



هيئة جودة التعليم والتدريب
Education & Training Quality Authority
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Directorate of Higher Education Reviews

Programme Follow-Up Visit Report

**Bachelor of Science in Architecture Engineering
College of Architecture Engineering and Design
Kingdom University
Kingdom of Bahrain**

**First Follow-up Visit Date: 9-10 April 2018
Review Date: 30 November - 2 December 2015
HC072-C2-F015**

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The Programme Follow-up Visit Overview

The follow-up visits 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 Architecture Engineering (BSAE), at the Kingdom University (KU) was revisited on 9-10 April 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 KU's BSAE since the programme was reviewed on 30 November - 2 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 BSAE programme at KU, and for higher education provision within the Kingdom of Bahrain, as a whole.

B. Background

The review of the BSAE programme at KU in the Kingdom of Bahrain was conducted by the DHR of the BQA on 30 November - 2 December 2015. The overall judgement of the review panel for the BSAE programme of KU was that of '**limited confidence**'. Consequently, the follow-up process incorporated the review of the evidence presented by KU to the DHR, the improvement plan submitted to BQA in February 2017, the progress report and its supporting materials, which were submitted in February 2018, 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 KU's BSAE programme for each Indicator was as follows:

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

Indicator 2: Efficiency of the programme; '**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 30 November - 2 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 Architecture Engineering

The College of Architectural Engineering and Design first offered the BSAE programme in the academic year 2004-2005 and graduated its first batch, comprising 14 students, in 2007-2008. The programme is offered through the Department of Architecture Engineering, which is currently seeking the accreditation of the National Architectural Accrediting Board and subsequently the international validation of the Royal Institute of British Architects for the BSAE programme. Admission to the programme was halted between 2011 and 2013 based on a decision by the Higher Education Council and was reopened in September 2014 following the relocation of KU to Riffa. There were 121 students registered in the programme and seven full-time and two part-time academic staff during the first site visit. According to the statistics provided by the institution during the follow-up visit, a total of 165 students have graduated since the commencement of the BSAE programme and the number of students registered in the programme is 128. There are 13 full-time and two part-time academic staff members who currently contribute to the delivery the two programmes offered by the College.

1. Indicator 1: The learning programme

This section evaluates the extent to which the BSAE programme of KU, 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: Review the programme with reference to context sustainability and construction technology.

Judgement: Partially Addressed

In order to address the recommendation, the Department of Architecture Engineering (AE) has made a number of improvements to the programme, demonstrating a commitment to responding to the recommendations given at the 2015 BQA review report. To this end, a series of meetings was conducted where gaps in the programme were identified and the responses to the recommendations were collectively agreed on and a plan of action, tied to a timeline of deliverables, was established. The Department has also developed a matrix that shows the link between project-based courses and relevant courses in the programme study plan. The Matrix illustrates the integration between the different activities students undertake across the years, although there are limited details as to the nature of those activities and how they progress (from basic to advanced) over the five years of the programme. It states that students will acquire an, 'awareness of structure' or 'assemblage systems' rather than an 'understanding of principles', which could be considered as a more appropriate choice of terminology for the programme level. The updated 'ARC231 Building Construction II' course specification, however, clearly states the learning outcomes and the means through which the course is taught and the outcomes are assessed.

The Panel is of the view that there is an improved synthesis between sustainability and construction technology, through amendments to the design briefs. Encouragingly, these competencies are tested at multiple intervals across the programme, from 3rd year (5th semester) until 5th year (9th semester). 'ARC131 Building Construction I' and 'ARC231 Building Construction II' were also revised and repetition/duplication with other courses in the same domain is avoided. Furthermore, there is stronger alignment between and across all courses within the programme, which serves to strengthen its pedagogic integrity, whilst simultaneously reflecting the integrated nature of professional practice. It is noted, however, that since these changes are relatively new, their impact is yet to be reflected in the assessment implementation and grading.

