



هيئة جودة التعليم والتدريب  
Education & Training Quality Authority  
Kingdom of Bahrain - مملكة البحرين

# **Directorate of Higher Education Reviews**

## **Programme Follow-Up Visit Report**

**Bachelor of Science in Informatics Engineering  
College of Engineering  
AMA International University  
Kingdom of Bahrain**

**First Follow-up Visit Date: 29-30 October 2018**

**Review Date: 6–8 December 2015**

HC073-C2-F017

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## The Programme Follow-up Visit Overview

The follow-up visit for academic programmes conducted by the Directorate of Higher Education Reviews (DHR) of the Education & Training Quality Authority (BQA) in the Kingdom of Bahrain is part of a cycle of continuing quality assurance reviews, reporting and improvement.

The follow-up visit applies to all programmes that have been reviewed using the Programmes-within-College Reviews Framework, and received a judgement of 'limited confidence' or 'no confidence'.

This Report provides an account of the follow-up process and findings of the follow-up panel whereby the Bachelor of Science in Informatics Engineering (BSIE), at the AMA International University (AMAIU) was revisited on 29-30 October 2018 to assess its progress in line with the published Programmes-within-College Reviews Framework and the BQA regulations.

### A. Aims of the Follow-up Visit

- (i) Assess the progress made against the recommendations highlighted in the review report (in accordance with the four BQA Indicators) of AMAIU's BSIE since the programme was reviewed on 6-8 December 2015.
- (ii) Provide further information and support for the continuous improvement of academic standards and quality enhancement of higher education provision, specifically within the BSIE programme at AMAIU, and for higher education provision within the Kingdom of Bahrain, as a whole.

### B. Background

The review of the BSIE programme, at AMAIU in the Kingdom of Bahrain was conducted by the DHR of the BQA on 6-8 December 2015.

The overall judgement of the review panel for the BSIE programme, of AMAIU was that of '**no confidence**'. Consequently, the follow-up process incorporated the review of the evidence presented by AMAIU to the DHR, the Improvement Plan submitted to BQA in February 2017, the Progress Report and its supporting materials, which were submitted in May 2017, and the documents submitted during the follow-up site visit and those extracted from the interview sessions.

The external review panel's judgement on the AMAIU's BSIE programme for each Indicator was as follows:

**Indicator 1:** The learning programme; '**not satisfied**'

**Indicator 2:** Efficiency of the programme; '**not satisfied**'

**Indicator 3:** Academic standards of the graduates; '**not satisfied**'

**Indicator 4:** Effectiveness of quality management and assurance '**satisfied**'

The follow-up visit was conducted by a (Panel) consisting of two members. This follow-up visit focused on assessing how the Institution addressed the recommendations of the report of the review conducted on 6-8 December 2015. For each recommendation given under the four Indicators, the Panel judged whether the recommendation is 'fully addressed', 'partially addressed', or 'not addressed' using the rubric in Appendix 1. An overall judgement of 'good progress', 'adequate progress' or 'inadequate progress' is given based on the rubric provided in Appendix 2.

### **C. Overview of the Bachelor of Science in Informatics Engineering**

The BSIE is offered by College of Engineering. It was first offered in September 2002; and has 379 graduates since its inception. It is worth noting that admission to the BSIE programme was suspended by the Higher Education Council (HEC) from January 2017 (2<sup>nd</sup> Trimester of 2016-2017) to August 2017 (3<sup>rd</sup> Trimester of SY 2016-2017).

The Informatics Engineering Department manages the BSIE programme with 16 faculty members contributing to the delivery of the programme at the time of this follow-up visit; in addition to five administrative staff members. The current study plan spreads over four years and is divided into 12 trimesters with a total of 204 credits. At the time of the follow-up visit, the number of enrolled students was 48; and most of them were from Bahrain and not working.

## 1. Indicator 1: The Learning Programme

*This section evaluates the extent to which the BSIE programme of AMAIU, has addressed the recommendations outlined in the programme review report of December 2015, under Indicator 1: The learning programme and as a consequence provides a judgment regarding the level of implementation of each recommendation for this Indicator as outlined in Appendix 1 of this Report.*

**Recommendation 1.1:** *Revise the BSIE programme by taking into consideration the weightage of the core courses in the programme to give appropriate balance for the specialisation courses.*

**Judgement:** *Fully Addressed*

To address this recommendation, a new programme curriculum was approved and made effective in September 2017. The new curriculum was developed based on: DHR recommendations identified in the previous review conducted by BQA in 2015, formal benchmarking with similar programmes offered regionally and internationally, fulfilment of ABET accreditation curriculum requirements and the ACM computer Engineering programme framework.

