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 Mechatronics Engineering

College of Engineering

AMA International University - Bahrain

Kingdom of Bahrain

First Follow-up Visit Date: 12-13 February 2018
Review Date: 6–8 December 2015
HC074-C2-Fb013

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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 review, 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 (the Panel), whereby the Bachelor of Science in Mechatronics Engineering (BSME), at the AMA International University - Bahrain (AMAIUB) was revisited on 12-13 February 2018 to assess its progress in line with the published Programmes-within-College Reviews Framework and the BQA regulations.

The subsequent sections of this Report have been compiled as part of Phase 2 of the DHR/BQA's programme follow-up cycle highlighted in the DHR Programme Review Handbook, and associated with the on-going process of institutional and academic programme reviews and enhancement reviews of Higher Education Institutions operating in the Kingdom of Bahrain.

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 AMAIUB's BSME 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 BSME programme at AMAIUB, and for higher education provision within the Kingdom of Bahrain, as a whole.

B. Background

The review of the BSME programme, at AMAIUB 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 BSME programme, of AMAIUB was that of 'limited confidence'. Consequently, the follow-up process incorporated the review of the evidence presented by AMAIUB to the DHR which includes the Improvement Plan submitted to BQA in February 2017; followed by submitting the progress report and its supporting materials in December 2017. The follow up report is based on the progress report and its supporting materials, documents submitted during the follow-up site visit and information extracted from the interview sessions.

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

***Indicator 1*:** The learning programme; '**satisfied'**

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

Indicator 3: Academic standards of the graduates; **'satisfied'**

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

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 Mechatronics Engineering

The College of Engineering at AMAIUB offers two programmes one of them is the BSME which has been subjected to a follow-up visit; and the other one is Bachelor of Science in Informatics Engineering. The BSME was first offered in September 2002 and has 401 graduates since its inception.

The BSME programme is managed by the Mechatronics Engineering Department. There were 23 academic staff members contributing to the delivery of the programme at the time of this follow-up visit, including the Dean and Programme Head, in addition to three administrative staff members. The current study plan stretches over four years divided into 12 trimesters with a total of 205 units. At the time of the follow-up visit, the number of enrolled students was 463; and 35.85% of them had full-time jobs compared to 64.15% non-working students.

1. Indicator 1: The Learning Programme

This section evaluates the extent to which the BSME programme of AMAIUB, 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: ***Introduce open-ended problems and/or design earlier than the fourth year in the programme.***

Judgement: ***Fully Addressed***

The progress report clarifies that to address this recommendation; the course and specialisation coordinators worked collaboratively to revise the content of the BSME courses and incorporate design skills in some of them to prepare students for the final year project. Consequently, from the 2nd trimester 2016-2017 some core courses from second and third year, along with all final year ones incorporated open-ended design problems apart from the two mechatronics design courses (Mechatronics Engineering Design Project A (MECH652); Mechatronics Engineering Design Project B (MECH661)). Laboratory experiments or simulations utilised in learning process were also revisited to incorporate design concepts; and the Panel was provided with a list of courses which incorporated design concepts. During the site visit, the Panel examined the course files and visited the projects' laboratory whereby students displayed their projects. The Panel noted the progress in course delivery which is evident by incorporating design as an integral component of some core courses at third and fourth year of the programme and to a lesser extent in year two. Through these components students are required to work on a problem or project that features design concepts. This was confirmed from interviews with students, who explained that their learning experience has been enriched by incorporating simple design applications in the core courses, and better prepare them for the open-ended design problem in their final year project. The Panel acknowledges the efforts of the programme team to expose students to design concept at an earlier stage of the curriculum to develop their hands-on design skills; and considers the recommendation fully addressed.

