currently developing new formal collaborations to support students in the module "Field training" which will be implemented in the next two years. Students shall spend one full trimester in a company to practice their skills and to prepare themselves for the job market. Until now, students could only take part in internships outside of the curriculum (usually in the off-semester period), which has proven very beneficial for their acceptance in the job market. Regular collaborations include the King Abdulaziz City for Science and Technology (KACST) or the King Faisal Specialist Hospital and Research Center (see criterion 1.3).

In addition, the program coordinators describe that students are involved in the improvement of the study programs. Students form a Student Department Council, where students meet with the Head of the Department to discuss concerns, complains and general feedback. This includes topics regarding the improvement of their study program. Students are well-represented in IMSIU's decision making bodies, including the University Council, where three male and three female students are members. In addition, three alumni are part of the University Council. Members of this council are nominated based on letters of recommendation since membership is based on their previous achievements. Conse-

quently, only well-performing students can be selected. However, the program coordinators are uncertain about specific rules or regulations in this regard. The students are aware of the representation in university bodies. Additionally, IMSIU has an Alumni Committee, which are invited to join various events on campus. The Alumni Committee was formed only several years ago and still undergoes regular changes in its structure and responsibilities. One initiative under discussion is an Alumni Day on campus to improve the connection between IMSIU and its alumni. The alumni appreciate the initiative of IMSIU to stay connected; they confirm that they have received email and initiations to give feedback on their study programs.

Considering the acceptance and job opportunities of graduates on the job market, the expert panels notice that during the accreditation in 2018, a high number of graduates worked in the educational sector (particularly female graduates). However, according to the program coordinators, this situation has changed today, resulting in a rather low number of graduates working as teachers. On average, they estimate three to four students per cohort pursue a career in education. They add that graduates need to complete a national test to qualify for work in schools, which has to be completed in addition to particular the study program. However, the experts form the opinion that the described qualification profile in the self-assessment report still highlights a professional career in education in all three bachelor programs under review. Thus, the experts wonder how the programs support the students to reach these competences since they are not visible in the curriculum. The program coordinators acknowledge that there are still students, who want to pursue a career in education. These students can take part in voluntary extra-curricular training programs offered by IMSIU. The students confirm this situation; in the discussion, there are few individuals, who want to continue with a career in education while the majority prefers to work in industry or pursue a higher degree at the university. The alumni working at schools appreciate the extra-curricular courses to prepare themselves for the national exam. In their opinion, in that way they could learn the basics in didactics and teaching for becoming a teacher. In addition, they stated that in their IMSIU study programs, they gained all competences needed to pass the national exam to become a teacher. The program coordinators continue to discuss the job situation for graduates of the study programs under review. Accordingly, graduates in ***Physics*** often work within the medical field.

In the discussion with industry representatives from schools, research institutes, hospitals and universities, they confirm to the experts that they often hire graduates from IMSIU. They describe that some of the graduates have to complete a one-year on-job training before they can be employed.

The industry representatives further confirm to the experts that they received surveys in order to give feedback on improvements for the respective study program and its curriculum. Several of the industry representatives have contributed to improve the study programs during the recent years. In addition, they highlight that they welcome the newly established Advisory Committees, which will also support the development of the study programs in the future.

In the discussion with the students, they highlight the excellent education at IMSIU, which provides them with various opportunities on the job market. Alumni describe their acceptance on the job market in a positive way as they succeeded to find jobs within several month after graduation. They especially appreciate their solid foundation of knowledge, which, among others, allows them to specialize in their field of personal interest. As well students in their final year as alumni emphasize that they have received job offers from companies through the collaboration with IMSIU.

After studying the presented documents and reflecting the discussions during the on-site visit, the experts conclude that IMSIU has defined adequate program learning outcomes (intended competence profile) for the four study programs under review. These learning outcomes describe briefly the students' competences at graduation. The experts confirm that the learning outcomes are transparently presented on the university's webpage and are therefore available to students, lecturers and interested third parties. The experts consider that the defined learning outcomes for the bachelor programs *Applied Mathematics*, *Physics* and *Chemistry* meet the level of the European Qualification Framework 6, whereas the qualifications the students reach in the master program *Mathematics* corresponds with the criteria from level seven. In addition, the experts agree that all study programs further also meet with the ASIIN subject-specific criteria of the responsible technical committees. In the opinion of the experts, the presented learning outcomes are also in agreement with the demands in the job market. The experts further see evidence that the various stakeholders contribute to the development of the study programs.

Criterion 1.2 Name of the Degree Program

Evidence:

- Self-assessment report
- Certificates and Transcript of Records
- Webpage IMSIU https://imamu.edu.sa/en/Pages/default.aspx

- Webpage College of Science https://units.imamu.edu.sa/colleges/en/science/Pages/default.aspx
- Webpage Ba Applied Mathematics https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of%20_M/acp/Pages/Bsc-Applied-Mathematics-.aspx
- Webpage Ba Chemistry https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of_C/ap/Pages/Bsc-Chemistry.aspx
- Webpage Ba Physics https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of_Ph/ap/Pages/BSc-Physics.aspx
- Webpage Ma Mathematics https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of%20_M/acp/Pages/MSc-Mathematics.aspx

Preliminary assessment and analysis of the experts:
The experts study the presented documents and confirm that the respective names of the particular study programs are consistent. This includes university documents, presented certificates and Transcript of Records as well as the presentation of the study program online. The experts confirm that the title of each study program is in agreement with the PLOs and the teaching language.

Criterion 1.3 Curriculum

Evidence:

- Self-assessment report
- Documents “Program Specification”
- Module handbook
- National Qualification Framework of the Kingdom of Saudi Arabia (second edition, 2023)
- Saudi Standard Classification of Educational Levels and Specializations
- Webpage IMSIU https://imamu.edu.sa/en/Pages/default.aspx
- Webpage College of Science https://units.imamu.edu.sa/colleges/en/science/Pages/default.aspx
- Webpage Ba Applied Mathematics https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of%20_M/acp/Pages/Bsc-Applied-Mathematics-.aspx
- Webpage Ba Chemistry https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of_C/ap/Pages/Bsc-Chemistry.aspx

- Webpage Ba Physics https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of_Ph/ap/Pages/BSc-Physics.aspx
- Webpage Ma Mathematics https://units.imamu.edu.sa/colleges/en/science/Academic_D/Dep_of%20_M/acp/Pages/MSc-Mathematics.aspx

- Discussion during the audit

Preliminary assessment and analysis of the experts:
Structure of the programs

IMSIU describes in its self-assessment report that the bachelor programs *Applied Mathematics*, *Physics* and *Chemistry* have a standard duration of four academic years or twelve trimesters. At graduations, students have to complete at least 174 credit points according to the Saudi Arabian credit point system. These can be converted to 243.7 European Credit Transfer and Accumulation System (ECTS) credit points. In each trimester, students should complete between eleven and fifteen Saudi credits. According to the self-assessment report, the master program *Mathematics* has a standard duration of six trimester or two academic years. In total, students need to complete at least 51 Saudi credit points equal to 69.6 ECTS credits. In the master program, students have to complete around two courses each trimester, resulting in a workload of eight to nine credits. An exception is the sixth trimester, which is reserved for the research project awarding four credit points. Each bachelor study program consists of different types of modules categorized into (1) institution requirements, (2) college requirements, (3) program requirements, (4) graduation project, (5) field experience or internship and (6) others. The categories (1) to (3) are divided in mandatory and elective courses; the categories (4) and (5) are required in all study programs. The master program *Mathematics* consists of required courses and electives as well as a graduation project.

According to the self-assessment report, IMSIU has recently transferred all its study programs from a semester system to a trimester system following a decision from the Ministry of Education of the Kingdom of Saudi Arabia. The first trimester was held in 2023–2024. Each trimester has a duration of twelve weeks. The representatives of the rector's office and program coordinators add that initially, all universities in the Kingdom of Saudi Arabia transitioned to the trimester system although several universities have already switched back to semesters. They admit that IMSIU is continuously monitoring the benefits and risks of teaching in trimesters including among other topic the students' grades and performance. According to preliminary data, most of the students prefer trimesters, whereas the majority of the teaching staff votes in favor of a semester system. The students confirm this in the discussion with the experts that they strongly prefer the trimester system. Alt-

hough they consider it more stressful, they enjoy the lower amount of courses in one trimester, which allows them to focus better on the subject. In their opinion, they have learned to manage their time more effectively since the introduction of the trimesters. In addition, many students describe that their grades improved. They state that in their opinion, they can better connect the content between two trimesters, which supports their overall learning process. In addition, they prefer to have three shorter vacation periods between the trimesters allowing them to recover. However, few individuals mention that they consider the trimester too short and the number of assessments is high. Overall, the students acknowledge that problems might arise from having a different system than other universities. The teaching staff further explains to the experts how they transferred the content of each module from the semester to the trimester system. In the trimester system, students select a lower number of courses, but attend the same amount of contact hours. As a result, the number of contact hours in one subject is higher, which allows the students to concentrate on fewer courses. Since the instructors teach the same course three times a year instead of two, the number of students in each course dropped in the trimester system. According to the instructors, this allows them to focus more on the students and their needs, which has a positive impact on the students' learning outcomes. Nevertheless, the teaching staff emphasize that they are not certain if they should continue with the trimester system.

The experts scrutinize the motivation and consequence of deleting the preparatory year (or foundation program). The program coordinators explain that they observed that the qualifications of the students had improved over the previous years, so that they did not consider the preparatory year as necessary anymore. In addition, several other universities had deleted the preparatory year previously, which made them more attractive for students due to the shorter study duration. Moreover, IMSIU has established a help center for freshman students, who struggle with adapting to the university learning style or who need support in certain topics. Subjects, which are not included in the school curriculum, were moved from the preparatory year to the introduction classes at the beginning of the study programs. The students confirm to the experts that the school system in the Kingdom of Saudi Arabia now allows pupils to select a specific track in order to prepare them for university. Thus, the preparatory year does not offer additional value to them. In addition, they mention that they do not receive any credits for this year, which they consider unfair. Some students raise concerns that the teaching language at their university study programs is mostly English while their school education was in Arabic. These students would not mind to study for one additional year to get adapted to the learning and teaching conditions on campus. This also provides them with more time to select their study program.

Following the suggestions of the auditors of the accreditation in 2018, the experts ask about the implementation of elective courses in the study programs. The program coordinators describe that IMSIU has followed this recommendation by introducing free courses, which the students can choose across the university (labelled as “Free course (1) to (3)”) courses awarding at least six credit points (university requirement electives). IMSIU supports this idea to widen the students’ knowledge. They continue that previously, the curriculum contained courses named “Selected Topics” which were courses that were mandatory for all students, but which content was annually updated to address important modern topics. In contrast, students can now choose courses from other departments and colleges. In the bachelor programs *Chemistry* and *Applied Mathematics* students have two elective courses in addition, where students can choose out of a certain catalogue (“Elective course (1)” in the ninth trimester and “Elective course (2)” in the twelfth trimester). In the discussion, the experts clarify with the program coordinators that elective courses were not yet implemented in the bachelor program *Physics*. In the master program *Mathematics*, students choose one elective course in the fourth, two in the fifth trimester from two different lists. Each of these electives has four credits. The students confirm that they enjoy being able to select courses, which they consider as unique at IMSIU in the Kingdom of Saudi Arabia. In their opinion, the number of elective courses as well as the pool of offered electives suits their needs. Nevertheless, the experts recommend offering elective modules to give the students more opportunities. In addition, they consider it important to implement electives in the bachelor program *Physics* in order to allow the students to develop their personal area of expertise. They appreciate the idea behind the courses “Selected Topics” but highlight that the personal development of the students requires them to select courses in agreement with their future career plan.

The experts learn that all study programs require a final year project (*Physics*), graduation project (*Chemistry*) or research project (*Applied Mathematics* and *Mathematics*) in the volume of four credit points. These will be discussed under criterion 2.

The experts acknowledge the presented documents showing that the curricula of the four study programs under review are designed using modules; each module appears to present a well-matched unit of teaching and learning. The curricula seem to be based on a hierarchical structure, which builds upon the competences from the previous trimester(s). The experts approve that the presented study plan allows the students to achieve the intended program learning outcomes at graduation within the standard study period.

Content

IMSIU submitted a curricular overview for each study program under review, accompanied by the module handbook. The experts observe that the module descriptions give sufficient information on the content of each module, which provides the basis for their analysis. The experts confirm that students complete between three to four courses each trimester. Already the first trimester allows the students to select a university requirement course accompanied by introductory courses of the study program and courses required by the College of Science. The different elective courses are placed in the curriculum between the first and twelfth trimester. In the last trimester of the bachelor programs, students are required to complete a "Training" (*Applied Mathematics*) or "Field Training" (*Physics* and *Chemistry*) as well as a final year project (*Physics*), graduation project (*Chemistry*) and research project (*Applied Mathematics*). In addition to compulsory courses, students have to select elective courses.