Whilst the Panel is aware of the institutional and administrative time-lag between proposing, ratifying and implementing improvements to the programme, there remain some areas for continuing improvement in relation to this recommendation. Course reading lists, for example, could be expanded to offer a more diverse range of sources across technology and sustainability subjects, particularly given that the students identify sustainability as the most important unique selling point of the programme. Students should, therefore, increase the number of references used. In addition to this, students' awareness of visual (and not just textual) plagiarism needs to be increased. Referencing is under-utilized across all courses. Moreover, samples of student work identify that students need to be taught to improve their construction detailing, particularly given this is a BSc in Architecture and Engineering qualification and not a BA Architecture programme. Technology teaching should encourage students to better analyse the materials (e.g. their suitability and performance, construction process) and to better understand construction processes.

In addition, students' sample coursework presented to the Panel identifies the need for increasing Computer Aided Design (CAD) capabilities including access to/training with Building Information Modelling (BIM) in years four and five of the programme to demonstrate a clear integration of sustainability and technology within the design work and particularly within the graduation project. As the moderators and supplementary reports identified, there is a need for improving the 'design of the portfolios' (i.e. presentation skills). This is especially important in the graduate project, since the employer report identifies that this is an area for improvement in graduate skills in the future and addressing it will therefore increase students' potential employability. These areas of continuing improvement evidence why the Panel identifies that the recommendation is partially met.

Recommendation 1.2: *Revise the practical training period to ensure that it is sufficient to attain the stated learning outcomes.*

Judgement: *Fully Addressed*

The Department benchmarked the practical training period with other six regional Architecture programmes. The practical training period increased from 200 training hours to 240 training hours in 2015-2016 and in March 2017, it was further increased to 300 training hours, based on the recommendation from the Department and College Councils. The Department has successfully implemented the recommended increase in practical training hours to 300 and provided evidence of the University Council ratifying the 300-hr practical training period.

The Training Period Benchmarking Report document outlines the department's benchmarking process for the practical training period. The institutions were selected for benchmarking on the basis of being ranked high regionally and/or validated by the

international validation of the Royal Institute of British Architects (RIBA), UK, or the National Architectural Accrediting Board (NAAB) / National Council of Architectural Registration Boards (NCARB), USA. During interview sessions, faculty members confirmed that senior management had made contact with institutions in the UK and the USA, although nothing had been formally agreed upon. Since the intention is to ensure graduates of the programme have the opportunity to work internationally (an aspiration also expressed during the student interview session), it is important that an institution situated within a different region is chosen.

During interviews, senior Management's stated intention is to acquire validation from NAAB-NCARB/RIBA, aligning the Programme Intended Learning Outcomes (PILOs) and the Course Intended Learning Outcomes (CILOs) - particularly in relation to sustainability and technology – will be necessary and serve to further strengthen the programme, and help its quality assurance commitment to continuing development. It should also be noted NAAB-NCARB/NCARB RIBA alignment includes mandatory systems of professional practice experience recording (e.g. NCARB Architectural Experience Programme (AXP), and RIBA Professional Experience and Development Record (PEDR)). Notwithstanding the above, the Panel is of the view that the current CILOs of the 'ARCH592 Architectural Training' course is clearly defined and include subject-specific skills such as the use of design drawing software and preparing construction reports. The Panel is also of the view that the actions taken fully address the recommendation in terms of the training period and the stated learning outcomes.

Recommendation 1.3: Enhance the student learning skills to be more reflective, self-critical and independent in their learning.

Judgement: Partially Addressed

The revised College Teaching, Learning and Assessment Guidelines document outlines KU's teaching and learning strategy. It states a commitment to 'reach the national and international academic standards in education and to graduate distinguished students and develop their innovation and critical thinking.' The programme, therefore, demonstrates a willingness to continue to increase the internationalization of the curriculum across all courses. The teaching staff also developed a matrix that maps reflective learning skills, self-critical skills and independent learning skills against the five levels of the curriculum and the PILOs. During meetings with the BSAE faculty members, they confirmed that pedagogic improvements included advancements in, (i) increasing peer learning, feedback and assessment, (ii) engaging low achieving students with high achieving students: peer mentoring, (iii) reflective learning, (iv) self-assessment, (v) learning by doing, (vi) self-directed learning, (vii) research-based learning and (viii) reflection in action.