Recommendation 1.2: ***Revise the mapping of the course intended learning outcomes to the programme intended learning outcomes to ensure proper mapping amongst all courses.***

Judgement: ***Partially Addressed***

To address this recommendation, the progress report indicates that the programme team reviewed and revised the content of the BSME courses including Course Intended Learning Outcomes (CILOs) and their mapping to the Programme Intended Learning Outcomes (PILOs). The process was overlooked by the Continuous Quality Improvement Unit. The Panel reviewed the course files of a wide range of courses and notes that the revised CILOs of most courses are clearly stated in the course specifications as measurable statements that define what students are able to do at the completion of a course; and that they appropriately reflect the type and level of these courses. Furthermore, the Panel noticed that the revised CILOs are in general properly mapped to the PILOs. However, the Panel has some concern with regard to the CILOs of the Mechatronics Engineering Design Project courses (A&B) as they are a direct copy of the PILOs and are not selective to specifically state what the students are expected to achieve. During interview session, faculty members explained how they utilize various course assessment tools to measure the extent to which students have attained a specific CILO to ensure that their course delivery will contribute to the achievement of the PILOs. The Panel was informed of workshops conducted to acquaint faculty members with the whole evaluation process and that they were involved in mapping the CILOs to the PILOs. While the Panel acknowledges the efforts of the programme team; the Panel recommends that the programme team revise the CILOs of the two mechatronic design courses mentioned earlier. Hence, this recommendation is considered partially addressed.

Recommendation 1.3: ***Revise the distribution of grades in each course to be made course dependent, and according to the level and content of the course.***

Judgement: ***Partially Addressed***

To address this recommendation, the Panel was informed that the Academic Council proposed a new grading scheme to be implemented at the university level; and the new grading scheme is course dependent and varies according to the level and the content of the course. Furthermore, the Academic Council conducted an informal benchmarking exercise with six local institutions and a formal exercise with one regional along with one international institution. This was confirmed from interviews conducted with senior management and academic staff members during the site visit, through which the Panel learned that the benchmarking exercises produced an enhanced grade distribution scheme that depends on the level and content of the courses. However, the Panel was informed that this new grading scheme has not been

implemented due to technical issues related to the integration of this policy into the university's Campus Information System (CIS). Interviewed senior management confirmed that they are following this matter with the IT personal. Hence, the programme is still following the university's generic grading scheme specified in the Teaching, Learning and Assessment (TLA) policy which is used across campus for all courses regardless of their level, type and contents. Nonetheless, during interviews with senior management, faculty members and students, the Panel was informed that currently, faculty members teaching courses with laboratories manually divide the mark of the course between laboratory-based activities (40% of the final grade) and theoretical aspects (60% of the final grade) and calculate the mark before injecting it directly into the CIS grading module. Although this grading scheme was known to all the students that the Panel met during interview session, and is documented in a policy that specifies the distribution of grades in laboratory-based courses; this grading scheme is not disseminated officially in course specifications, nor on the website or in the Student Handbook. Therefore, the Panel recommends that the College should publicize the current distribution of grades (60% theoretical aspects and 40% laboratory-based) to all students through the Student Handbook and the course specification documents; and expedite the upgrading of its CIS to ensure accuracy of results and reduce human error. Consequently, the Panel considers this recommendation as partially addressed.

2. Indicator 2: Efficiency of the Programme

This section evaluates the extent to which the BSME programme of AMAIUB, 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 admission criteria and the level and type of the programme, and specify clear criteria for admitting transferred students.***

Judgement: ***Not Addressed***

The progress report explains that AMAIUB revised its admission policy after conducting a formal benchmarking on the admission criteria with one regional institution along with international one. Informal benchmarking was also conducted with six local private institutions operating in the Kingdom of Bahrain. Nonetheless the Panel is concerned that most of these local universities have received recommendations on their admission criteria when reviewed by the BQA.

From the progress report, interviews and submitted evidence, the Panel learned that applicants graduating from high school should have a minimum Cumulative Garde Point Average (CGPA) of 60% in their high school certificate regardless of track of study, 60% in Science Subjects and 85% in English language. In case the CGPA was less than 60%, applicants will be considered by either the Dean or Programme Head by interviewing them and filling-in a form about their potential to be enrolled in the programme; and this segment of applicants comprises only 5% from the total number of accepted students. Notwithstanding the above, it was evident from interviews conducted during the visit, that staff members had different understandings of the admission criteria and did not give a unified answer to the panel's inquiry.