The Panel reviewed the new programme and found that it covers the expected breadth of knowledge of a typical BSIE programme. Compared to the old BSIE programme, a wide range of specialization courses had been introduced, increasing the credit distribution of the core engineering courses from 17.6% to 35.3%. In addition, revision of the content and delivery of Data Communications and Networking courses was conducted for the following courses: Principles of Communications (CENG534), Digital Communication (CENG661C), Power Electronics (CENG625), Digital Control Systems (CENG638), Real Time Embedded Systems (CENG645), Digital Signal Processing (CENG661B), Computer Organization and Architecture (CENG624), Microprocessor Systems (CENG639) and Software Engineering (CENG658) was carried out to ensure that they are more geared towards engineering. Now these courses are delivered after introducing a new prerequisite course Principles of Communication (CENG534) by the College of Engineering, as per the new curriculum plan, instead of a computer science course in the previous study plan. The Panel acknowledges the enhancement applied to the BSIE programme by introducing a wide range of specialization courses leading to an appropriate balance in the programme's study plan. Consequently, the Panel considers this recommendation to be fully addressed.

**Recommendation 1.2:** *Ensure that all fundamental engineering components are included in the curriculum and realign the curriculum to offer fundamental courses before the advanced specialisation courses.*

**Judgement:** *Partially Addressed*

To address this recommendation, the College of Engineering made a significant revision to the BSIE curriculum plan. The 2017 BSIE curriculum plan covers the expected breadth of knowledge for a typical informatics Engineering programme through the wide range of offered courses such as Digital Communication, Electronics, Digital Control Systems, Real-Time Embedded Systems, Digital Signal Processing, Computer Organization and Architecture, Data Communications and Networking, Advanced Logic Design, Microprocessor Systems and Software Engineering. Moreover, more relevant courses to the BSIE programme such as Power Electronics and Principles of Communications have replaced less relevant engineering courses offered in the old curriculum plan.

Inspecting the flowchart of the new curriculum plan shows that course offering is organized in a sequence from basic to advance to lead to developing students' skills as they proceed from one course to another. This in turn will enhance the in-depth knowledge in the fundamental computing areas. The Panel noted that in the academic year 2017-2018 curriculum plan, the industrial attachment course is offered in the second trimester of Year 4 together with four other courses. The industrial attachment is a practicum course where students are expected to complete 240 hours of on-site training. Hence, students will be overloaded during that trimester. The Panel urges the College to reconsider the course offering in that trimester to reduce the courses' load on the students. Additionally, the Panel is concerned about the long chain of prerequisites, which may hinder the students from progression within the programme. Despite the abovementioned, the Panel acknowledges the College's effort in revising the curriculum plan to include fundamental engineering components and ensuring students' academic progression year-on-year and course-by-course. The Panel, therefore, considers this recommendation partially addressed.

**Recommendation 1.3:** *Revise the syllabi to ensure that all main topics required for the BSIE programme are covered and that the breadth and depth of the syllabi are suitable for the programme type and degree.*

**Judgement:** *Partially Addressed*

The College had taken various actions to address the recommendations identified in the previous review conducted by BQA in 2015. One of the issues that had been raised earlier was related to the absence of introductory communication topics. In this regard,

the College introduced a new core course 'Principles of Communication' (CENG534). At the time of the visit, no course file was available for this course since it has not been offered yet; however, its course specification was available for viewing, and it confirmed to the Panel that this course covers fundamental communication topics that were missing in the old curriculum. Another issue raised was related to the depth of topics covered in some courses such as the Electromagnetics (ENGG612), Computer Organization (CENG624), and Electronics (ENGG534). The Panel scrutinized a number of course files including the above three courses and noted that significant changes related to the content and delivery of the courses had been applied to improve the depth of topics covered. Enhancement included adding suitable prerequisites to the courses, more appropriate Course Intended Learning Outcomes (CILOs), revising course contents by adding fundamental topics that were missing in the old syllabi, updated textbooks and references as well as improvement in the level of the formal assessment instruments. In addition, most of the core courses of the BSIE programme were modified to incorporate an open-ended component in the requirements of students' projects.

The Panel acknowledges the department's efforts to benchmark the BSIE courses with similar courses offered by other universities to ensure that fundamental topics are covered and that the breadth and depth of the syllabi are suitable for the programme type and level. The Panel appreciates the effort exerted to enhance the level of the course syllabi to cover the required body of knowledge of a typical informatics engineering programme. However, since the abovementioned changes were introduced recently, the impact is yet to be fully noticeable in all courses. Hence, the Panel considers the recommendation partially addressed.