The program coordinators describe to the experts, how the study programs were developed since their last accreditation in 2018. The program coordinators agree that the most important change was the switch from semesters to trimesters. This forced them to review their curricula and the content of lectures to match the shorter trimester. This process also considered the feedback of stakeholders. As a result, they have developed the module "Field work" as an internship in the last trimester (four credits). The experts are concerned about how IMSIU ensures the quality of the field training. The program coordinators assure the experts that it is planned to include two supervisors for each student (one at IMSIU and one in the "field"). In addition, the experts are interested, how the students are supported to find suitable internship partners. According to the program coordinators, the field training is still new and not all details are finalized yet. They add that IMSIU has established a specific commission, who is in charge to prepare the training. At the moment, they are establishing partnerships with the industry to provide suitable opportunities for students. Nevertheless, they highlight that the students should be in charge of applying for internships themselves while IMSIU provides them with support structures to find partners. According to the program coordinators, there is a growing interest in the industry in the Kingdom of Saudi Arabia to participate in collaborations with the universities, including receiving students for internships. They state that most ongoing collaborations are established with alumni working in the private sector. As an example for training opportunities for bachelor students in *Applied Mathematics*, the program coordinators mention the banking or insurance sector. The students support the introduction of a module "Field work." Some of the students in the discussion with the experts have participated in voluntary internships in order to collect practical experience in the industry. Likewise, the representatives of the industry describe in the discussion with the experts that they approve an internship. In their opinion, students/graduates of IMSIU have a strong foundation in theoretical knowledge

but still need to improve their practical skills. According to the industry representatives, graduates from IMSIU face challenges when trying to connect their theoretical knowledge with the practical applications. In this regard, either field training or more classes in the laboratories would be advisable. Nevertheless, they confirm that graduates from IMSIU are usually fast learners. The industry representatives believe that the number of companies accepting students for internships is constantly increasing. Several sectors of industry are growing fast in the Kingdom of Saudi Arabia, such as the financial sector. Other representatives in the discussion add that there are also several companies in the field of physics and chemistry. Nevertheless, they inform the experts that from their perspective, they currently miss a system of connecting industry and universities, especially students. Thus, the representatives of the rector's office suggest creating an online platform to match suitable companies and students. A similar platform already exists for students, who want to go abroad. The experts particularly like this idea to connect industry patterns and students regarding internships.

However, the representatives from the industry remark that the field training takes place at the end of the students' studies. In their opinion, it would be beneficial to introduce students earlier to the typical jobs in industry. Thus, they recommend taking students on field trips to various local industries to show them the diversity of job opportunities in the different private sectors.

The experts continue to discuss the main developments in the study programs since the last accreditation. Concerning the bachelor program *Physics*, the biggest change is the new module "Field work" which also supports the students in their data collection for the final project. In addition, they have introduced a second course in quantum mechanics, now offering "Quantum Mechanics (1)" and "Quantum Mechanics (2)". The major improvement in the bachelor program *Chemistry* was the introduction of several courses in English to improve the students' English language skills. In addition, the number of courses in analytical chemistry was increased. Furthermore, a course "Biochemistry" was introduced due to the demand from collaboration partners in health sciences and medicine, as well as a new course "Laboratory safety & management" to support the students' understanding in this field. To accommodate these new courses, others were moved to the list of electives. Since it was criticized at the accreditation in 2018 that the original program did not offer any elective courses during the accreditation in 2018, students in the bachelor program *Chemistry* can now choose two elective courses in order to develop their personal area of expertise. In the bachelor program *Applied Mathematics*, IMSIU has created the course "Introduction to Topology" as was demanded from stakeholders from the educational sector. Strong modifications took place in the course "Introduction to Differential Equations." In

the master study program *Mathematics*, the program coordinators have increased the content on modelling and simulations. In addition, all bachelor's students can now select three courses freely from all courses offered at IMSIU, as long as they fulfill the prerequisites. These courses are included in the group of "University requirements" along with ten additional courses, which serves to support the students' character development and soft skills.

The experts ask specifically about the course contents regarding programming skills in the bachelor program of *Applied Mathematics* since an increase was recommended in the accreditation of 2018. The program coordinators describe that they have expanded the applied content of this program, including the hours students spend in the computer laboratories. Since the last accreditation, IMSIU has also improved the computer equipment in both quality and quantity. This includes especially the facilities on the female campus, which are now also equipped with software like MATLAB, SPSS, and others. Therefore, the program coordinators believe that all students gain sufficient knowledge in programming and modern software applications. The experts confirm during their visit on the campus that relevant software is installed on the computers in the laboratories. The female students confirm the strong improvements on the female campus including computer laboratories. Technicians maintain the laboratories and support students during classes. The students confirm that they have a high interest in applied mathematics due to the better job opportunities. As an example, students state their interest in modelling.

The experts also like to know more about the practical and theoretical content of the bachelor program *Chemistry*. According to the program coordinators, the practical component comprises 46% of the curriculum, which they consider as sufficient to provide practical training for the students. The students confirm that they consider the time spent in the laboratories adequate in order to learn the basic practical skills. Alumni add that they had no difficulties to get adapted working in the laboratories at the industry.

The experts also scrutinize the research components of the study programs. The program coordinators confirm that all study programs under review have a compulsory final project (also named "graduation project" or "research project"), where students engage in research. They consider this a major improvement in the bachelor study programs under review since both male and female students now receive an introduction to research early on. Before working on the final project, students learn how to conduct research, how to give (scientific) presentations and how to write scientific publications. Several students are particularly interested in research and receive additional support in their work and advice for their further development. Moreover, they have established a "science club" where lecturers across the College of Science give talks on their latest research results. Students, who are interested, receive reading materials in advance to prepare to engage with the

researchers after the presentation. The experts welcome the new initiatives to support science in the study programs under review.

The students further note positively that IMSIU offers them extracurricular courses to improve their skills. As one example, they name Coursera certificates. However, according to the industry representatives, students need to improve their soft skills. Most important are communication and presentation skills. They add that students' English skills should also be improved since many students lack experience in oral communication. Thus, more classes in English language including oral discussions could support the students' English proficiency. Furthermore, the industry representatives recommend IMSIU to establish a unit, which, among others, gives advice to students on how to write a job application (including applications for internships). They observe that students are not aware of how to create a CV and how to structure their applications. According to them, this could be done outside the curriculum, e.g. by IMSIU alumni or a career center. The experts support these suggestions. Although they approve IMSIU's initiative to create extra-curricular opportunities to improve their soft skills, they think that all students also need to receive training of their soft skills within the curriculum.

Additionally, the industry representatives discuss ideas on how to improve the study program with the experts. They suggest that students should have opportunities to develop an area of expertise. Therefore, they suggest that a higher number of elective courses would be beneficial for the students' professional development. They suggest that IMSIU should either design minor programs or create "baskets" of courses, which the students could choose. According to the industry representatives, such "baskets" should focus on one topic. As possible examples they mention "baskets" related to financial mathematics, biomathematics, industrial mathematics or industrial physics.

Overall, the experts regard the presented curricula as suitable for the study programs. The experts confirm that the curricula enable the students to reach the intended program learning outcomes of the study programs. The experts confirm that IMSIU has also determined learning outcomes for each module, which are included in the module handbook and which are available online. According to the opinion of the experts, the learning outcome of each module contributes to achieving the PLOs. The experts welcome that IMSIU has now integrated a mandatory internship in order to support the students' practical skills. The experts continue to point out the need to improve the students' soft skills, especially in communication and presentations, as well as their English proficiencies. Moreover, the experts recommend strengthening the students' competences in regards to connecting their theoretical knowledge to their practical work.

Student mobility

IMSIU states in its self-assessment report that the university has established the formal framework to allow students to take part in mobility programs. The experts learn that the respective presented data in the self-assessment report refers to mobility within the Kingdom of Saudi Arabia while international exchanges do not take place at all. According to the program coordinators, IMSIU has not developed a structure or collaboration for, e.g. the Erasmus+ program, and there are no governmental programs to support international student mobility projects. In addition, no international students are currently enrolled at IMSIU.

The students comment that the Students' Deanship offers opportunities to go abroad. This includes summer training during their vacation period. Usually, one or two courses are offered for them. However, none of the students in the discussion with the experts has ever participated in any activities abroad. The students moreover state that they also did not take part in any international conferences abroad. However, students from the master program *Mathematics* confirm that they participated in an international conference at IMSIU. The experts learn in the discussions that students are not exceptionally motivated to spend time outside Saudi Arabia and therefore are content with the current programs as regards mobility opportunities.

The experts summarize that IMSIU has established an appropriate framework acknowledging students' activities outside of campus. Nevertheless, the experts recommend increasing the opportunities for students to spend time at other universities, including foreign institutions. The experts recommend that IMSIU should provide student exchange program based on learning agreements, which provide a basis to spend e.g. a semester at a different (foreign) university. In addition, IMSIU should work together with the Students' Deanship to support and promote summer schools abroad. The experts stress that international experience will benefit students' personal development and might have a positive impact in their future career.

Periodic Review of the Curriculum

According to the self-assessment report, a periodic evaluation of the curricula takes place at least every five years. The review includes the feedback from various stakeholders considering their demands and suggestions as well as an analysis of the job market and of developments in the society. IMSIU states that small revisions of the curricula can take place at the end of each trimester. A teaching staff committee monitors the teaching of each course resulting in reports on each module. The experts learn during the on-site visit that

the last major revision of the curricula of the study programs under review took place along with the shift of the semester to the trimester system. Each teacher was then required to review their modules and match them to the new time schedule. In addition, several modules were added and deleted. Consequently, the experts see evidence of continuous monitoring and stakeholder involvement in the review process. Thus, the experts confirm that IMSIU regularly reviews the curricula of the study programs under review; any changes are documented.

Criterion 1.4 Admission Requirements

Evidence:

- Self-assessment report
- IMSIU webpage https://imamu.edu.sa/en/Pages/default.aspx
- Admission requirements to the College of Science
- Discussion during the audit

Preliminary assessment and analysis of the experts:
IMSIU submits the student admission requirement as an appendix of its self-assessment report. The respective regulations state that the admission for the bachelor programs takes place once a year during the summer vacation period on a unified e-Admission portal for all public universities. Female and male students have to use different portals for their applications. Each study program considers general and specific requirements for admission. In addition to the central admission by the state, IMSIU conducts a general aptitude test and an academic achievement test. The Deanship of Admission and Registration at IMSIU manages the enrollment process. The admission criteria for the master program *Mathematics* require a completed respective bachelor program, letters of recommendation, a GPA higher than 3.75, and successfully completed courses required from the college. IMSIU presents admission requirements online, listing courses (including the number of credit points) necessary for the admission of the master program.

The experts question the admission regulation limiting the application to students, who have completed their high school diploma in the last five years and who do not have another (prior) bachelor program. The representatives of the rector's office state that this is a regulation from the Ministry of Education of the Kingdom of Saudi Arabia. The experts accept this explanation; however, they consider these regulations rather too strict.

After studying the submitted documents, the experts note that the admission to IMSIU in the bachelor and master programs is limited to students, who are "medically fit." The experts ask for a definition and for the responsible unit to make this decision. The representatives of the rector's office explain that all students submit their application online; based on their personal information (including ID number), and then the university is able to access a national database and identify if the students have disabilities or special needs. They add that the university accepts students with disabilities (e.g. using a wheel chair) but does not consider students as medically fit if they suffer from, e.g., a risk-transmission decease. The Admission Office makes the decision based on IMSUI's policies. The program coordinators mention that currently there are two students with disabilities in the bachelor program *Physics* and that their students' requests are taken into consideration. The experts acknowledge this information but demand to view a documentation that ensures the admission requirements are defined, transparent, and fair.

Furthermore, the experts point out that their documentation they received regarding the formal admission requirements for the study programs under review contains an error regarding the admission criteria of the master program *Mathematics*. According to their received files, IMSIU considers the average of the "bachelor and master's degrees" (referring to the GPA). The program coordinators explain that students need to take an entrance exam and present the results of their bachelor studies to enroll in the master program. They clarify that the acceptance considers the GPA of the bachelor studies to 50% and the results of the master examination to 50%. The experts comment that these regulations need to be corrected in order to avoid any confusion.