According to the revised policy, if an applicant scores less than 85% in English in his/her secondary school certificate, he/she should sit for an international standard placement test known as Oxford Online Placement Test (OOPT) and get a minimum score of 55 to be exempted from the two remedial courses in English (ENGL3021, ENGL302). Furthermore, the applicant's score in mathematics in his/her secondary school certificate is also considered when admitting students; and the minimum accepted score in mathematics is 70% for those coming from science or technical or general tracks compared to 80% for those from commercial or literature tracks. If the applicant's score is less than the above percentages, then he/she should be enrolled in a remedial course in mathematics (MATH300) before being able to register in the

upcoming mathematics courses. Nonetheless, evidence provided and interview sessions revealed that the University does not consider the type and nature of the mathematics courses taken by students in their high school study and whether they are coming from government or private schools; and when inquired about this issue staff clarified that they take the average mark of the mathematics courses taken during the last year of the applicants' high school study. Moreover, the Panel found cases where students were exempted from remedial courses in English and/or mathematics although they did not meet the requirements of the admission criteria in this regard. Furthermore, from the provided evidence nothing was mentioned about interviewing students in the admission criteria; the Panel only learned about it from interview sessions with staff members.

The Panel also examined the admission requirements for transferred students and noted that these are not explicitly stated and are limited to course exemption requirement and the allowed number of transferred credits as per the Higher Education Council (HEC) regulations. Consequently, the Panel considers the recommendation not 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***

The progress report clarifies that AMAIUB has enhanced its admission criteria to ensure that the profile of admitted students suits the programme's aims and objectives. It is the responsibility of the Dean to follow up with the concerned parties to ensure that the students accepted into the BSME programme have passed the required remedial courses in both mathematics and English. The Panel was provided with a comprehensive table showing student name, students' ID, name of high school, CGPA, track, name of transferred institution (if applicable), mathematics grade, English grade, Science grade, OOPT score and which remedial (MATH300, ENGL300) courses to take.

From the provided evidence, the Panel notes that, although most accepted applicants' profiles are in line with the admission requirements and criteria, there are some cases of admitted students who were not enrolled in either mathematics or English remedial courses although not meeting the admission criteria, as mentioned earlier in paragraph (2.1). This raises a concern with respect to inconsistency in implementing the admission criteria; and when staff members were asked to clarify the discrepancies, they highlighted that some students who graduated from certain private high schools are given a margin of 10% extra when accepting them due to the way their school system calculates their CGPA. Despite this clarification, there is still

a vague area that AMAIUB should clearly specify in its admission criteria to ensure fair judgement and treatment amongst all applicants. This practice, in the panel's point of view, does not give a clear picture about the profile of admitted students, which could be used to revise/enhance the admission requirements and select suitable candidates for the BSME programme. Moreover, although a study had been conducted to measure/evaluate student progression against the admission criteria; the changes in the admission criteria is very recent and with the discrepancies indicated in this paragraph and under recommendation 2.1, it is unclear to the Panel how accurate this study is. Furthermore, no evidence was provided on how the outcomes of the study were used in practice to ensure the admission criteria's suitability for the programme needs. Consequently, the Panel considers this recommendation not addressed.

Recommendation 2.3: ***Revise its policy on faculty workload to ensure that these are suitable and provide the faculty with the time needed to participate in research and community engagement.***

Judgement: ***Partially Addressed***

From interviews and provided evidence during the site visit, the Panel learned that currently there are 21 faculty members contributing to the delivery of the programme; and that staff members have been stable for the last two years. Interviewed staff indicated that they are all allocated 15 units per week apart from the Dean and the Programme Head. The progress report explains 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 units compared to 15 previously; whereas the Programme Head and CQI Chairman are now allocated nine units. However, from interviews, the Panel learned that staff members' workload was not considered when revising the workload as it is still 15 units with 40 working hours divided amongst research (nine hours), consultations (six hours), teaching (15 hours), committees (10 hours). The Panel is of the view that although 15 units allocation is as per HEC's maximum allowed workload; this does not mean that staff members necessarily ought to be given the maximum load. Instead, other faculty members' tasks such as committee involvement, counselling, research and community engagement should be considered when revising their workload. During interview sessions, the Panel was informed that teaching workload is reduced by allocating staff to teach courses of relevant nature and, where possible, sections of the same course are assigned to the same faculty member. Moreover, interviewed staff clarified that they have increased their research output during 2015-2018 and evidence was provided. Furthermore, they are encouraged to attend in-house workshops; and expressed their satisfaction with the university's arrangements. During interview sessions, they also highlighted that they participated in cleaning the beaches and participating in local and regional