**Recommendation 1.4:** *Revise the level of complexity of the course intended learning outcomes and their mapping to the programme intended learning outcomes.*

**Judgement:** *Fully Addressed*

To address this recommendation, the Progress Report indicates that the programme team took a holistic approach in reviewing the complexity and mapping of its CILOs to the BSIE Programme Intended Learning Outcomes (PILOs). From interviews with faculty and senior management, the Panel noted that faculty members are well-acquainted with the process used to measure the level of attainment of each CILO with the various course assessment instruments. The Panel reviewed the course files provided during the site visit and noted that a comprehensive revision was carried out to ensure that the approach in which the CILOs are specified, their alignment with the course assessment instruments and their mapping to the PILOs was well-conducted. The Panel found that the new approach considered the recommendations specified in the BQA's previous review report. Furthermore, the Panel reviewed the CILOs to

PILOs mapping matrix and noted that all PILOs are attainable by the formal assessment instruments of the CILOs, which collectively provide evidence of graduate attributes' achievement. The Panel acknowledges the efforts of the programme team to address this recommendation; and considers this recommendation as fully addressed.

**Recommendation 1.5:** *Revise the mark distribution for all courses to ensure that these are course dependent according to the type, level and intended learning outcomes of the course.*

**Judgement:** *Fully Addressed*

To address this recommendation, the AMAIU Academic Committee revised the teaching and learning assessment policy and developed a new grading scheme that is applied to all programmes offered by the University. Pilot testing of the new marking system was applied to all BSIE programme courses in the third trimester of the academic year 2017-2018. During interviews with faculty, the Panel noted faculty members' satisfaction with the new grading scheme, as the new system is based on some of their recommendations presented during consultation sessions with senior management. The Panel studied the new grading scheme document, course files and samples of students' work and noted that the new grading scheme takes into account the nature and the level of the course; and that appropriate weight is assigned to the practical laboratory work. The Panel inspected samples of course specifications and noted that they incorporate the grade distribution of the various course assessment instruments (test 1, test 2, assignment, homework, laboratory reports, in-course project, final examination for laboratory experiments and final written examination). Interviewed students expressed their awareness and satisfaction with the new grading scheme. The Panel learned that the new grade distribution scheme is currently fully implemented across campus starting from September 2018. The Panel is satisfied that this recommendation has been fully addressed.



## 2. Indicator 2: Efficiency of the Programme

*This section evaluates the extent to which the BSIE programme of AMAIU, has addressed the recommendations outlined in the programme review report of December 2015, under Indicator 2 Efficiency of the programme and as a consequence provides a judgment regarding the level of implementation of each recommendation for this Indicator as outlined in Appendix 1 of this Report.*

**Recommendation 2.1:** *Revise the admission policy to ensure a better match between the applicant's competencies and the level and type of the programme, and specify clear criteria for admitting transferred students.*

**Judgement:** *Partially Addressed*

From the provided evidence and interviews conducted during the site visit, the Panel was informed that the University revised its admission policy and conducted an informal benchmarking with six local private institutions operating in the Kingdom of Bahrain. A formal benchmarking on the admission criteria was also conducted with one regional institution along with an international one. Furthermore, a policy for accepting transferred students was developed as per HEC regulations in order to address DHR's recommendation identified in the previous review conducted by the BQA in 2015.

From the submitted evidence, the Panel learned that applicants graduating from high school should have a minimum score of 60%. However, from interviews, the Panel learned that applicants with a score less than 60% or its equivalent in their high school certificate are interviewed by the Dean, to ensure that they have the required potential to join the BSIE programme. Although this segment of applicants constitutes only 5% of the total number of accepted students at university level, the Panel is of the view that AMAIU should ensure a consistent implementation of the admission policy.

As per the Progress Report and starting from the academic year 2017-2018, 'for technical programmes including BSIE, the mathematics cut-off score for secondary school applicants who have graduated from scientific and technical tracks is 70% while 80% is the cut-off score for those who come from a commercial track'. During interviews it was also clarified that students from art were never accepted in the BSIE programme and are advised to join the Business College instead.

Applicants from the commercial track scoring less than 80% (i.e.60-79%) in their mathematics course, along with those from the technical track (60-69%), are subjected to a remedial course in mathematics (MATH300). It was noted from the provided evidence on the student profile that there were cases where the score in mathematics was less than 80%; yet students were admitted without taking the remedial course.