Moreover, the experts request more information on the recognition of externally awarded credit points; in particular, they are interested why international transfer students are not accepted. The representatives of the rector's office state that a specific committee is responsible for the recognition of credit points. In this process, the applicants need to submit the curriculum, syllabus and transcript of records of their past exams. According to the representatives of the rector's office, IMSIU tries to support transfer students by making this process as easy and fast as possible.

Overall, the experts confirm that IMSIU has defined transparent and binding admission requirements and procedure for the study programs under review. IMSIU has established rules for the admission of international applicants and recognizes externally achieved qualifications. Nevertheless, the experts are still concerned about the admission of "medically fit" students and would request to see evidence that defines this term to verify, who would be excluded to enroll in the study programs under review.

Criterion 1.5 Workload and Credits

Evidence:

- Self-assessment report
- Saudi Standard Classification of Educational Levels and Specialization
- Module handbook of each study program
- National credit points to ECTS conversion table
- Examples of Transcript of Records

Preliminary assessment and analysis of the experts:

According to the self-assessment report, IMSIU has implemented a credit point system, which is based on the students' workload in each module. IMSIU describes that the hours of each course consider both, hours per week spent in class and the time students spend to prepare for the courses and exams. In the self-assessment report, IMSIU presents the following definition of the credit points awarded:

- "The lecture is associated with a contact hour of 50 minutes per credit.
- Tutorial is associated with a contact hour of 100 minutes per credit.
- Laboratory is associated with a contact hour of 150 minutes per credit.
- For every three hours in the laboratory, the students perform an extra hour of out-of-class work and preparation."

IMSIU states that one trimester has a duration of twelve weeks while one semester comprises of fifteen weeks. Within one trimester, students usually take an average workload of 14.5 Saudi Arabian credit points (NQF credits), which the university converts to 20 ECTS credit points. Reviewing the presented study plans in the Saudi Standard Classification of Educational Levels and Specializations, the experts notice that the average workload in the first, second and third year is around 15 NQF credits while the later trimesters have a lower workload. IMSIU further presents a table converting the workload in hours from the NQF credit system to ECTS credit points for each module. The experts confirm that this conversion table documents the conversion of 174 NQF credits to 243.6 ECTS credits for the bachelor programs and 51 NQF credits to 122.4 ECTS credits for the master program.

The experts notice that the documentation of the students' workload in some cases refers to eleven weeks while others consider twelve weeks. According to the program coordinators, these calculations are correct; in case they only consider the workload based on the contact hours, they apply a factor of eleven. However, they multiply by twelve in case they also consider the students' workload necessary to prepare for the final exam, which takes

place outside of the teaching period. The experts thank the program coordinators for their explanation.

The experts further inquire of the workload of 48 contact hours and of 112 hours student workload for the final project matches the real workload (4 NQF credits). The program coordinators explain that the workload only covers the analysis and writing of the project report while the practical work or data collection, respectively, and any preliminary analysis takes place within the module "Field training" (4 additional NQF credits). In total, this would represent a workload of eight credits. The students confirm that the documented workload for the final thesis also matches the real workload.

During the discussion, the students explain to the experts that the workload at IMSIU can reach up to 50 hours per week; however, they agree with this workload, as it is comparable to other universities in the Kingdom of Saudi Arabia. They explain to the experts that their instructors discuss the workload with them at the beginning of each course. In addition, the instructors can be contacted in case the students struggle with completing the assignments. According to the students, their end-semester course evaluation contains one question on the workload. However, the experts study the submitted student survey; they observe that the presented questionnaires do not contain questions regarding the students' workload. They remind IMSIU that it is a crucial demand to observe if the module is organized in a manner such as to match the number of awarded credit points.

The experts conclude that IMSIU applies a credit point system, which is based on the total student workload (contact hours and self-study time). The experts confirm that all compulsory components of the study programs are included. The experts form the opinion that the workload is demanding. Based on the various comments from different parties, they conclude that the study programs can be completed in the standard period of study. The experts emphasize that the actual students' workload needs to be regularly monitored, especially by students, to verify if the awarded number of credit points matches the actual workload of the students. Furthermore, the experts mention that IMSIU has not presented a conversion of NQF credit points to ECTS credit points in any presented document. The experts approve that the workload is clearly presented in the module handbooks; however, they recommend to divide the workload in time spend in class and time spend on self-study. In addition, the experts recommend including a conversion of the workload to ECTS credit points to third parties (see criterion 4.1 and 4.2).

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-assessment report
- Module handbook of each study program
- Discussion during the audit

Preliminary assessment and analysis of the experts:

IMSIU outlines in its self-assessment report that the teaching methods in each module are apt to allow the students to reach the learning outcomes. The university states that it aims for an adequate balance between learning in and outside the classroom.

IMSIU presents the following overview of implemented teaching methods in in each study program under review:

Teaching method	*Program 1*	*Program 2*	*Program 3*	*Program 4*
Lecture (face-to-face)	✓	✓	✓	✓
Lecture (internal digital studio)		✓		
Student-center learning	✓	✓	✓	✓
Problem-based learning	✓	✓	✓	✓
Project based learning	✓	✓	✓	✓
Tutorial	✓	✓	✓	✓
Lab/practical work	✓	✓	✓	✓
Field observation	✓	✓	✓	✓
Seminar		✓		
Presentation	✓	✓	✓	✓
Group discussion	✓	✓	✓	✓
Paper writing	✓	✓	✓	✓

✓ Applied

Figure 1. Overview table of applied teaching methods in each study program; program 1 = Ba Applied Mathematics, Program 2 = Ma Mathematics, program = Ba Physics, program 4 = Ba Chemistry. (source: self-assessment report).

The program coordinators explain to the experts during the on-site visit that teaching at the male and female campus is strongly coordinated. Before the start of each trimester, the lecturers of both programs meet to discuss the syllabus, including all related exercises and exams. This should guarantee that the entire program is unified, ensuring, among others, that male and female students receive the same training and achieve the same competences. Upon the respective question of the experts, the program coordinators state that there is currently no plan to merge the male and female bachelor programs. Joint events

are already integrated in the study programs, such as career days or poster presentations. They mention that in the master program, male and female students attend lectures together at the male campus. The teaching staff confirms a strong cooperation between the male and female branch. They add that they write a report on each class after each trimester, where they suggest improvements. The instructors explain that they generally follow the teaching methods in the syllabus; however, exceptions occur in order to match demands of the students in the classroom. The teaching staff states to the experts that they plan to integrate more projects in the future to introduce the students to scientific work earlier in their studies. The staff further explains to the experts that they use the mobile learning system Blackboard to observe if the planed and performed teaching matches.

In the discussion with the experts, the students demonstrate a high satisfaction with the teaching methods. The students explain that their learning on campus is well supported by the instructors, also for students with special needs.

While the experts approve the teaching methods of the staff regarding the technical skills, they still have questions on the teaching of soft skills. The teaching staff states that they are aware of the need to improve the students' communication skills. Moreover, students have to give presentations in various modules. The instructors started to encourage students to discuss and talk more within group work or seminars. In addition, they put a stronger focus on critical thinking than previously, motivating students to ask more questions and develop solutions. They often use assignments, where students have to develop their own strategy on how to address a problem/task. Furthermore, they have to critically reflect on their solution in discussions with their peers. In addition, soft skills are fostered in all courses, especially using projects/mini-projects.

The experts confirm that IMSIU applies a variety of teaching methods and didactic means in all four study programs to endorse the learning outcomes and support student-centered learning and teaching. In regular assessments, IMSIU reviews whether the utilized learning and teaching methods support the achievement of the program objectives; this process also involves students. However, the experts note that the teaching methods are not part of the module handbooks (course handbooks). The experts comment that the teaching methods need to be transparently presented for each module and explained to the students at the beginning of each course. See more discussion under criterion 4.1.

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

The experts appreciate that IMSIU will foster the cooperation with the industry and companies. To this end, IMSIU has established a Field Training Unit under the supervision of the

Vice-Deanship for Educational Affairs. This unit will ensure the quality of field training, while each department has its own unit that oversees the quality of field training according to the procedures and assessment methods outlined in the training field specification document.

With respect to the final project, the expert see that different terms such as “graduation project” or “research project”) are used. Here, it would be useful to harmonise the wording and to use the same term in all documents. Additionally, it would be very useful to harmonise the criteria for the final project for all degree programmes and to issue a standard guideline on preparing and presenting the final project.

As IMSIU explains in its statement, the condition that applicant need to be “medically fit” has been abolished. The relevant document is available online on IMSIU’s homepage. To this end, the experts refrain from issuing a requirement on this point.

The experts consider criterion 1 to be mostly fulfilled.

2. Exams: System, Concept and Organization

Criterion 2 Exams: System, Concept and Organization

Evidence:

- Self-assessment report
- Study and Examination Regulations for the University Undergraduate Study and the Executive Rules of Imam Mohammad Ibn Saud Islamic University (IMSIU)
- Module handbook of each study program
- Executive rules for the regulations governing postgraduate studies in universities
- Study and Examination Regulations for the University Undergraduate Study and the Executive Rules of Imam Mohammad Ibn Saud Islamic University (IMSIU)
- University student grievance rules and procedures
- Examples of thesis of each study program
- Discussion during the audit

Preliminary assessment and analysis of the experts:

IMSIU describes in its self-assessment report that all regulations regarding examinations are available in the “Study and Examination Regulations for the University Undergraduate

Study and the Executive Rules of Imam Mohammad Ibn Saud Islamic University (IMSIU)" for all three bachelor programs as well as in the "Executive rules for the regulations governing postgraduate studies in universities" for the master program. The experts have access to these regulations and review them during the accreditation procedure. The experts additionally review the module handbook for the various assessment methods of each module.

IMSIU applies the following grades:

A+	A	B+	B	C+	C	D+	D	F
[95, 100]	[90, 95)	[85, 90)	[80, 85)	[75, 80)	[70, 75)	[65, 70)	[60, 65)	[0, 60)

Figure 2. Grading distribution at IMSIU (source: self-assessment report).

Assessment and exams

After studying the submitted documents, the experts notice that IMSIU usually assesses the students' achievement of competences in the modules by applying two mid-term exams and one final exam. According to the module handbooks, the majority of the final grades consist of 50% final exam, 20% for each mid-term and 10% of homework on quizzes. The teaching staff describes that they think that the students are content with the high number of assessments since it motivates them to study for each subject while providing feedback on their learning process. The experts are informed that the mid-term and final exam in the bachelor programs are coordinated by the responsible department. The schedule is published in the second week of each trimester in the students' online system. The teaching staff of the master program *Mathematics* mention that in the master program, there is only one mid-term and one final exams. In this case, only the date for the final exam is coordinated by the department while the mid-term exam is scheduled in discussion with the students in class. The experts observe that the final grade depends mainly on exams while only 10% is based on homework and quizzes. The teaching staff confirms that they rely mostly on exams, because the students often work together on their homework; therefore, they then have difficulties to assess the contribution of each individual student. However, they mention to the experts that there are exceptions. For example, in the bachelor program *Physics*, a project accounts for 5% of the final grade in "Electronics" and 35% in "Electronics Laboratory." In the bachelor program *Chemistry,* a project accounts for 2% of the assessment in "Electrochemistry & corrosion" and 5% in "Quantum Chemistry" among other small-scale projects. The teaching staff explains that students have to write between three to five pages in these projects. In contrast, neither the bachelor program *Applied Mathematics* nor the master program *Mathematics* lists any projects in the module handbooks. In addition, the instructors inform the experts that students can earn a bonus

when they actively participate in class. The experts acknowledge these explanations. They further wonder if students need to pass at least 60% in one module to be considered as "pass", which the teaching staff confirms. Furthermore, students can only pass a course in case their attendance rate is above 80%. The teaching staff explains to the experts that they consider each case if the attendance rate is lower to identify the reason. Depending on the reason for non-attendance and attendance rate of the students, the students receive support or are asked to repeat the course in another trimester. The experts confirm that this regulation is part of the official rules and regulations.

The students of the different study programs agree that most of their exams are in written form. In addition, students in the bachelor programs *Chemistry* and *Physics* further mention reports in laboratory work and exams on computers. Furthermore, practical exams are implemented in certain courses, where the instructors observe the students' performance during experiments. The students confirm that all exams take place on campus in the campus laboratories. The students show a high satisfaction with the types of exams. The students of the master program *Mathematics* describe their final grade has a higher weight on homework/assignments than in the bachelor program, which they consider as positive.