competitions. Notwithstanding the above, it is not evident to the Panel that the AMAIUB has taken sufficient actions to address academic staff members high workload despite the improvement in research output which is attributed to staff's dedication to publish and university's incentives as clarified during staff's interviews. Therefore, the Panel considers this recommendation partially addressed.

Recommendation 2.4: ***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: ***Partially Addressed***

The progress report clarifies that a five-year hiring plan was developed by senior management based on expected student-to-staff ratio and HEC regulations. From interviews conducted with senior management during the site visit, the Panel learned that two professors have been recruited recently; one of them has already started working at the University while the other one will be joining in September 2018. From the evidence provided, the Panel noticed that the number of full-time academic staff has increased from 10, 12, 16 to 21 from the academic year 2014-2015 until 2017-2018. Furthermore, the Panel notes that the retention rate of the full-time academic staff contributing to BSME programme has increased from 83% during the previous review conducted by BQA in 2015 to 91% in the academic year 2017-2018. Staff interviewed during the site visit expressed their satisfaction with the working environment and appreciated that the management takes their suggestions seriously when it comes to improving the delivery of the programme, either by adding courses that are relevant to the Mechatronics field or removing some that are not. Nonetheless, the Panel is concerned that the main criterion for staff recruitment is still the students-to-staff ratio, which is not always suitable for a diverse programme such as this one. The Panel acknowledges the actions taken by AMAIUB to ensure stability of the programme delivery, and encourages the University to monitor the faculty retention rates to ensure stability amongst its staff. Consequently, the Panel considers the recommendation partially addressed.

Recommendation 2.5: ***Enforce the implementation of its laboratory maintenance plan and*** **ensure** ***that laboratory resources are regularly monitored and maintained.***

Judgement: ***Partially Addressed***

The Panel toured the laboratories during the site visit, and noted that the University has purchased new mechatronic equipment recently to enhance the capacity of the laboratories. Moreover, surveys were distributed to elicit students' satisfaction towards mechatronic laboratories. Results show that students were very satisfied. The Panel also inquired about AMAIUB's maintenance plan towards the mechatronic

laboratories; and was informed that currently there is a weekly maintenance plan and there is a signed contract with an external company to come on regular bases to facilitate the maintenance of the laboratories' equipment.

As mentioned above, the Panel toured the mechatronics, digital and Capstone projects laboratories, and noted that the two mechatronics laboratories are well equipped with Pneumatics, Electro-pneumatics and Hydraulics modular learning systems, in addition to two Modular Production Systems (MPS). The Panel acknowledges the enhancement made on the mechatronics laboratories by adding new modular learning systems that resulted in reducing the students' group sizes conducting a specific experiment on these systems. However, the Panel noticed that the digital laboratory is equipped with five trainer panels that can be equipped with either digital, electrical circuits or electronics modules. Typically, no more than two students are expected to work on each trainer panel. Yet, because of the limited availability of these panels, groups of four to five students are usually assigned to work on each, limiting the effectiveness and the role of laboratory activities in attaining the intended learning outcomes. Therefore, although the Panel acknowledges the university's efforts in addressing this recommendation, the Panel recommends that the College should upgrade the digital laboratory by adding extra trainer panels to reduce the number of students working on each panel and provide standby modules in case a module fails to operate. Hence, the Panel considers the recommendation partially addressed.