However, as captured in both the jury feedback and the comments of moderators and jurors during the follow-up visit interviews, the question of 'background analysis' (taken to mean site and/or historical/context research) needs to be further developed. There is also a need to increase the levels of synthesis between theory and practice, and raising standards in critical thinking, including students' ability to demonstrate academic criticality, characterised by the ability to evaluate contrasting arguments and evidence and not just describe them, to balance evidence against argument and to develop their own, informed arguments, strategies and concepts. For this reason, the Panel concludes that this is an area for continuing development and agrees that the recommendation is partially addressed.

Recommendation 1.4: *Develop and enhance feedback mechanisms to include more opportunities for the students to receive written feedback on both summative and formative assessment.*

Judgement: *Fully Addressed*

The College has updated the assessment forms to include a dedicated field for course instructors to write their feedback, in addition to the comments that are written on the students' submitted papers. Design juries' guidelines and forms were also revised to include a section dedicated to written feedback and clear instructions that require jury members to discuss, criticize, evaluate the project and write-down their feedback, rather than rely on verbal feedback alone. Moreover, the written feedback facility of the Learning Management System (LMS) was enhanced to enable instructors to upload their comments as feedback files for each student and to apply digital comment tools on the files submitted by students. The faculty provided evidence that the LMS system and the forms are already in use within the programme and during the follow-up visit, students expressed enthusiasm for this method of communicating with them about their work and how to improve it. The documentation provided also offers evidence of students benefiting from feedback in improving their work between pre-jury and final jury. In light of the evidence and the feedback of the students, the Panel concludes that the recommendation is fully met.

2. Indicator 2: Efficiency of the programme

This section evaluates the extent to which the BSAE programme of KU, 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: *Recruit, as a matter of immediate imperative, new senior teaching staff on a full-time basis in the field of construction technology, and senior full- or part-time design instructors.*

Judgement: *Partially Addressed*

The recommendation of the 2015 BQA review report was taken into consideration in the Department of Architecture Engineering's Manpower Plan of 2016-2017. It outlines the need to hire specialized faculty members to teach computer-based courses such as 'ARCH 143 Drafting and Designing with digital Media' and 'ARCH 341 Building Information Modelling'. Based on KU formal recruitment procedures, received CVs have been shortlisted and the Department has conducted interviews with the selected candidates from whom a full Professor in Construction Engineering and Management was appointed as a faculty member. Three other candidates were also selected based on their design teaching background and experience in some domains such as History of Architecture and Executive Drawings. One candidate joined KU in September 2017 and the second is expected to join KU by the beginning of the academic year 2018-2019. The third candidate apologized due to the long time that was needed for obtaining the approval of the Higher Education Council (HEC).

Currently, there are one professor, one associate professor, four assistant professors, one lecturer and two teaching assistants in the AE Department that contribute on a full-time basis to the delivery of the two programmes offered by the College (5.6% teaching in the Bachelor in Interior Design (ID) and 94.4% in the AE programmes). The four full-time faculty members of the ID Department contribute by 27.45% in the teaching of the BSAE programme. The Department is planning to hire three new faculty members and one teaching assistant to teach building construction, building regulation and codes, working drawings documents and computer-based courses, as indicated in the Manpower Plan of 2017-2018. While it is positive that the programme team established a need to employ more subject specialists, this was only partly successful. Overall, there is clearly a challenge surrounding recruitment and retention in particular, as indicated in the statistics provided by the College during the follow-up visit. The staff turnover rate decreased from 16.6% in 2012-2013 to 0% in 2013-2014

and increased again from 9% in 2014-2015 to 45% in 2015-2016. In 2016-2017, the staff turnover rate was 10%.

Low retention of faculty members at the college level is identified as a risk element by senior management and suggestions were made to introduce long-term contracting and increase salary scale, allowances and benefits. Interviews with senior management indicate that the College seeks to increase its intake of students and hence hiring more faculty. The staff to student ratio is currently 1:18 for the BSAE programme and 1:6 for the ID programme. The Panel also notes that the number of students enrolled in the BSAE programme increased from 99 in 2015-2016 to 128 in 2017-2018 due to the reopening of admission in 2014-2015. The admission of new students, however, was halted again by the HEC in 2017-2018, which is likely have a negative impact on the efforts to attract and retain high quality additional faculty members, if it continues. Hence, the Panel acknowledges the efforts of the College in addressing this recommendation and recommends that the College should continue with the implementation of its Manpower Plan and develop a mechanism to mitigate the risk of low staff retention rate amongst the College's faculty.