The experts learn in the discussion with the students that IMSIU does not offer an academic compensation for students with disabilities and special needs. The experts confirm that they cannot find any special regulations concerning the assessment/examinations. Although they are aware that IMSIU has regulations in place allowing the enrollment of students with disabilities and special, they do not see evidence for accommodating the students' needs concerning the assessments. The experts therefore highlight that IMSIU has to develop rules or policies regulating academic adjustments for students with special needs and disabilities. The experts emphasize that all students with physical and mental illnesses and conditions have to be able to receive academic adjustments in their assessments, including written examinations. Potential officially recognized impairments, such as specific learning disorders (dyslexia/dyscalculia) or attention deficit syndrome (such as AD(H)S) are also entitled to academic adjustments.

The experts are interested if IMSIU has any kind of moderation for the examinations and the examination papers. The instructors describe that at their departments, they have responsible committees, who act as moderators. The lecturers all share their exam papers with this committee in order to discuss the questions and tasks with their colleagues. In addition, there is a second examiner for the mid-term and final exams, who checks if the questions match the learning outcomes of the respective module.

The students describe to the experts that IMSIU only allows students to miss exams due to medical reasons. In these cases, the instructors are providing them dates to retake the exams. However, the experts learn that students at IMSIU are not allowed to repeat the final exams. Therefore, in case they are afraid to fail the course, they drop it in one trimester. Consequently, the students have to retake the entire course in the next trimester. The program coordinators confirm that all courses are taught in all trimesters if at least four students registered for the course. The students also confirm that IMSIU does not allow students to retake an exam; if they have failed one course, they have to retake the entire course. In addition, they have never appealed their grades by retaking the course; therefore, they are not certain if this is possible.

Thus, the experts form the opinion that IMSIU has established rules and regulations for the assessment in each module. The experts observe in the module handbook that a variety of assessment components is applied during one trimester. However, there were no exams presented during the on-site visit. Therefore, IMSIU has not provided any evidences to the experts to make a final decision on the level of assessment and the feedback students receive on the achievements. In addition, the experts highlight again the need for regulations giving the students with disabilities and special needs the opportunity to apply for academic adjustments.

In addition, the experts state that the official regulations presented during the on-site visit should be updated. The presented documents continue to refer to the semester system, which might cause confusion with stakeholders. Furthermore, the experts are not able to verify the content on the university webpage since the page of the Deanship of Academic Affairs is only available in Arabic. The experts want to stress that they consider the number of assessments in one trimester as exceptionally high in comparison to Europe; they therefore recommend reviewing the number of assessments during the trimester, especially regarding the need of two mid-term exams. In the opinion of the experts, a higher variety of assessments would benefit all students, which could be achieved by strengthening project and oral exams in favor to written assessments.

Moreover, the experts recommend considering retaking final exams. This would avoid students to repeat or drop courses and support them to remain in their study plan. Furthermore, it would reduce the overall workload of the students.

Final projects and thesis

The students describe to the experts that they select the supervisor for the graduation project/final project by themselves according to their interest. The instructors suggest topics

to them for their project; however, there is an opportunity to negotiate the topics. In addition, the master students from *Mathematics* confirm that they receive a list of topics from which they can select their thesis topic. Afterwards, the students and supervisors have to agree on a topic. In several cases, their supervisor had initiated collaborations with external partners, e.g. with hospitals, to provide thesis topics. The students describe to the experts that their studies prepare them for writing their report in the final year. This includes reading scientific articles in international journals and searching for new references. The students from *Chemistry* mention the module "Technical Writing" in the eighth semester, which is mandatory for all students. The experts notice that comparable courses are not part of the presented curricula for the bachelor program *Applied Mathematics* and *Physics*. The experts discuss the guidelines to write the graduation project with the bachelor students and notice that the students describe different minimum requirements. Overall, they think that the minimum page number for the graduation project for bachelor students is 30 pages, whereas master thesis need to exceed 100 pages. According to the self-assessment report and module handbooks, the regulations are not unified between the different study programs. Only for the bachelor program *Applied Mathematics* requires a minimum of 20–35 pages report and an oral 15 minutes presentation; in the master program *Mathematics*, students have to write a minimum of 40–50 pages and give an oral presentation of 20 minutes. Comparable regulations were not presented for the bachelor program *Physics* or *Chemistry*. All students further describe that they use google scholar to search for scientific articles.

The bachelor and master students both confirm to the experts that they worked for an entire trimester on their graduation project. Thus, experts question the different requirements regarding the bachelor thesis and the master thesis since both have identical workload of four credit points. The instructors describe that the master thesis topic is more complex. In addition, the supervisors often encourage the students to consider publishing the results of their master thesis in an indexed journal, which should indicate to the experts that they work on a good scientific level. Regarding the bachelor thesis, the experts are informed that IMSIU requires the students to work on a graduation project, which is a research project but not a bachelor thesis. Nevertheless, the academic staff states that the master thesis has a higher scientific complexity and prepares students to continue working on their doctoral thesis. According to the lecturers, master students often need to analyze new trends in their area, bachelor studies are applying new methods or ideas. The experts acknowledge this explanation. According to their opinion, the higher complexity of a master project should allow the students to spend more time on their research and experiments/data collection.

The experts further observe that the final projects are checked for plagiarism using a software. IMSIU accepts a level of originality of up to 60% in the bachelor study programs and 70% in the master programs. The teaching staff admits that these levels are high and that they are trying to reduce the number to 15%. Nevertheless, this is a challenge, especially in mathematics, since their software often identifies equations and calculations as plagiarism and in doing so overestimates the rate of real plagiarism. However, the experts note that in this case, simply relying on the level of originality detected by a software might not be suitable. They suggest expanding their regulations including that the final decision is up to the supervisor's approval. In this case, the definition would be more nuanced and could prevent students from relying only on the low rates of originality.

The experts further review bachelor and master project reports during the on-site visit. They confirm that there is a large range regarding the respective quality, depth and length of the presented works. The experts conclude that the presented graduation projects and final projects represent the requirements of EQF level 6 (bachelor programs) and the master theses are on EQF level 7 (master program), respectively. The experts detect several shortcomings, especially regarding citations. The experts observe that some of the presented theses are not aligned with the presented criteria in the self-assessment report, especially regarding to the minimum number of pages. The experts are therefore not satisfied with the quality of some of the presented projects. They conclude that IMSIU needs to strengthen their scientific approach in the final projects of the bachelor programs and the master program. The experts comment that IMSIU should have clear rules for the final projects. Furthermore, the experts emphasize that IMSIU needs to ensure that the quality of each work is on an adequate level. The experts think that the final work of the bachelor programs and the master thesis should follow a comparable structure to scientific work (e.g. introduction, methods, results, discussion and conclusion) as well as correct scientific citations, figure captions and table headlines. The level of the study program further requires the students to demonstrate competences in research, which should include citations of literature from international scientific journals instead of internet sources. The experts clearly form the opinion that IMSIU needs to improve the level of the graduation work of all three bachelor programs as well as the master program *Mathematics*.

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

The experts acknowledge that IMSIU will implement several measures to enhance the scientific quality of the final projects/theses. For example, laboratory facilities will be upgraded, final year project guidelines will be revised and assessment rubrics as well as faculty

approved project proposals will be introduced. The experts expect IMSIU to submit the respective verification of the implemented measure in the further course of the procedure.

The experts consider criterion 2 to be mostly fulfilled.

3. Resources

Criterion 3.1 Staff and Staff Development

Evidence:

- Self-assessment report
- Staff handbook
- Code of Profession Ethics for Faculty Members and Their Equivalents At Imam Mohammad Ibn Saud Islamic University (IMSIU)
- Discussion during the audit

Preliminary assessment and analysis of the experts:
IMSIU highlights in its self-assessment report that it equally supports its academic staff at the male as well as the female campus. The university ensures that the teaching staff complies with ethical conduct in research, teaching, performance evaluation and assessment, committee decision making and in the conduct of administrative and service activities.

In the self-assessment report, IMSU presents the following overview on the composition of its teaching staff:

Academic position	*Department of Mathematics and Statistics*					
	Female		*Male*		*Combined*	
	#	%	#	%	#	%
Professor	2	4%	22	35%	**24**	21%
Associate professor	8	15%	18	29%	**26**	22%
Assistant professor	17	31%	13	21%	**29**	25%
Lecturer	25	46%	8	13%	**34**	29%
Teaching Assistant	2	4%	1	2%	**3**	3%
Total	**54**	**100%**	**62**	100%	**116**	**100%**

Academic position	Department of Physics					
	Female		Male		Combined	
	#	%	#	%	#	%
Professor	0	0%	9	26%	**9**	15%
Associate professor	4	15%	7	21%	**11**	18%
Assistant professor	9	33%	13	38%	**22**	36%
Lecturer	13	48%	4	12%	**17**	28%
Teaching Assistant	1	4%	1	3%	**2**	3%
Total	**27**	100%	**34**	100%	**61**	100%

Academic position	Department of Chemistry					
	Female		Male		Combined	
	#	%	#	%	#	%
Professor	0	0%	12	38%	**12**	19%
Associate professor	8	27%	8	25%	**16**	26%
Assistant professor	8	27%	5	16%	**13**	21%
Lecturer	12	40%	5	16%	**17**	27%
Teaching Assistant	2	7%	2	6%	**4**	6%
Total	**30**	100%	**32**	100%	**62**	100%

IMSIU states in its self-assessment report that its current staff numbers are sufficient to teach the study programs under review.

The experts discuss the teaching load with the teaching staff. The experts learn that the teaching load is determined by the ministry and depends on the staff members' rank. While professors have to teach at least ten hours per week, associate professors teach 12 hours, assistant professor 14 and lecturers 16 hours. If the instructor has an administrative position, such as Head of the Department, the teaching load could be further reduced. For example, the Vice-Dean for Scientific Research teaches for three hours per week. The academic staff informs the experts that, on average, they can spend 35% of their time in teaching, 35% on research and 30% on administration. However, the Department of Mathematics states that their teaching load of their staff is higher due to their involvement in supportive teaching in other study programs, especially in engineering or computer science. The extra teaching load is not an obligation. The teaching staff mentions to the experts that IMSIU is currently hiring in the Departments of Mathematics, Chemistry and Physics to reduce their workload.

The representatives of the rector's office confirm to the experts that they have difficulties in recruiting female professors, especially any with an international background. While the male teaching staff at IMSIU comprises various nationalities, the female instructors are mainly from the Kingdom of Saudi Arabia. The experts observe that the number of female students at IMSIU is higher than the number of male students, though the number of professors on the female campus is lower. The representatives from the rector's office confirm that this is the present status; however, they highlight the positive development concerning the female instructors since the last accreditation. IMSIU has invested in the further education of their female staff. IMSIU has identified that there is a sufficient number of female instructors; however, they lacked research output for their promotion. Therefore, IMSIU started an initiative to integrate representatives of both campuses to conduct joint research. In addition, several women were supported to pursue their PhD abroad, which is also required to receive the rank of a professor. The program coordinators agree that IMSIU's strategy focuses on the professional development of their female staff. Additionally, the program coordinators mention that there is a high number of female graduates in the master programs of *Physics* or *Chemistry*, who are encouraged to continue their career as lecturers at IMSIU. The program coordinators clarify that all courses on the female campus are taught by female instructors; nevertheless, IMSIU ensures that female lecturers do not teach more hours than male lecturers do. In addition, the representatives of the rector's office mention that the Dean of the College of Science is strongly encouraging their female staff to continue their professional development. They emphasize that the female staff is encouraged pursue a higher education and engage in research, but it is not mandatory. This includes financial support as well as specific research grants for women. The program coordinators and the teaching staff confirm these statements.

Overall, the program coordinators mention a strong increase in research activities and scientific publications during the last years. They mention that IMSIU offers several research grants on a competitive basis. One requirement in all grants is the publication of at least one research article in an internationally ranked journal. In their opinion, IMSIU balances between quality and quantity of research output, which allows them to match journals based on the research outcomes. Upon the question of the experts, the program coordinators state IMSIU prefers to fund applied research over fundamental research projects. In addition, funding is also available to support the development of patents. The teaching staff of the Department of *Physics* and *Chemistry* confirm that they have previously developed patents. Nevertheless, the majority of their research is in collaboration with their industry partners. The program coordinators admit that the switch from the semester to trimester teaching has increased the instructors' teaching load during the entire year. Therefore, the

majority of the teaching staff prefers the semester system while students prefer the trimester system (see criterion 1.3). The teaching staff further informs that they are able to take a sabbatical leave for up to twelve months. During this period, the teaching needs to be compensated by their colleagues. However, each lecturer, who wants to take their sabbatical, needs to acquire external funding. The instructors highlight that the regulations regarding sabbaticals did not change with the implementation of the trimester system.