The Panel inquired about this matter and was informed during interviews that the University takes the average mark of the mathematics courses taken during the last year of the applicants' high school study especially for those who are coming from Asian schools. They also highlighted that this was as per HEC regulation on this matter, as they do not accept any student unless an approval letter from the HEC is presented to the University upon admission.

As per the revised admission policy, all applicants should also acquire 85% in their high school score in English. However, if an applicant's score is less than 85% in English language, he/she should take the Oxford Online Placement Test (OOPT) and get a minimum score of 55 to be exempted from the remedial course in English (ENGL300). During the site visit, the Panel found few cases where students were exempted from remedial courses in English language although they did not acquire the minimum required score in this subject in their high school study, as will be discussed in recommendation (2.2). Considering the above-mentioned, the Panel is of the view that this recommendation is partially addressed.

**Recommendation 2.2:** *Ensure that the profile of admitted students matches the programme aims in having adequate mathematical and scientific background that enable them to progress through the programme.*

**Judgement:** *Not Addressed*

From interviews, the Panel was informed that the University has enhanced its admission policy after conducting the formal benchmarking as mentioned earlier in the previous paragraph in response to DHR's recommendation identified in the previous review conducted by BQA in 2015. This was done to ensure that the profile of BSIE applicants suits the programme's aims and objectives. The Panel was provided with evidence showing students' ID number, student name, nationality, date of enrolment, credits passed, employed/unemployed, full or part-time and credits enrolled per semester. Another evidence was provided showing the profile of admitted students since the implementation of the new admission requirements in the academic year 2017-2018 with a different set of data, such as name of secondary school, CGPA, mathematics grade, English grade, science grade, OOPT score (listening and grammar) and which remedial (MATH300, ENGL301 or/and ENGL302) courses were taken.

The Panel notes that students are given remedial courses in either English or mathematics or both as per the provided evidence. As the remedial in science was scrapped as per interviews with academic staff members and results of the benchmarking. However, some of the interviewed students who came from the commercial and technical track expressed that it was hard for them to cope with the

mathematics courses although they took the remedial course (MATH300). This is due to the fact, that the mathematics they studied during their high school studies was basic and not advanced. On the other hand, students coming from the science track were highly satisfied with the mathematics courses and stressed that they did not face any difficulty as they were well-prepared earlier during their high school studies. Considering all the above mentioned, the Panel urges the College of Engineering to investigate ways to assist/help students - who are coming from commercial and technical track- in their mathematics competencies in order to facilitate their academic progress in the upcoming advanced mathematics courses.

The Panel noted from the provided evidence that although most accepted applicants' profiles are in line with the new admission criteria, there were few cases of admitted students who were not enrolled in either English or mathematics remedial courses although they were not meeting the stated admission criteria. Interviewed staff members clarified that some private schools calculate students CGPA in a different way. Therefore, the University gives them a margin of 10% when accepting them as per the provided evidence. Despite the above mentioned, it is unclear to the Panel how the University ensures that the profile of its applicants is in line with its admission criteria. Therefore, the Panel considers this recommendation as not addressed.

**Recommendation 2.3:** *Ensure that the programme is supported with sufficient number of faculty with relevant specialisation.*

**Judgement:** *Fully Addressed*

AMAIU has developed a five-year hiring plan and the College of Engineering is following it. As per the plan, three new academics were recruited during the academic year 2016-2017. This makes the total number of full-time academic staff members contributing to the BSIE programme 16; one Professor, five Associate Professors, and 10 Assistant Professors supported by five administrative staff. The specializations of the newly recruited faculty included data communication, network security and computer engineering. This in turn makes student to staff ratio 8:1 which is within the norm of this kind of programme. The Panel acknowledges the efforts of the College in recruiting full-time academic staff members specialized in Informatics, unlike the situation during the previous review which was conducted in 2015 during which most of the academic staff members contributing to the BSIE were from related fields to informatics engineering and some of them were on a part-time basis.

**Recommendation 2.4:** *Revise its policy on faculty workload to ensure that these are suitable and provide the faculty with the time needed to participate in research.*

**Judgement:** *Partially Addressed*

From interviews and the Progress Report, the Panel learned that the College has revised its workload allocation by decreasing the Dean, Programme Head and the Chairman of Continuous Quality Improvement (CQI) teaching load during which the Dean's workload has been reduced to six credits compared to 15 previously and the Programme Head and CQI Chairman are now allocated nine credits compared to 15 previously. However, this decrease was not introduced to academic staff's workload as they are all allocated 15 credits per week as per HEC's maximum allowed workload, which differs according to the rank of the academic staff members. Interviewed staff indicated that the 40 working hours are divided amongst research (nine hours), consultations (six hours), teaching (15 hours) and committees (10 hours). Interviews with senior management revealed that staff's workload is managed in a way to reduce the load by allocating staff members to teach courses of relevant nature and, where possible, sections of the same course are assigned to the same faculty member. Staff interviewed during the visit expressed their satisfaction with the working environment which encourages them to conduct research and the Panel was provided with documents showing staff's research output during the academic years 2015-2018, which the Panel found to be adequate and of relevance. Nevertheless, the impact of the research output is not evident in the courses. Considering the above mentioned, the Panel is of the view that this recommendation is partially addressed.