3. Indicator 3: Academic standards of the graduates

This section evaluates the extent to which the BSME programme of AMAIUB, 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 course level, as stated in the university's 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, AMAIUB adopted a new policy that describes a unified process for conducting and monitoring formal and informal benchmarking activities for all its programmes. The evidence provided shows that an informal benchmarking of the BSME with similar programmes offered locally was conducted on both course and programme levels *via* publicly available information on the website of the benchmarked institutions. In addition, a formal benchmarking with International Islamic University of Malaysia (IIUM) was conducted through a formal visit to IIUM; and another formal benchmarking was conducted with Sohar University-Oman. The Panel examined the submitted benchmark reports and found that these reports tackle areas related to the programme structure and courses, aims and objectives, admission requirements, PILOs, course passing grade, laboratories' facilities, teaching and learning, assessment, and delivery of the capstone project. During interview sessions with faculty members, the Panel was informed that enhancement on the curriculum would be made in the next curriculum review cycle as an outcome of the benchmarking process. The Panel acknowledges the integration of formal benchmarking within the college's improvement plan to ensure that the programme is up-to-date and aligned with international standards.

With regard 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 BSME programme. However, the Panel has its reservations on the validity of this comparison since those universities follow different grading systems for students' achievement. Therefore, the Panel recommends that the grading system should be benchmarked with the grading system of programmes that adopts the credit/unit system. Hence, while the Panel acknowledges the university's efforts, the Panel considers this recommendation partially addressed.

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

Judgement: ***Partially Addressed***

In response to this recommendation, the University Academic Council passed a resolution that gives a more prominent role to the Programme Head, in coordination with the CQI Committee, to monitor the progress in implementing the improvement plan. 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 time frame. Evidence shows that the CQI refers to this report to track and monitor the progress of individual faculty members in their course delivery; and that an appropriate mentoring and intervention is being implemented.

Through the review of the minutes of the Department Council meetings, it is evident that monitoring the progress of the improvement plan on assessment is carried out at the department level by the Programme Head, whereby specific courses contributing to low attainment of Student Outcomes are identified and corrective actions are suggested to improve the attainment of the CILOs. This was 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 improvement in the succeeding semester. The Panel acknowledges the efforts delivered by the QAAO to ensure that the improvement plans on assessment are being monitored systematically. However, as these mechanisms were introduced recently, there impact is yet to be fully salient in all courses. Hence, the Panel considers the recommendation partially addressed

Recommendation 3.3: ***Conduct a formal study to investigate the reason for the high attrition rates and develop a plan to mitigate these reasons.***

Judgement: ***Not Addressed***

To address this recommendation, AMAIUB indicated in the progress report that it has conducted a number of studies and analyses. The Panel was provided with a report on cohort progression/retention analysis for the BSME students starting from Batch 2013 up to Batch 2016. As per the provided evidence, no cohort had graduated from these batches, hence, it is not possible to assess the progress in cohort graduation rate. Therefore, retention will be assessed based on the progression rate of student cohorts from year one to year two, which is published as 88%, 90%, 74% and 73% for batches

2013, 2014, 2015 and 2016 respectively. Hence, there is a clear decrease in the retention/progression rate from 2013 to 2016 from year one to year two cohorts.

The Panel was provided with another report about the length of study for the graduated cohorts of 2015-2016 and 2016-2017. Data analysis in this report shows that the graduates of 2015-2016 finished their programme in 15 to 18 trimesters with (44%) of them completing the programme in 16 trimesters. Similarly, graduates of 2016-2017 had 13-15 trimesters with 50% of them finishing in 14 trimesters. These results signify that the average length of study is approximately 5.5 years. The Panel was informed that the provided length of study does not include the withdrawal trimesters. In addition, the analysis shows that no student from both cohorts (2015-2016 and 2016-2017) graduated within the time frame set by the study plan (12 trimesters).

AMAIUB investigated the reasons behind students' high attrition rates; and results showed that 48% of the reasons are attributed to students being engaged in full-time employment while studying. Therefore, the College mitigates this by providing classes in two sessions, namely, morning and evening sessions, to facilitate the registration of the working students in the programme. Nonetheless, no evidence was provided to show the impact of such actions. The Panel recommends that the College should develop a plan to improve progression and retention rates. Therefore, the Panel considers this recommendation not addressed.