The experts highlight that the staff from the Department of Mathematics did not list any industry collaborations in their staff handbook. The program coordinators confirm that they encounter difficulties to establish collaborations in their field. They mention that the majority of enterprises in the Kingdom of Saudi Arabia is international and conducts its research outside of the country. Therefore, they often have not established research departments at the companies in Saudi Arabia. The program coordinators state that the staff in *Mathematics* has previously reached out to companies but remained unsuccessful so far. According to the program coordinators, other universities have similar difficulties. The experts support their effort to establish collaboration to the industry. In addition, they have reached out for guest lecturers from the industry; however, they could never find a suitable arrangement so far. On the institutional level, collaborations with industry partners exists for events such as career weeks and job fairs. International guest lecturers from other universities teach at IMSIU; this often takes place online. The teaching staff adds that they are continuously searching for new collaboration opportunities in industry, as well as in other universities and research institutions. The industry representatives confirm that none of them has ever been a guest lecturer at IMSIU.

The experts are further interested what support the teaching staff received to enhance their pedagogic skills. The instructors confirm that IMSIU offers professional development programs, including training for didactics. IMSIU conducts workshops weekly or every two weeks focusing on different topics in teaching; these are all announced online and via email. The last workshop the instructors attended addressed project-based and research-based learning. In their opinion, professional development is taken seriously at IMSIU. At the moment, IMSIU offers several programs to enhance the competences in digital learning. In addition to programs in pedagogy, IMSIU also offers its teaching staff courses on new software. Additionally, the teaching staff mentions that there is a professional development plan on university level. Furthermore, new staff members have to participate in training (preparatory week) while all further training is on a voluntary basis. The teaching staff adds that they additionally can attend conferences. In case they miss a lecture due to their travels, they can shift the date of the lecture or hold the class online. In addition, they mention that IMSIU supports visits at collaborating universities.

The experts summarize that the professional qualifications of the teaching staff are suitable for successfully delivering the study programs under review. The experts appreciate the staff development opportunities and IMSIU's support for scientific research of its staff. Although the experts observe progress since the last accreditation in 2018, they emphasize the need to support the development of IMSIU's staff, especially on the female campus. They observe that the number of students on the female campus is higher, but the number of academic staff is lower. Thus, IMSIU should continue to ensure that equal opportunities are provided for all its staff in terms of development, research and promotion. In addition, the experts raise concerns about the workload of the academic staff. They recommend monitoring the total workload of the male and female staff regarding teaching, research and administration. IMSIU needs to confirm that the workload is balanced on both campuses.

Criterion 3.2 Student Support and Student Services

Evidence:

- Self-assessment report
- University student grievance rules and procedures
- Discussion during the audit

IMSIU describes in its self-assessment report that it has a decentralized academic counselling service. Counselling units are available on the male and female campus and include academic advisors, program managers and supporting teaching staff. The academic counselling unit's main task is to support the students in their studies. All new students at IMSIU receive academic counselling and receive an academic advisor, whom they can contact directly for information. In addition, IMSIU offers several brochures and guidebooks.

The experts further learn that IMSIU has established a center for counselling, guidance and academic support for students with special needs. This center manages the educational support and introduces appropriate measures to prevent disadvantages in the students' learning processes. It also determines academic adjustments in the different departments, deanships and colleges.

The Deanship of Student Affairs offers also activities to support the students, especially in training and career development. These extracurricular activities are advertised on an internal platform, where students can view information and register.

Moreover, IMSIU has established rules and procedures to submit grievances. After submission of a form, IMSIU needs to initiate communication and appropriate actions. The experts receive evidence presenting how students can raise their concern.

The experts inquire IMSIU's support and counselling in the discussion with the students. Overall, the students show a high satisfaction of studying at IMSIU characterized by well-developed support structures. They inform the experts that they are aware how to seek advice and receive counselling.

The experts conclude that IMSIU provides sufficient human resources and organizational structures for general and individual counselling. The experts consider that sufficient advice and guidance (both technical and general) is offered to assist the students in achieving the learning outcomes and in completing the courses within the scheduled time.

Criterion 3.3 Funds and equipment

Evidence:

- Self-assessment report
- Visitation of the campus during the on-site visit
- Discussion during the audit

Preliminary assessment and analysis of the experts:
According to the self-assessment report, IMSIU provides various facilities, equipment and learning resources for the study programs. This includes classrooms and teaching laboratories and its equipment. In addition, funds for services such as free campus Wi-Fi, an online learning management system and support equipment are allocated by IMSIU. Help centers and IT support is offered centrally at IMSIU. IMSIU operates a central library offering text books and learning spaces. IMSIU collaborates with the Saudi Digital Library, which offers access to journals, dissertations and databases. The students state to have sufficient access to scientific articles and books in the library. They confirm that they have access to the e-library, which connects the online databases of several universities.

IMSIU describes in its self-assessment that computer laboratories and scientific laboratories are provided on the male and female campus. The female staff and students confirm to the experts that there were major developments in the past five years regarding the laboratories, equipment and access towards laboratories on campus. According to the bachelor students, there is no need to access facilities on the male campus since the laboratories on the female campus offer them sufficient possibilities to conduct their research (on bachelor level). They admit that their laboratories are small; however, the number of

students in one laboratory and during classes matches the available space. The teaching staff emphasizes that the laboratory facilities on the female campus are intended only for bachelor students. Thus, the experts summarize that the facilities on the female campus are adequate, but still basic. In the opinion of the female students, they now are provided with equal opportunities as the male students. However, male students mention to the experts that they would appreciate a higher number of tools in the laboratories on campus. They describe that currently, students form groups of four to five students in order to match the quantity of the equipment; however, they would prefer to work in teams of two to three students. The experts support the opinion of the students and recommend offering sufficient equipment in laboratory classes allowing students to work in teams of two to three students. In addition, the students approve that all laboratories are managed by a technician/specialist, who prepares the equipment for their experiments. The instructors add that there are always two technical assistants for laboratory courses of two to twelve students.

The experts discuss with the industry representatives how they characterize the lab facilities of IMSIU. The industry representatives state that students need to improve their practical competences in the laboratories; thus, they would recommend for students to get experience also in research laboratories (compared to laboratories for training basic skills). Although several partners from the industry inform the experts that they have previously shared equipment with IMSIU, they highlight that the Kingdom of Saudi Arabia has recently initiated an "open lab policy." According to this policy, researchers can request access to laboratories at companies for experiments. In this regard, they also mention that they receive students at their laboratories during their graduation projects or during the master program.

The students confirm that they receive an introduction towards laboratory safety, including personal protection equipment and safety measures in case of accidents. The experts confirm during the visitation of the campus, that equipment such as coats, gloves, and goggles are available in each laboratory room. In addition, safety measures such as showers, eye showers and fire extinguishers are installed. Short manuals using pictures give a comprehensive overview of the single steps required in case of an accident. The students acknowledge that during their studies, no accidents occurred. The experts discuss with the teaching staff how accidents are documented and prevented. The teaching staff explains that they give a thorough introduction on safety measures and regulations to the students. In addition, each laboratory is equipped with precaution signs and has an emergency phone. In case of an accident, a form needs to be filled out and submitted.

The teaching staff confirms that they apply various software in teaching, which is provided by the university. IMSIU provides a digital learning management system and teaching software such as Blackboard. Specific software includes among others software such as GAP (Groups, Algorithms and Programming, a computer algebra system) and Magma (computations in algebra, number theory, algebraic geometry, and algebraic combinatorics). In addition, the experts notice that software for statistics and analysis such as SPSS and MATLAB is available on the computers in the laboratories.

Further concerns stated by the students refers to the parking facilities. In the students' opinion, finding suitable parking on campus is not easy and should be improved.

The experts gain the impression that IMSIU is providing sufficient support to the study programs under review in terms of facilities and equipment. The experts observe strong improvements regarding the laboratories on the female campus. The experts conclude that the laboratories there are still basic and small, especially in comparison to the laboratories on the male campus. Given the higher number of female students in the programs under review, the experts emphasize that IMSIU should continue to enhancing laboratory spaces and equipment is very important. Furthermore, the experts also support the male students and highlight the importance of providing sufficient equipment allowing students to work on groups of 2 to 3 in the laboratories. Overall, the experts highlight the opportunities to conduct research at IMSIU and welcome the construction of new laboratory facilities for graduate and postgraduate students as well as researchers at IMSIU.

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

IMSIU does not comment specifically on this criterion in its statement.

The experts consider criterion 3 to be mostly fulfilled.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Module handbook

Preliminary assessment and analysis of the experts:
IMSIU submits a module handbook for each study program under review, which is available on the webpage of each study program. The module handbook gives all necessary information about intended learning outcomes, content, admission and examination requirements, forms of assessment, details explaining how the final mark is calculated, and references. The experts remark that the module handbooks do not include all the necessary information about the awarded credit hours and ECTS points. The experts recommend IMSIU to distinguish between the student workload in contact hours and self-study. In addition, the module handbooks do not include information on the teaching methods applied.

The students explain to the experts that they receive the information about the courses of the next semester online. In addition, information is also available within the department and at the consultation with their advisors.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Examples of Diploma Certificates
- Examples of Transcript of Records
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The experts review submitted examples of Diploma Certificates and Transcript of Records. The master students and alumni confirm that they have received both documents shortly after their graduation.

The experts confirm that the presented documents are bilingual in English and Arabic. The experts observe that the Transcript of Records lists the courses the students have completed according to the semester/trimester. It states the course code, course title, the course volume in hours and credits, the received grades and the cumulative GPA. The experts note that the documents provide information on the student's qualifications profile and individual performance.

Within the Transcript of Records, the experts miss a conversion of the credit points of the Kingdom of Saudi Arabia to the ECTS credit points as well as information on the grading system.

The experts mention in the on-site discussion that IMSIU did not submit a Diploma Supplement for review. The representatives of the rector’s office confirm that IMSIU does not

regularly issue Diploma Supplements in any of the study programs under review. The usual documents students receive consist of a Diploma Certificate, Transcript of Records, and a Skill Certificate (for extra-curricular activities). The experts note that the Diploma Supplement should contain the statistical data as set forth in the ECTS Users' Guide to allow readers to assess the individual mark. Furthermore, information on the educational system needs to be included.

Criterion 4.3 Relevant Rules

Evidence:

- Self-assessment report
- Code of Profession Ethics for Faculty Members and Their Equivalents
- Student Disciplinary Regulations & Procedures
- University student rights and duties
- Webpage IMSIU https://imamu.edu.sa/en/

Preliminary assessment and analysis of the experts:

The experts review the submitted documents and conclude that IMSIU has defined the rights and duties of university, students and staff. All presented information is in English as well as in Arabic. All relevant course-related information (the module handbook) is available in the language in Arabic on the webpage. Although all information on the study program is available in English, the experts cannot find information on the rights and duties of students and staff on the webpage online. Therefore, the experts suggest improving the webpage and uploading all necessary documents in the language of the study program to be available for all stakeholders.

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

The experts appreciate that IMSIU is planning to issue a Diploma Supplement, which is aligned with the European template, to all graduates. They expect IMSIU samples for each degree program in the further course of the accreditation procedure.

The experts consider criterion 4 to be mostly fulfilled.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Self-assessment report
- System of Monitoring Quality of Educational Processes at IMSIU
- Various report on student surveys
- Teaching staff satisfaction survey
- employer satisfaction survey
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The IMSIU presents an outline for its quality assurance unit in a document called “System of Monitoring Quality of Educational Processes at IMSIU”, which defines the members and responsibilities of different units. The representatives of the rector’s office describe that the Deanship of Quality and Development at IMSIU is responsible for all quality management processes. IMSIU has succeeded to receive national institutional accreditation by the National Commission for Academic Accreditation and Assessment (NCAAA).

IMSIU describes in its self-assessment report that their quality management system follows the PDCA cycle on university level. The quality cycle is illustrated in the self-assessment report.

Figure 3. Quality cycle to improve the teaching and learning processes in the study programs (source: self-assessment report).