**Recommendation 2.5:** *Develop and implement a long-term plan to improve staff retention rates and recruit full-time faculty members who have long-term commitment to ensure effective delivery of the programme.*

**Judgement:** *Fully Addressed*

As mentioned previously in (recommendation 2.4) that new faculty members have been recruited during the academic year 2016-2017; in addition to the three faculty members who were hired before the first site visit. The Panel studied the profile of all academic staff members (16) contributing to the programme and noticed the faculty stability of faculty profile since the last visit. Furthermore, as mentioned earlier in this Report, that the university's five-year hiring plan is being followed to address this recommendation and ensure that the BSIE programme is always supported by professional specialized academics in the informatics field. Interviewed staff members expressed their satisfaction with the working environment at the University and their ability to conduct research and attend local, regional and international conferences to enhance the delivery of their courses. They highlighted that the above-mentioned

activities along with the provided in-house workshops enabled some of them to be promoted to a higher academic rank and progress in their academic career. Therefore, the Panel appreciates the efforts of the University and considers this recommendation as fully addressed.

**Recommendation 2.6:** *Enforce the implementation of its laboratory maintenance plan and ensure that laboratory resources are regularly monitored and maintained.*

**Judgement:** *Partially Addressed*

The Panel was provided with AMAIU's recently developed policy on maintenance of general and specialized laboratories, which clarifies that all 'Trainers' must be checked for maintenance at least once every two years. During site visit interviews, the Panel was informed that a company called FESTO conducts its maintenance at least once a year or whenever needed. The Panel acknowledges the efforts of the College in maintaining its laboratories and assigning the HoD to monitor the maintenance process as per the provided evidence.

During the site visit, the Panel toured the digital systems and Capstone projects laboratories; and noted that four to five students work on the 'Trainers' of the digital laboratories. Moreover, from interviews conducted with laboratory technicians, the Panel learned that new 'Trainers' were purchased and evidence was provided and confirmed by senior management. The Panel acknowledges the enhancement introduced on the laboratories by purchasing new modular learning systems, which would lead to decreasing the number of students working on each 'Trainer'. When academic staff members and students were asked about the number of allocated students on each 'Trainer' (4 to 5), they clarified that students usually divide themselves so that two of them work on one task and the others work on the 'Trainer' until their classmates finish their task. However, the Panel is of the view that usually a maximum of two students are supposed to work on each 'Trainer' at a time, to ensure that BSIE students benefit from the hands-on experience which is provided to them to enhance the theoretical aspects of the programme. Considering the above mentioned, the Panel considers this recommendation as partially addressed.

### 3. Indicator 3: Academic standards of the graduates

*This section evaluates the extent to which the BSIE programme of AMAIU, has addressed the recommendations outlined in the programme review report of December 2015, under Indicator 3: Academic standards of the graduates and as a consequence provides a judgment regarding the level of implementation of each recommendation for this Indicator as outlined in Appendix 1 of this Report.*

**Recommendation 3.1:** *Formalise the benchmarking process and expand its scope beyond the programme structure and content, as stated in the existing benchmarking policy, as well as to consider the passing mark during the benchmarking activities.*

**Judgement:** *Partially Addressed*

The Progress Report clarifies that to address this recommendation, the College of Engineering conducted a formal benchmarking in line with the university's policy on benchmarking and the policy on programme review with a regional and international counterpart. Evidence provided shows that formal benchmarking with two universities, namely, International Islamic University of Malaysia (IIUM) and Sohar University- Oman was conducted through formal visits to both universities. The Panel examined the submitted benchmark reports and found that these reports address areas related to: aims and objectives, programme structure, admission criteria, programme outcomes, programme review cycle, the methods of course delivery, course passing grade, graduation requirements, laboratories' facilities, teaching and learning, assessment, students to faculty ratio, student's retention ratio and delivery of the design project.

During interview sessions with faculty members, the Panel was informed that the changes occurred in the revised BSIE programme were profoundly based on the outcomes of the benchmarking process. Moreover, the new BSIE programme curriculum was designed to comply with the guidelines of professional accreditation bodies (ABET Criteria and ACM Computing framework) regarding meeting the PILOs required for an engineering degree.