Recommendation 3.4: ***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 Work Based Learning (WBL) policy by assigning the Course Coordinator to conduct a site visit to the practicum students instead of the Placement, Linkage and Alumni Office (PLAO) staff. The WBL takes place 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. In addition, the Panel was informed that, the Course Coordinator conducts induction/orientation for the company supervisors on areas such as assessment and performance evaluation to provide better guidance for them when completing the evaluation documents which consist of several items including manifestation of knowledge, skills and competencies of students. The Panel was also provided with samples of practicum reports which included weekly monitoring reports used to keep track of the students' progress; and these reports were completed by the Course Coordinator and on-site supervisor. In addition, evidence provided indicates that the practicum students are required to submit a formal WBL Accomplishment Report that summarizes their experiences, challenges and skills gained. The Panel acknowledges the college's efforts in elevating

the role of the WBL course coordinator in managing the course. Hence, the Panel considers this recommendation fully addressed.

4. Indicator 4: Effectiveness of quality management and assurance

This section evaluates the extent to which the BSME programme of AMAIUB, 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***

Based on the evidence provided, the BSME programme exhibits a proper leadership structure which is managed by the Dean, Programme Head, specialization coordinators and course coordinators to ensure proper monitoring and delivery. Moreover, the Panel was informed that the Dean and the Programme Head workload is reduced by six units and three units respectively to enable them to dedicate more time in running the programme effectively. During interview sessions with the faculty, the Panel learned that to maintain the academic standards of the programme, 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 programme. Reports generated from these committees are fed into quality assurance processes such as annual programme review, periodic review, surveys, and accreditation requirements to ensure currency and relevance of the Mechatronics programme. From interviews, the Panel learned that the Programme Head along with some staff members are also involved with institutional level committees such as CQI, Research Committee, Faculty Development Committee, Library/Infrastructure Committee and Student Concern Committee. The Panel was provided with evidence showing that the involvement of the Programme Head and senior faculty members has led to several improvements in the Mechatronic Programme and College of Engineering which was confirmed during interviews. Consequently, the Panel acknowledges these efforts and recommends that AMAIUB should evaluate the extent of the faculty members' ownership of the quality of the programme and its delivery. Hence the Panel considers the recommendation partially addressed.

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

Judgement: ***Partially Addressed***

AMAIUB has a formal internal quality assurance mechanism in its Quality Assurance process which was last revised in the academic year 2016-2017. The mechanism comprises annual and periodic reviews of the programme. These reviews evaluate and develop improvement plans that cover course contents, assessments and infrastructure based on the outcomes of the external examiners reports and benchmarking reports. During interview sessions, the Panel was informed that the College conducted discussion sessions prior to developing its 2016-2017 operational plan during which different issues relevant to enhancing the delivery of the programme were discussed. In addition, as stated in (paragraphs 2.3 & 4.1) faculty members are involved in committees and the results of their meetings are fed into the quality assurance processes related to 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. An example is that of incorporating the design concept in a number of mechatronics courses as per the recommendation of the BQA's report of the 2015 review of the programme. Moreover, the University conducted a formal benchmarking to ensure currency and relevance of the programme, which resulted in identifying a few courses that need to be replaced with the next periodic review. Interviews with students showed a high level of satisfaction with the programme and its delivery. Students gave examples where their input was taken *via* surveys and actions were taken by senior management to address their concerns. Nonetheless, 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. In conclusion, the Panel acknowledges the university's efforts and recommends that AMAIUB should continue to evaluate the effectiveness of the quality assurance mechanisms adopted. Hence, the Panel considers the recommendation 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 Visit of Academic Programme Reviews Procedure:

The Bachelor of Science in Mechatronics Engineering programme offered by AMA International University - Bahrain 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
Fully Addressed	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.
Partially Addressed	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.
Not Addressed	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
Good progress	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. **No further follow-up visit is required.**
Adequate progress	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. **No further follow-up visit is required.**
Inadequate progress	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,