The university has further submitted a quality management handbook; however, the experts comment that this was only available in Arabic and was consequently not considered by them. The Quality Assurance Manual contains the following flow chart to present the review process to improve the study processes:

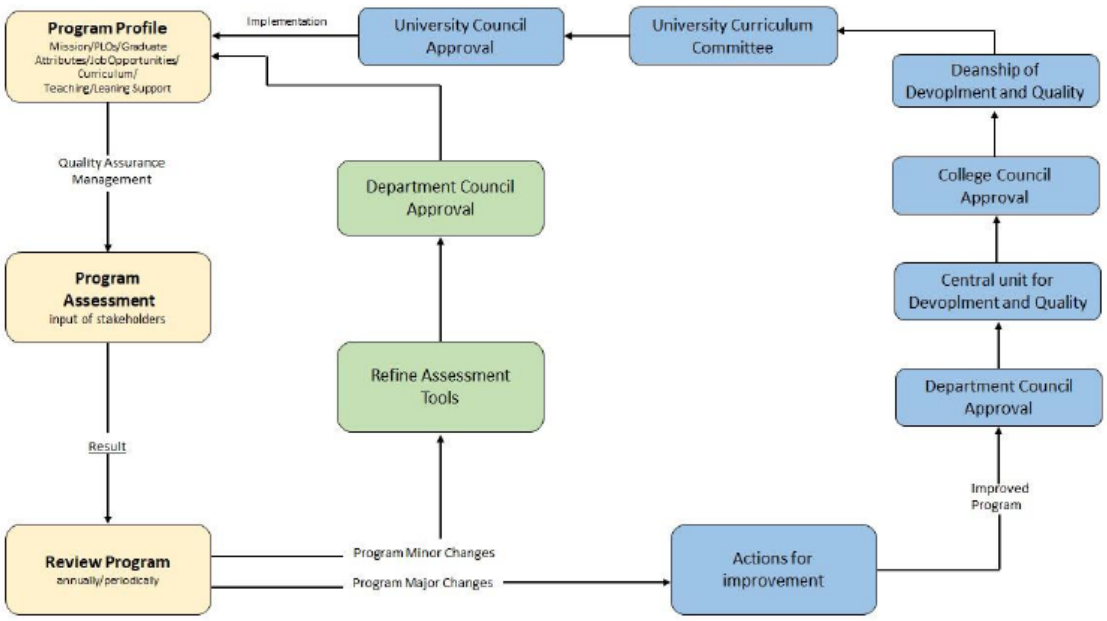

Figure 4. Single steps and responsibilities for improving the study programs (source: Quality Assurance Manual).

In the self-assessment report, IMSIU describes that they evaluate their courses every trimester and conduct an additional annual analysis. Annual evaluation includes the assessment of the key performance indicators and PLOs, benchmarking and curriculum evaluation. IMSIU states that the analysis of the study programs includes the coordination between the study programs on the male and female campus. Two coordinators are responsible to prepare a joint report at the end of every trimester; however, evaluations are conducted separately. The coordinators submit their final version to the head of the department, who monitors the quality of each module. The reports are considered in the discussion of the program advisory committee (with membership students, alumni and employers' representatives), program council and college council (Figure 2). Based on their suggestions, an action plan is designed. IMSIU presents a report combining the employer reviews of various years as well as the results of several student and staff evaluations.

The experts are specifically interested in the methods to integrate feedback from employers. The program coordinators describe that on the one hand, IMSIU conducts surveys among employers and on the other hand, several employers are members of Advisory Committees at IMSIU. They highlight that all meetings of the Advisory Committee are recorded with minutes, which is used as a basis to develop actions. The program coordinators add that the Deanship of Quality and Development conducts annual surveys among employers, which are analyzed statistically. They emphasize that all their decisions are based on collected data. As examples for recent survey results, the program coordinators mention a higher demand in programming skills as we as competences in English and presentation. Specifically for the bachelor students in *Chemistry*, the employers identified the need to

improve the students' skills in analytical chemistry and analytical thinking of students in general. Furthermore, a specific course in biochemistry was requested from IMSIU collaboration partners in hospitals. Their feedback as integrated in the last curricula revision presented during this accreditation procedure. The program coordinators further mention that instructors at IMSIU also request changes in the curriculum, which will be considered in the discussions of the responsible committee. Suggestions from different stakeholders regarding the curriculum mainly regards content, but also the number of credits and changes in the syllabus.

The experts observe that recent student surveys identified the need for improvement regarding career planning. The program coordinators describe that IMSIU has developed and initiated a career week. This allows students to present their work in the form of posters. The event further included presentations by companies. In addition, industry representatives and students can meet and discuss career opportunities.

Upon the respective question of the experts, the program coordinators confirm that IMSIU has established a feedback management for students, employers and teaching staff. The reply rate of students is usually only around 10%, though. Usually, students are asked twice during the trimester; one time after their mid-term tests and one time after their final exam. This allows the lecturer to give feedback to the students. IMSIU is currently developing a strategy to increase the reply rate for all surveys to get a wider picture of the students' opinion, which is welcomed by the experts.

The students confirm to the experts that they participate in the end-semester surveys. They remark that they do not receive any personal feedback about the results of these surveys, but that they notice related changes on the long-term. Similarly, the industry representatives mention that they take part in surveys, but are not informed on any results or actions based on their feedback. In some cases, they have informal discussions with lecturers from IMSIU, but there is no formal feedback. The industry representatives suggest publishing the results of all surveys online including information on planned actions based on the data. This would allow them to check if their suggestions were accepted or not.

The teaching staff confirms to the experts that IMSIU also conducts satisfaction surveys among the academic staff. In addition, the industry representatives would welcome if IMSIU more vigorously considered external feedback in the development of their study programs. In their opinion, they could increase the amount of surveys and collaboration concerning curriculum development to be able to adapt their curriculum towards the needs to the industry quickly.

After viewing the submitted documents and discussing with the different groups during the on-site visit, the experts confirm that the study programs are subject to periodical internal

quality assurance, which includes all stakeholders. The experts see evidences that actions for improvement are data-driven and result in a continuous development of the study programs. Nevertheless, the experts observe that students and other stakeholders are not informed on the results and consequences of the surveys they participate in. The experts point out that the students should receive feedback on the surveys, including the evaluations at the end of the trimester. Additionally, the experts bring to IMSIU's attention that also the other stakeholders, such as industry partners, mentioned their interest in the outcome of their comments and recommendations. The experts support the industry representatives' opinion to make the results available online. Therefore, the experts form the opinion that IMSIU needs to improve the communication with its internal and external stakeholders concerning the results and potential actions of the survey they take part in. The experts highlight the importance of feedback to demonstrate that IMSIU welcomes the feedback and integrates these comments and suggestions.

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

IMSIU does not comment specifically on this criterion in its statement.

The experts consider criterion 5 to be mostly fulfilled.

D Additional Documents

Before preparing their final assessment, the panel asks 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. IMSIU's admission policy/policies including the definition of "medically fit"
D 2. Examples of exams for different modules of each study program

E Comment of the Higher Education Institution (12.08.2024)

IMSIU provides the following statement:

“The College of Science academic authorities thank the peer panel for their transparent and objective assessment. This process has been highly valuable, helping us improve both current practices and future planning. We appreciate the experts’ feedback, which highlights areas for improvement and strengths to build upon. We offer the following suggestions/information for the final evaluation based on the "preliminary assessment and analysis of the experts".

• We provide the following requested additional documents:

- IMSIU’s admission policy/policies where some admission conditions including the requirement that “the student must be medically fit'” have been abolished according to the Executive Rules of Imam Mohammad Ibn Saud Islamic University (IMSIU) 1444 AH/2022 AD, adopted at the ninth meeting held on 03/01/1444 AH (corresponding to 01/08/2022 AD) and informed by Circular No. (4400006853) dated 04/01/1444 AH, in addition, the executive rules approved by Decision No. (33-3-1444 AH) of the IMSIU Council. The document is available online at IMSIU Undergraduate Study and Examination.

- Examples of exams for different modules of each study program.

• We are implementing several measures to enhance the quality of final graduation/research projects. Our new laboratory facilities will elevate both undergraduate and research projects to an international standard and support more complex and innovative research. Additionally, we will revise project guidelines, develop comprehensive assessment rubrics, and require faculty-approved project proposals. To further support student development, we will implement milestone checkpoints, targeted workshops, and foster a culture of peer review. These initiatives, alongside our new laboratory facilities, will improve project quality, bridge theoretical knowledge with practical application, and prepare students for competitive careers. We are also committed to academic integrity; all final projects will be checked for originality using similarity detection software through the Blackboard platform. This comprehensive approach will enhance project quality, support student development, and reinforce IMSIU’s dedication to academic excellence and continuous improvement.

• The teaching methods are listed for each course in the course specification document where descriptions of the course contents are explained in more detail. Where there is Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods (in section D of the document Course Specifications, available online), please see:

- Bachelor of Science in Applied Mathematics
- Bachelor of Science in Physics
- Bachelor of Science in Chemistry
- Master of Science in Mathematics

• One ECTS credit per trimester represents an average of 18 hours of student workload for bachelor's degree. One ECTS credit per trimester represents an average of 24 hours of student workload for master's degree, for more detail please see criterion 1.5 of the self-assessment report: 11.03.2024 and NQF vs ECTS-workload.xlsx. In addition, we are reviewing the course handbook for each program to distinguish between the student workload in contact hours and self-study.

• We would like to thank the experts for their constructive feedback regarding the Diploma Supplement. We understand the importance of including the statistical data outlined in the ECTS Users' Guide [European Commission, Directorate-General for Education, Youth, Sport and Culture, ECTS users' guide 2015, Publications Office of the European Union, 2015, https://data.europa.eu/doi/10.2766/87192] to help readers assess individual marks accurately. Additionally, we acknowledge the need to provide information about the educational system to give context to our graduates' achievements. We will take immediate steps to incorporate these elements into the Diploma Supplement to enhance its clarity and usefulness.

• The Media and Communication Unit, now a key component of the newly implemented College's Organizational Structure and operating under the Dean's authority, is focused on improving the dissemination of outcomes and actions from stakeholder surveys. The Program Advisory Committee (PAC) will offer strategic guidance to ensure that stakeholder feedback is effectively integrated into our decision-making processes. Additionally, we are committed to enhancing the college website to better communicate survey findings and updates. This upgrade will facilitate easier access for stakeholders to understand how their feedback influences our initiatives. We appreciate the importance of feedback and are dedicated to leveraging it constructively with the support of the PAC and through a more dynamic online presence.

- We would like to thank the experts for their constructive feedback regarding the quality of field training. We take these concerns seriously and are committed to improving our processes. According to college's Organizational Structure , a Field Training Unit has been established under the supervision of the Vice-Deanship for Educational Affairs. This unit will ensure the quality of field training, while each department has its own unit that oversees the quality of field training according to the procedures and assessment methods outlined in the training field specification document. a comprehensive evaluation system that includes regular assessments, feedback from both students and industry partners, and continuous reviews of training objectives and outcomes. We prioritize strong partnerships with our field training sites to ensure they meet our high standards. Moving forward, we will focus on refining our practices and maintaining open communication with our accreditation body to address any concerns and enhance our field training programs.

- All information on the rights and duties of students are available online on the link below: https://units.imamu.edu.sa/colleges/en/science/College_ad/Vice_Den/ViceDeanships/guides/Pages/default.aspx"

F Summary: Expert recommendations (29.08.2024)

Taking into account the additional information and the comments given by IMSIU the experts summarise their analysis and **final assessment** for the award of the seals as follows:

Degree Program	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Applied Mathematics	With requirements for one year	30.09.2031	–	-
Ba Chemistry	With requirements for one year	30.09.2031	Eurobachelor®	30.09.2031
Ba Physics	With requirements for one year	30.09.2031	–	-
Ma Mathematics	With requirements for one year	30.09.2031	–	-

Requirements

For all degree programs

A 1. (ASIIN 1.4) IMSIU needs to provide a documentation of the admission requirements.

A 2. (ASIIN 2) IMSIU needs to develop regulations for academic adjustments for students with disabilities and special needs.

A 3. (ASIIN 2) IMSIU needs to develop regulations to clearly define the scientific level of the bachelor final project (EQF 6) and master thesis (EQF 7), respectively, and provide respective guidelines for students. The actual workload of the thesis has to match the number of awarded credits.

A 4. (ASIIN 4.2) IMISU needs to ensure that a Diploma Supplement is issued together with the certificate and Transcript of Records, which contains detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree program as well as about the individual performance of the student.

A 5. (ASIIN 5) Ensure that all students, who take part in surveys, are informed on the results and consequences of the respective survey.

For the Bachelor programs Applied Mathematics, Physics, and Chemistry

A 6. (ASIIN 2) Reevaluate the relevance of two mid-term exams during one trimester against the option of reducing it to one, ensuring, among others, that students have sufficient time to prepare for their exams.

Recommendations

For all degree programs

E 1. (ASIIN 1.1) It is recommended to improve the collaboration with the industry in term of research and teaching (e.g. guest lectureship, field work, and field trips).

E 2. (ASIIN 1.3). It is recommended to improve the students' communication skills, in particular their English competences and presentation skills.

E 3. (ASIIN 1.3) It is recommended to increase the number of elective courses and design tracks/minors providing students with sufficient expertise in specified fields.

E 4. (ASIIN 1.3) It is recommended to improve the practical component in the curriculum in order to provide the students with a closer connection between their theoretical and practical knowledge, above all in the bachelor programs Physics and Chemistry.