With respect to the recommendation related to the passing grade, the Panel found that the two formal benchmark reports indicate that the course passing grade of IIUM and Sohar University programmes are within the same range of the course passing grade of the BSIE programme. Additionally, the Panel learned that AMAIU had changed its grade point system from a 5-point grade system (1: highest to 5: lowest) to a 4-point grade system, in order to be in line with other higher education institutions in the Kingdom of Bahrain. The use of the new grade point system was evident in the formal benchmarking practice, student grades and the samples of transcripts provided.

Interviewed students expressed their satisfaction towards the new grading system as it allows them to compare their academic performance with other students studying at other universities.

The Panel acknowledges the College of Engineering efforts in aligning the curriculum with international professional bodies and integrating the results of formal benchmarking in the College's improvement plan to ensure that the programme is up-to-date and is aligned with international standards. The Panel also urges the College to ensure that the formal benchmarking is consistently conducted every three years as per AMAIU's benchmarking policy. The Panel is of the view that this recommendation has been partially addressed.

**Recommendation 3.2:** *Develop a mechanism to systematically monitor the implementation of improvement plans on assessment.*

**Judgement:** *Partially Addressed*

From interviews conducted during the site visit, the Panel was informed that the Programme Head, in coordination with the CQI Committee were asked by AMAIU Academic Council to submit a periodic status monitoring report on the improvement plans to address the gaps in the assessment practices identified by the CQI committee. During interview sessions, the Panel was informed that an Internal Quality Audit (IQA) on assessment is conducted by the Quality Assurance and Accreditation Office (QAAO) at the end of every trimester. The recommendations of the IQA team serve as bases for the formulation of the programme's status monitoring report that identifies the shortages and the corrective actions to be taken within a set timeframe.

The Panel reviewed the IQA report that assesses the quality and level of final and midterm examinations' manuscripts, rubrics for markings, and completion of other documents collated in a course portfolio. The report shows evidence of regular monitoring of the progress made in implementing the improvement plan on assessment; and that it is carried out at the department level by the Programme Head, whereby specific courses contributing to the low attainment of Student Outcomes are identified, and corrective actions are suggested to improve the achievement of the CILOs. These findings were confirmed with academic staff members and representatives from CQI and QAAO.

During the site visit, the Panel examined the progress of students' attainment of CILOs of specific courses and found that there was an improvement in the succeeding semester. The Panel acknowledges the efforts of the QAAO to ensure that the improvement plans on assessment are being monitored systematically. However, as

these mechanisms were introduced recently, their impact is yet to be fully salient in all courses. Hence, the Panel considers the recommendation partially addressed.

**Recommendation 3.3:** *Review the level of complexity of course assessments and student work in the BSIE programme.*

**Judgement:** *Fully Addressed*

The College has taken different measures to address this recommendation. It started by implementing the new grading system; scrapping the preliminary test and replacing it with a midterm examination during week 5 of the trimester as per the requirement of this recommendation. The Panel reviewed samples of the midterm examinations for several courses and found that the type and the level of complexity of the questions appropriately measure the learning objectives of the courses. Furthermore, the weight of the grade allocated to the two midterm examinations (20% each) is suitable to the amount of material covered during the trimester. The Panel scrutinized the students' assessed work and noted that there is an overall improvement in the level of complexity of the assessments compared to what had been pointed out in BQA's previous review report. Moreover, the Panel studied samples of external examiner reports on evaluating the final examinations of selected major BSIE courses and noted that the examiner had highlighted several strengths and shortcomings and suggested improvements to the assessment to match the rigor level of assessments found in other international universities. During the interview session with faculty members, the Panel was informed that the comments and recommendations of the external examiners played an essential role in improving and enhancing the quality of the BSIE programme.

Furthermore, the Panel learned that the College utilizes internal and external moderation of assessment instruments to ensure that assessment tools used are at an appropriate level and provide a suitable way to differentiate students' abilities. The Panel scrutinized, in particular, the course files of Electric Circuit Theory 2 (ENGG611) and Electronics 1 (ENGG534) and noted that there is a noticeable improvement in the quality of assessment. The Panel found that the changes made in the above two courses to address the complexity level of the course assessments and their alignment with the CILOs were suitable. Moreover, the College introduced an open-ended component in students' projects to a number of BSIE core courses as one of its assessment instruments in order to meet the norms and standards of assessment used by other universities offering a similar programme. The Panel is satisfied with the College's efforts and considers this recommendation as fully addressed.