E 5. (ASIIN 1.3, 2) It is recommended to harmonise the wording for the final project and to use the same term in all documents. Additionally, it is recommended to standardise the criteria for the final project for all degree programmes and to issue a guideline on preparing and presenting the final project.

E 6. (ASIIN 1.3) It is recommended to provide more opportunities for student mobility.

E 7. (ASIIN 2) It is recommended to allow students, who fail an exam, to retake it at least once.

E 8. (ASIIN 2) It is recommended to review the rules on plagiarism for the bachelor's final project and master thesis.

E 9. (ASIIN 3.1) It is recommended to monitor the workload of the academic staff (teaching, research and administration).

E 10. (ASIIN 3.1) It is recommended to further improve the opportunities for professional development of the teaching staff, especially on the female campus.

E 11. (ASIIN 3.3) It is recommended to further improve the laboratories on the female campus.

For the Bachelor programs Physics and Chemistry

E 12. (ASIIN 3.3) It is recommended to reduce the size of student groups in the laboratories to two to three students.

For the Bachelor programs Physics and Applied Mathematics

E 13. (ASIIN 1.3) It is recommended to introduce a module on scientific writing.

For the Bachelor program Physics

E 14. (ASIIN 1.3) It is recommended to introduce elective courses.

G Comment of the Technical Committees (13.09.2024)

Technical Committee 09 – Chemistry, Pharmacy (06.09.2024)

Assessment and analysis for the award of the ASIIN seal:

The TC confirms that there is a particular need for improvement in the admission requirements, the quality of final theses, compensation for disadvantages, the Diploma Supplement, feedback on teaching evaluations and the organisation of examinations. A total of six requirements are to be imposed on these points. In addition, 14 recommendations are proposed by the expert group. The TC discusses the procedure, in particular the separation between women's and men's campuses and the resulting problems during the on-site visit. Overall, it agrees with the proposed requirements and recommendations.

Assessment and analysis for the award of the Eurobachelor® Label:

The Technical Committee confirms that the intended learning outcomes of the degree program comply with the fields of knowledge as set by ECTN.

The Technical Committee 09 – Chemistry, Pharmacy recommends the award of the seals as follows:

Degree Program	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Chemistry	With requirements for one year	30.09.2031	Eurobachelor®	30.09.2031

Technical Committee 12 – Mathematics (09.09.2024)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee confirms that there is a particular need for improvement in the admission requirements, the quality of final theses, compensation for disadvantages, the

Diploma Supplement, feedback on teaching evaluations and the organisation of examinations. A total of six requirements are to be imposed on these points. In addition, 14 recommendations are proposed by the expert group. The TC discusses the procedure and agrees with the proposed requirements and recommendations.

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

Degree Program	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Applied Mathematics	With requirements for one year	30.09.2031	–	-
Ma Mathematics	With requirements for one year	30.09.2031	–	-

Technical Committee 13 – Physics (13.09.2024)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the procedures and consider that the recommendation E11 should be upgraded to a requirement. The equipment on both the women's and men's campuses must be of equal standard. Therefore, the laboratories on the women's campus must be brought up to the standard of the laboratories on the men's campus. Regarding A6, the use of a standard wording is recommended by the TC. Additionally, the wording of recommendation E7 is clarified.

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

Degree Program	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Physics	With requirements for one year	30.09.2031	–	-

A 4. (ASIIN 3.3) The laboratories on the female campus have to be improved to the same standard as those on the male campus.

A 5. (ASIIN 4.2) IMISU needs to ensure that a Diploma Supplement is issued together with the certificate and Transcript of Records, which contains detailed information about

the educational objectives, intended learning outcomes, the structure and the academic level of the degree program as well as about the individual performance of the student.

A 6. (ASIIN 5) Close the feedback cycles and inform the students directly about the results of the course questionnaires.

E 7. (ASIIN 2) It is recommended to guarantee students, who fail an exam, to be able to retake it at least once within one year.

H Decision of the Accreditation Commission (24.09.2024)

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

The Accreditation Commission discusses the procedure and accepts the changes as proposed by the Technical Committees. Otherwise, the AC agrees with the suggested recommendations and requirements.

Assessment and analysis for the award of the Eurobachelor® Label:

The Accreditation Commission confirms that the intended learning outcomes of the Bachelor's degree program Chemistry complies with the fields of knowledge as set by ECTN.

The Accreditation Commission decides to award the following seals:

Degree Program	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Applied Mathematics	With requirements for one year	30.09.2031	–	30.09.2031
Ba Chemistry	With requirements for one year	30.09.2031	Eurobachelor®	30.09.2031
Ba Physics	With requirements for one year	30.09.2031	–	30.09.2031
Ma Mathematics	With requirements for one year	30.09.2031	–	30.09.2031

Requirements

For all degree programs

A 1. (ASIIN 1.4) IMSIU needs to provide a documentation of the admission requirements.

A 2. (ASIIN 2) IMSIU needs to develop regulations for academic adjustments for students with disabilities and special needs.

A 3. (ASIIN 2) IMSIU needs to develop regulations to clearly define the scientific level of the bachelor final project (EQF 6) and master thesis (EQF 7), respectively, and provide respective guidelines for students. The actual workload of the thesis has to match the number of awarded credits.

A 4. (ASIIN 3.3) The laboratories on the female campus have to be improved to the same standard as those on the male campus.

A 5. (ASIIN 4.2) IMISU needs to ensure that a Diploma Supplement is issued together with the certificate and Transcript of Records, which contains detailed information about the educational objectives, intended learning outcomes, the structure and the academic level of the degree program as well as about the individual performance of the student.

A 6. (ASIIN 5) Close the feedback cycles and inform the students directly about the results of the course questionnaires.

For the Bachelor programs Applied Mathematics, Physics, and Chemistry

A 7. (ASIIN 2) Reevaluate the relevance of two mid-term exams during one trimester against the option of reducing it to one, ensuring, among others, that students have sufficient time to prepare for their exams.

Recommendations

For all degree programs

E 1. (ASIIN 1.1) It is recommended to improve the collaboration with the industry in term of research and teaching (e.g. guest lectureship, field work, and field trips).

E 2. (ASIIN 1.3). It is recommended to improve the students' communication skills, in particular their English competences and presentation skills.

E 3. (ASIIN 1.3) It is recommended to increase the number of elective courses and design tracks/minors providing students with sufficient expertise in specified fields.

E 4. (ASIIN 1.3) It is recommended to improve the practical component in the curriculum in order to provide the students with a closer connection between their theoretical and practical knowledge, above all in the bachelor programs Physics and Chemistry.

E 5. (ASIIN 1.3, 2) It is recommended to harmonise the wording for the final project and to use the same term in all documents. Additionally, it is recommended to standardise the criteria for the final project for all degree programmes and to issue a guideline on preparing and presenting the final project.

E 6. (ASIIN 1.3) It is recommended to provide more opportunities for student mobility.

E 7. (ASIIN 2) It is recommended to guarantee students, who fail an exam, to be able to retake it at least once within one year.

E 8. (ASIIN 2) It is recommended to review the rules on plagiarism for the bachelor's final project and master thesis.

E 9. (ASIIN 3.1) It is recommended to monitor the workload of the academic staff (teaching, research and administration).

E 10. (ASIIN 3.1) It is recommended to further improve the opportunities for professional development of the teaching staff, especially on the female campus.

For the Bachelor programs Physics and Chemistry

E 11. (ASIIN 3.3) It is recommended to reduce the size of student groups in the laboratories to two to three students.

For the Bachelor programs Physics and Applied Mathematics

E 12. (ASIIN 1.3) It is recommended to introduce a module on scientific writing.

For the Bachelor program Physics

E 13. (ASIIN 1.3) It is recommended to introduce elective courses.

Appendix: Program Learning Outcomes and Curricula

According to Program Specifications document, the following **program learning outcomes (intended qualifications profile)** shall be achieved by the bachelor program *Applied Mathematics*:

Knowledge and understanding	
K1	Outline the basics of Mathematics.
K2	Describe the development of the application of Mathematics in a wide range of situations.
Skills	
S1	Develop critical abilities of an analytical, creative and problem-solving nature.
S2	Design basic mathematical models of real-life problems.
S3	Develop critical skills.
S4	Communicate mathematical ideas orally and in writing.
S5	Use computer technology and software for solving mathematical problems.
Values	
V1	Demonstrate integrity, professional and academic ethics.
V2	Self-evaluate of the level of learning and performance, and make logical decisions supported by evidence and arguments independently.
V3	Lead teamwork with functional flexibility and effectiveness, and take responsibility for professional development.

The following **curriculum** is presented:

Level	*Course Code*	*Course Title*	*Required or Elective*	*Pre-Requisite / Co-Requisite Courses*	*NQF Credit Hours*	*Type of requirements (Institution, College or Department)*
Level 1	MAT 1101	Calculus (1)	Required	None	5	College
	PHY 1101	General Physics (1)	Required	None	5	College
	ENG 1140	English 1	Required	None	3	College
		University Requirement[3] 1	Elective	None	2	Institution
Level 2	MAT 1102	Calculus (2)	Required	MAT 101	5	Department
	CHM 1101	General Chemistry (1)	Required	None	5	College
	ENG 1195	English 2	Required	None	3	College
		University Requirement 2	Elective	None	2	Institution
Level 3	MAT 1151	Foundation of Mathematics	Required	None	5	Department
	STA 1101	Probability & Statistics (1)	Required	MAT 1102	4	Department
	PHY 102	General Physics (2)	Required	PHY 101	4	Program
		University Requirement 3	Elective	None	2	Institution
Level 4	MAT 1203	Calculus (3)	Required	MAT 102	5	Program
	MAT 1223	Linear Algebra	Required	MAT 151	5	Department
	MAT 1241	Math Software	Required	MAT 101	3	Department
		University Requirement 4	Elective		2	Institution
Level 5	STA 1202	Probability & Statistics (2)	Required	MAT 1203, STA 1101	5	Department
	MAT 1231	Introduction to Diff. Equations	Required	MAT 1102, MAT 1223	5	Program
	CS 1249	Computer Program. for science	Required	MAT 1241	4	Department
Level 6	MAT 1225	Introduction to Number Theory	Required	MAT 1151	3	Program
	MAT 1253	Introduction to Operations Research	Required	MAT 1223	4	Program
	QUR 1001	University Requirement 5 - Quran	Required		2	Institution
		University Requirement 6	Elective		2	Institution
Level 7	MAT 1311	Real Analysis	Required	MAT 1203	4	Program
	MAT 1332	Mathematical Methods	Required	MAT 1203, MAT	5	Program
	ECO 1100	Principles of Economics	Required	None	3	Department
Level 8	MAT 1321	Modern Algebra	Required	MAT 1223, MAT 1225	5	Program
	MAT 1341	Numerical Analysis (1)	Required	MAT 1231, CS 1249	5	Program
	MAT 1371	Financial Mathematics	Required	MAT 102	4	Program
Level 9	MAT 1334	Introduction to Partial Differential Equations	Required	MAT 332	5	Program
	MAT 1353	Combinatorics and Graphs	Required	MAT 1102, MAT	4	Department
		Elective Course (1)	Elective	Upon specifying the course	4	Program
Level 10	MAT 1412	Complex Variables	Required	MAT 1311	5	Program
	MAT 1442	Numerical Analysis (2)	Required	MAT 1341, MAT 1334	4	Program

Level	*Course Code*	*Course Title*	*Required or Elective*	*Pre-Requisite / Co-Requisite Courses*	*NQF Credit Hours*	*Type of requirements (Institution, College or Department)*
	MAT 1461	Introduction to Cryptography and Coding	Required	MAT 1321	4	Program
		University Requirement 7	Elective	None	2	Institution
Level 11	MAT 1415	Introduction to Topology	Required	MAT 1311	5	Program
	MAT 1463	Modeling and Simulation	Required	MAT 1334	4	Program
		Elective Course (2)	Elective	Upon specifying the course	4	Program
		University Requirement 8	Elective	None	2	Institution
Level 12	MAT 1497	Field Training	Required		4	Program
	MAT 1499	Research Project	Required		4	Program
		University Requirement 9	Elective	None	2	Institution
		University Requirement 10	Elective	None	2	Institution

According to Program Specifications document, the following **program learning outcomes (intended qualifications profile)** shall be achieved by the bachelor program *Chemistry*:

Knowledge and understanding	
K1	Recall the fundamentals and application of all topics of chemistry and their relevant.
K2	Describe principals of different instruments and their functionality and applications.
K3	Identify and elucidate chemical compounds in terms of structures, reactivity and applications.
Skills	
S1	Develop skills in problem-solving, critical thinking, and scientific, logical reasoning.
S2	Create awareness about the impact of chemistry on the society and environment as well as develop research skills for a specific target.
S3	Utilize a well -developed skills for analysis and evaluation of the complex scientific problem.
S4	Be updating for all advanced techniques and chemistry experiments performance added for developing solving solutions to complex problems related to a

	professional target. And applying all fundamental principles for the complex field tasks.
Values	
V1	Create awareness to maintain intellectual and scientific integrity during assignments, projects, and reports.
V2	Appraise teamwork, decision-making in unpredictable work, and management of resources and time.

The following **curriculum** is presented:

Level	*Course Code*	*Course Title*	*Required or Elective*	*Pre-Requisite Courses*	*Credit Hours*	*Type of requirements (Institution, College, or Department)*
Level 1	BIO 1101	General Biology	Required		5	College
	CHM	General Chemistry 1	Required		5	College
	ENG 1140	English 1	Required		3	College
		University Requirement	Elective		2	Institution
Level 2	MAT 1101	Calculus 1	Required		5	College
	CHM 1102	General Chemistry (2)	Required	CHM 1101	5	Department
	ENG 1195	English 2	Required		3	College
		University Requirement	Elective		2	Institution
Level 3	CHM 1121	Organic Chemistry (1)	Required	CHM 1101	5	Department
	MAT 1103	Mathematics for Chemistry	Required	MAT 1101	5	College
	PHY 1101	General Physics (1)	Required		5	College
Level 4	CHM 1211	Inorganic Chemistry (1)	Required	CHM 1102	5	Department
	CHM 1235	Fundamentals of Analytical Chemistry	Required	CHM 1102	5	Department
	CHM 1251	Computer Application in Chemistry	Required	CHM 1101	2	Department
	CHM 1252	Lab. Safety and Management	Required	CHM 1101	2	Department
Level 5	CHM	Organic Chemistry (2)	Required	CHM 1121	5	Department
	CHM	Physical Chemistry (1)	Required	CHM 1102	5	Department
	STA 1111	Introduction to Probability & Statistics	Required	MAT 1103	4	College
Level 6	CHM 1236	Chemistry of volumetric and Gravimetric	Required	CHM 1235	5	Department
	CHM	Physical Chemistry (2)	Required	CHM 1241	5	Department
	CHM 1271	Biochemistry	Required	CHM 1221 BIO1101	3	Department
		University Requirement	Elective		2	Institution
Level 7	CHM	Inorganic Chemistry (2)	Required	CHM 1211	5	Department
	CHM	Heterocyclic Chemistry	Required	CHM 1221	5	Department
	CHM 1322	Organic compounds spectroscopy	Required	CHM 1221	3	Department
	XXXX	University Requirement	Elective		2	Institution
Level 8	CHM	Organometallic	Required	CHM 1311	3	Department
	CHM 1343	Electrochemistry and Corrosion	Required	CHM 1241	5	Department
	CHM	Instrumental Analysis	Required	CHM	5	Department
	QUR 1001	Quran (University Requirement 5)	Elective	CHM 1236	2	Institution
Level 9	CHM 1341	Quantum Chemistry	Required	MAT1107, CHM	3	Department
	CHM	Chemical Kinetics	Required	CHM 1241	4	Department
		University Requirement	Elective		2	Institution
		Elective course (1)	Elective	Upon specifying	3	Department

Level	*Course Code*	*Course Title*	*Required or Elective*	*Pre-Requisite Courses*	*Credit Hours*	*Type of requirements (Institution, College, or Department)*
Level 10	CHM 1421	Chemistry of Natural Products	Required	CHM 1321	2	Department
	CHM 1446	Catalysis & Surface Chemistry	Required	CHM 1242	3	Department
	CHM 1428	Polymers and Petrochemicals	Required	CHM 1321	3	Department
		Elective Course (2)	Elective	Upon specifying	3	Department
		University Requirement 7	Elective		2	Institution
Level 11	CHM 1438	Chemical Separation Methods	Required	CHM 1236	5	Department
	CHM 1422	Organic Reactions Mechanism	Required	CHM 1321	3	Department
	CHM 1411	Solid state chemistry	Required	CHM 1311	3	Department
		University Requirement 8	Elective		2	Institution
Level 12	CHM 1497	Field Training	Required	Department Approval	4	Department
	CHM 1499	Graduation Project	Required		4	Department
		University Requirement 9	Elective		2	Institution
		University Requirement 10	Elective		2	Institution

According to Program Specifications document, the following **program learning outcomes (intended qualifications profile)** shall be achieved by the bachelor program *Physics*:

Knowledge and understanding	
K1	Recognize a broad set of knowledge concerning the fundamental principles and concepts of physics.
Skills	
S1	Apply the concepts, principles and theories involved in addressing issues and problems in a range of different contexts.
S2	Critically evaluate knowledge and use it to provide innovative solutions to contemporary issues and problems in physics.
Values	

V1	Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some societal issues, and a commitment to responsible citizenship.
V2	Self-evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.
V3	Lead teamwork with functional flexibility and effectiveness, and take responsibility for professional development, participating in developing the group's performance, and enhancing the quality of life.

The following **curriculum** is presented:

Level	*Course Code*	*Course Title*	*Required or Elective (selected)*	*Prerequisite Courses*	*Credit Hours*	*Type of requirements (Institution, College, or Department)*
Level 1	PHY 1101	General Physics	Required		5	Physics
	MAT 1101	Calculus (1)	Required		5	Mathematics and Statistics
	ENG 1140	English (1)	Required		3	College of Languages and Translation
		University Requirement 1	Elective		2	University Requirement
Level 2	PHY 1105	Classical Mechanics (1)	Required	PHY 1101 MAT 1101	5	Physics
	MAT 1102	Calculus (2)	Required	MAT 1101	5	Mathematics and Statistics
	ENG 1195	English (2)	Required		3	College of Languages and Translation
		University Requirement 2	Elective		2	University Requirement
Level 3	PHY 1121	Electricity and Magnetism	Required	PHY 1101 MAT 1102	5	Physics
	CHM 1101	General Chemistry (1)	Required		5	Chemistry
	STA 1111	Intr. to Probability and Statistics	Required	MAT 1102	4	Mathematics and Statistics
Level 4	PHY 1240	Wave & Optics	Required	PHY 1105 MAT 1102	5	Physics
	MAT 1203	Calculus (3)	Required	MAT 1102	5	Mathematics and Statistics
	PHY 1281	Electromagnetism Laboratory	Required	MAT 1101	2	Physics
		University Requirement 3	Elective		2	University Requirement
Level 5	PHY 1230	Thermal Physics	Required	PHY 1101 MAT 1203	5	Physics
	PHY 1233	Mathematical Physics (1)	Required	MAT 1203	4	Physics
	PHY 1282	Wave & Optics Laboratory	Required	PHY 1240	2	Physics
	MAT 1221	Intr. Linear Algebra	Required	MAT 1101	4	Mathematics and Statistics
Level 6	PHY 1250	Modern Physics	Required	PHY 1240	4	Physics
	PHY 1203	Classical Mechanics (2)	Required	PHY 1105 MAT 1103	4	Physics
	PHY 1283	Thermal Physics & Mechanics Laboratory	Required	PHY 1230	2	Physics
		University Requirement 4	Elective		2	University Requirement
	QUR 1001	Quran (University Requirement 5)	Required		2	University Requirement
Level 7	PHY 1334	Mathematical Physics (2)	Required	PHY 1233	4	Physics
	PHY 1312	Quantum Mechanics (1)	Required	PHY 1250 STA 1111	4	Physics
	PHY 1321	Electromagnetic Fields	Required	PHY 1102 MAT 1203	5	Physics
		University Requirement 6	Elective		2	University Requirement
Level 8	PHY 1324	Electronics	Required	PHY 1121 PHY 1233	4	Physics
	PHY 1313	Quantum Mechanics (2)	Required	PHY 1312	4	Physics
	PHY 1332	Statistical Physics	Required	PHY 1312 PHY 1230	4	Physics

Level	*Course Code*	*Course Title*	*Required or Elective (selected)*	*Prerequisite Courses*	*Credit Hours*	*Type of requirements (Institution, College, or Department)*
	MAT 1241	Math Software	Required	MAT 1102	3	Mathematics and Statistics
Level 9	CS 1249	Computer Programming for Science	Required	MAT 1241	4	College of Computer Science
	PHY 1362	Atomic Physics	Required	PHY 1313	4	Physics
	PHY 1382	Electronic Laboratory	Required	PHY 1324	2	Physics
		University Requirement 7	Elective		2	University Requirement
Level 10	PHY 1464	Nuclear Physics	Required	PHY 1312	4	Physics
	PHY 1461	Solid state Physics	Required	PHY 1313	5	Physics
	PHY 1404	Fluid Mechanics	Required	PHY 1203 PHY 1334	4	Physics
Level 11	PHY 1436	Computational Physics	Required	CS 1249 PHY 1334	4	Physics
	PHY 1481	Solid state Physics & Modern Laboratory	Required	PHY 1461	2	Physics
	PHY 1471	Special Topics in Applied Physics (1)	Required		3	Physics
	PHY 1472	Special Topics in Applied Physics (2)	Required		3	Physics
		University Requirement 8	Elective		2	University Requirement
Level 12	PHY 1496	Training	Required		4	Physics
	PHY 1498	Final Year Project	Required	PHY 1461	4	Physics
		University Requirement 9	Elective		2	University Requirement
		University Requirement 10	Elective		2	University Requirement

According to Program Specifications document, the following **program learning outcomes (intended qualifications profile)** shall be achieved by the master program *Mathematics*:

Knowledge and understanding	
K1	Demonstrate a solid understanding of advanced topics in Mathematics.
K2	Outline the areas of specialization through studying specific topics relevant to research in mathematics.
Skills	
S1	Apply advanced mathematical knowledge to analyze problems and develop innovative solutions.
S2	Develop critical skills with regard to literature searching, appraising and evaluating from a variety of sources and synthesizing the results.

S3	Communicate in a clear and concise manner orally, on paper and using IT.
S4	Make efficient use of computer for acquiring, analyzing and presenting information.
Values	
V1	Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some societal issues, and a commitment to responsible citizenship.
V2	Self-evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.
V3	Lead teamwork with functional flexibility and effectiveness, and take responsibility for professional development, participating in developing the group's performance, and enhancing the quality of life.

The following **curriculum** is presented:

Level	*Course Code*	*Course Title*	*Required or Elective*	*Pre-Requisite Courses*	*NQF Credit*
Level 1	MAT 6121	Advanced Linear Algebra	Required	None	5
	MAT 6171	Topology	Required	None	5
Level 2	MAT 6111	Introduction to Measure and Integration	Required	MAT 6171	5
	MAT 6141	Numerical Analysis	Required	None	5
Level 3	MAT 6113	Introduction. to Functional Analysis	Required	MAT 6171	5
	MAT 6123	Algebra (1)	Required	None	5
Level 4	MAT 6231	Partial Differential Equations	Required	MAT 6111, MAT 6113	5
	MAT 6xxx	Elective Course 1 (List A or List B)	Elective	None	4
Level 5	MAT 6xxx	Elective Course 2 (List A or List B)	Elective	None	4
	MAT 6xxx	Elective Course 3 (List A or List B)	Elective	None	4
Level 6	MAT 6299	Research Project	Required	None	4

Elective Courses

List A	List B
1. MAT 6215: Applied Functional Analysis.	1. MAT 6217: Introduction to Operator Theory.
2. MAT 6242: Numerical Methods for ODEs.	2. MAT 6219: Introduction to Ergodic Theory.
3. MAT 6245: Numerical Optimization.	3. MAT 6224: Algebra (2).
4. MAT 6247: Statistical Theory and Inference.	4. MAT 6226: Number Theory.
5. MAT 6249: Finite Markov Chains and Applications.	5MAT 6228: Group Representation.
6. MAT 6253: Combinatorial Optimization.	6. MAT 6233: Ordinary Differential Equations.
7. MAT 6261: Coding Theory & Cryptography.	7. MAT 6251: Graph Theory & Combinatorics.
8. MAT 6263: Mathematical and Computational Modeling.	8. MAT 6255: Algebraic Graph Theory.
9. MAT 6265: Mathematical Modeling and Infections.	9. MAT 6275: Differential Geometry.
10. MAT 6281: Selected Topics in Applied Mathematics (1).	10. MAT 6285: Selected Topics in Pure Mathematics (1).
11. MAT 6283: Selected Topics in Applied Mathematics (2).	11. MAT 6287: Selected Topics in Pure Mathematics (2).