**Recommendation 3.4:** *Conduct a formal study to investigate the reason for the high attrition rate and develop a plan to mitigate these.*

**Judgement:** *Partially Addressed*

To address this recommendation, the Progress Report clarifies that the College has taken proactive actions and conducted a study on the retention of enrolled BSIE students. From the previous review report 'the retention rate for the cohort reported is 73% for academic year 2008-2009, 71% for 2009-2010, and 63% for 2010-2011'. During the site visit, the Panel was provided with an updated cohort analysis conducted by the Office of Institutional Research on retention and progression of the BSIE students for different cohorts of students from batch 2013-2017. The Panel noted that the range of year-on-year progression varies between 56% - 100% and the average retention rates varies between 79% - 100%. The progression rate of student cohorts from year one to year two is published as 88%, 86%, 100%, 75% and 83% for the cohorts 2013, 2014, 2015, 2016, and 2017 respectively. On the other hand, the retention rate for the cohorts 2013, 2014 and 2015 is 84%, 79%, and 80% respectively. Data analysis shows no clear trend to neither progression nor retention rates.

The Panel was also provided with evidence showing that the BSIE graduates length of study for the academic years between 2015 - 2017. The average period of study is 5.3, 4.3 and 5.5 years for the cohorts graduated in 2015-2016, 2016-2017 and 2017-2018 respectively. The Panel noted that during 2015-2018, 8 (24%), 10 (30%) and 15 (46%) of the 33 graduates had graduated within 4, 5 and 6 years respectively. Statistics prepared by the College shows that on average 15% of students are studying while working. The Panel was informed that the provided length of study does not include the withdrawal trimesters. The College investigated the reasons behind the variation in the year-on-year retention and attributed that to the interaction of many factors, with the highest is due to financial matter (32%) followed by personal and family aspects (18%) then work-related travel (16%).

During interviews with faculty and senior management, the Panel learned that the College provides adequate support for students who are academically at-risk by conducting focused discussion groups and delivering extra tutorial sessions to support and enhance students' learning experience. This was verified during interviews with the students, who were satisfied with the advising process that tracks the student's academic status and the extra tutorial sessions conducted for students who need extra help. The Panel acknowledges the College's intervention strategy for at-risk students to reduce the causes of academic failure that increase the attrition rate. However, the Panel recommends that the College develop a mitigation plan to reduce the length of study and to improve the progression and retention rates. Therefore, the Panel considers this recommendation as partially addressed.

**Recommendation 3.5:** *Revise the Work Based Learning policy to include the role of faculty members in all aspects of its management.*

**Judgement:** *Fully Addressed*

To address this recommendation, the University Academic Council revised the Industrial Attachment (practicum) course policy by assigning the Course Coordinator to conduct a site visit to the practicum students instead of a staff from the Placement, Linkage and Alumni Office (PLAO). The course is offered in the second trimester of the fourth year, and it has six credits. Interviewed students confirmed that they were visited by the practicum Course Coordinator once during their internship.

During interviews, the Panel was informed that the practicum Course Coordinator conducts one induction session for the site supervisors to inform them about the student/intern assessment which includes knowledge, skills and his/her competencies. The Panel was provided with samples of students' practicum reports summarizing their experiences, challenges, and skills gained. Moreover, samples of Course Coordinator and on-site supervisor reports were provided during the site visit.

The Panel revised the grade distribution of the Industrial Attachment course and noted that both the site supervisor and the practicum Course Coordinator evaluate the students. The former evaluates the performance (50%) and the competencies (20%); whereas the latter evaluates the student's/intern's accomplishment report (30%). This gives the Course Coordinator a bigger role in evaluating the student/intern and managing the course. The Panel acknowledges the College's efforts in addressing this recommendation and considers it as fully addressed.

#### **4. Indicator 4: Effectiveness of quality management and assurance**

*This section evaluates the extent to which the BSIE programme of AMAIU, has addressed the recommendations outlined in the programme review report of December 2015, under Indicator 4: Effectiveness of quality management and assurance and as a consequence provides a judgment regarding the level of implementation of each recommendation for this Indicator as outlined in Appendix 1 of this Report.*

**Recommendation 4.1:** *Increase the role of programme leadership, and its level of leadership, in the programme maintenance, with the important aim of increasing the faculty members' ownership of the quality of the programme as a whole and its delivery.*

**Judgement:** *Partially Addressed*

From interviews, the Panel noticed that the BSIE programme has a proper leadership structure, which is managed by the Dean of the College of Engineering, Programme Head, specialization coordinators and course coordinators to ensure proper monitoring and delivery. As mentioned previously in this Report (Indicator 2), both the Dean and the Programme Head workload has been reduced by six credits and three credits respectively in order to dedicate more time to manage the programme effectively. From interviews and the provided evidence, the Panel learned that all staff members are involved in three main committees namely; Teaching Committee, Learning Committee and Assessment Committee; and these are divided into six, four and seven sub-committees respectively to enhance the delivery of the BSIE programme. It is worth noting that annual programme reviews, periodic reviews, surveys, and accreditation requirements utilize the generated reports from these committees to enhance BSIE's quality assurance processes and their relevance and currency. Furthermore, the Programme Head along with some senior staff members are also involved in institutional level committees such as Faculty Development Committee, Research Committee, CQI, Student Concern Committee, Library/Infrastructure Committee. Interviewed staff members showed clear understanding of the quality assurance processes related to the delivery of the BSIE programme. Consequently, the Panel acknowledges the recent efforts of the AMAIU's in enhancing the leadership of the programme delivery; and urges the University to continue monitoring, evaluating and enhancing faculty members' ownership of the programme, towards maintaining sustainable improvement in the academic standards. Therefore, the Panel considers this recommendation as partially addressed.

**Recommendation 4.2:** *Evaluate the effectiveness of the quality assurance mechanisms to ensure systematic programme improvements.*

**Judgement:** *Partially Addressed*

From the provided evidence, the Panel learned that the University has a formal internal quality assurance mechanism in its Quality Assurance process, which was revised in the academic year 2016-2017. The conducted revision evaluated and developed plans to improve three areas: course contents, assessments and infrastructure based on the outcomes of the external examiners reports and benchmarking reports. Furthermore, results of student satisfaction surveys were considered when scheduling the course offerings and increasing students' participation in local and international competitions. As stated previously in this Report (Section 2.4) that each academic staff member is assigned to committees and the results of these committee meetings are fed into the quality assurance processes to enhance the delivery of the programme. The Panel studied the provided evidence and notes that course contents and assessment tools were revised to enhance the delivery of the programme. Furthermore, the University conducted a formal benchmarking to ensure currency and relevance of the programme. Interviewed students expressed a high level of satisfaction towards the content of the programme and its delivery. Despite the above mentioned and as indicated in different parts of this Report, the University has to continue its efforts to fully address all recommendations relevant to the delivery of the programme. The Panel urges the University to continue its efforts to enhance the quality assurance of the programme and its delivery. Therefore, the Panel considers this recommendation as partially addressed.

## 5. Conclusion

Taking into account the institution's own progress report, the evidence gathered from the interviews and documentation made available during the follow-up visit, the Panel draws the following conclusion in accordance with the DHR/BQA Follow-up Visits of Academic Programme Reviews Procedure:

**The Bachelor of Science in Informatics Engineering programme offered by AMA International University has made Adequate Progress and as a result, the programme will not be subjected to another follow-up visit.**

## Appendix 1: Judgement per recommendation.

Judgement	Standard
<b>Fully Addressed</b>	The institution has demonstrated marked progress in addressing the recommendation. The actions taken by the programme team have led to significant improvements in the identified aspect and, as a consequence, in meeting the Indicator's requirements.
<b>Partially Addressed</b>	The institution has taken positive actions to address the recommendation. There is evidence that these actions have produced improvements and that these improvements are sustainable. The actions taken are having a positive, yet limited impact on the ability of the programme to meet the Indicator's requirements.
<b>Not Addressed</b>	The institution has not taken appropriate actions to address the recommendation and/or actions taken have little or no impact on the quality of the programme delivery and the academic standards. Weaknesses persist in relation to this recommendation.

## Appendix 2: Overall Judgement.

Overall Judgement	Standard
<b>Good progress</b>	The institution has fully addressed the majority of the recommendations contained in the review report, and/or previous follow-up report, these include recommendations that have most impact on the quality of the programme, its delivery and academic standards. The remaining recommendations are partially addressed. <b>No further follow-up visit is required.</b>
<b>Adequate progress</b>	The institution has at least partially addressed most of the recommendations contained in the review report and/or previous follow-up report, including those that have major impact on the quality of the programme, its delivery and academic standards. There is a number of recommendations that have been fully addressed and there is evidence that the institution can maintain the progress achieved. <b>No further follow-up visit is required.</b>
<b>Inadequate progress</b>	The institution has made little or no progress in addressing a significant number of the recommendations contained in the review report and/or previous follow-up report, especially those that have main impact on the quality of the programme, its delivery and academic standards. For first follow-up visits, a second follow-up visit is required,