Recommendation 2.2: *Develop and implement a risk management plan for the BSAE programme to identify and mitigate different risks.*

Judgement: *Partially Addressed*

In November 2017, KU developed a centralized plan to deal with emergencies, disasters and rain. KU Planning and Development Unit also prepared and developed the Risk Management Policy and a procedure that were reviewed by the University Policy Review Committee in 2016-2017. The Policy captures the institutional commitment to ensure a timely response to emergent and changing risk landscape. It identifies obligations on senior management and staff to notify the University Risk Management Committee (URMC) of risk related activities. The Risk Management Procedure indicates that each department is required to prepare and submit a risk response plan to the URMC for approval. Each department should also communicate its risks status regularly to the URMC and updates the intranet risk register as per the applied procedure. As per the progress report and interviews with senior management, the College of Architectural Engineering and Design (CAED) prepared its risk response plan based on a wide range of scenarios for potential academic and administrative risks that were identified by the Dean and the Chairpersons of the Departments. These scenarios include high and medium probability risks such as the weak retention of faculty members, where several suggestions were put in place but there is no evidence of implementation. Losing hard copy of student records and administrative documents were identified as potential low probability risks and several actions are already in place to minimize the risk.

The Panel notes that the action plan of the College is limited to stopping admission, which is classified as high in terms of probability and impact on business continuity. The Panel notes that less attention is given to risks associated with the loss of students' records and the accuracy of results. As per the 2015 BQA review report, it is recommended that the BSAE programme prepare a risk management plan 'to set out the coordinated and cost-effective application of resources to minimize, monitor, and control the probability or impact of undesired events, specifically those related to the loss of records or the corruption of results' accuracy'. Therefore, the Panel concludes that the College did not take sufficient actions to fully address this recommendation, which was mainly raised concerning the security of students' records and accuracy of results and agrees that this recommendation is partially addressed.

Recommendation 2.3: *Expand the design studio classrooms so that there is adequate space allocated for each AE student individually for the entire time of the teaching semester.*

Judgement: *Not Addressed*

During the follow-up visit, a tour of the physical premises of the CAED and the new building where KU planned to accommodate five new design studios was conducted. The Panel was informed that each studio has an area ranging from 55.6 to 60.3 square meters and will be equipped with a retractable drawing board (ergonomic design) and different storage solutions for each student to store boards, rolls and drawing stationary. The Panel was also informed that students would move to the new building following the inspection and approval of the relevant regulatory bodies. The evidence that was presented to the Panel includes KU's new building drawing and the specification of drawing tables and lockers.

In addition to the five new studios, there are currently four design studios that are currently utilised by CAED students. The Panel notes that these studios were not renovated and as noted in the 2015 BQA review report, 'they are inadequate in terms of spatial allocation, desk size and spatial arrangement as far short of normal standards of other universities' architectural design studios'. The progress report states that it was agreed in the department council meeting conducted in November 2017, that the maximum number of students allowed in a design studio classroom should not exceed 15 and accordingly classes with a big number of students were divided into two sub-groups to ensure that there is an adequate space for each student (Average 3.4 m² per student in case of 15 students). However, the Panel notes during the tour that there are still many desks in each studio and to date the College did not allocate an adequate space for each AE student individually for the entire time of the teaching semester. Therefore, the Panel concludes that the College did not address this recommendation.

Recommendation 2.4: *Benchmark the technologies and related support of the workshop and materials laboratory with leading international Architectural colleges with the equivalent to be provided for the use by both AE students and staff.*

Judgement: *Partially Addressed*

To respond to this recommendation, the College benchmarked the technology teaching and facilities available for the BSAE programme with those of three AE programmes offered by one international and two regional universities and found that those at KU are inadequate. The benchmarking documentation captures KU's attempt at implementing solutions for the shortfall, although it is not clear why there are issues with acquiring some of the equipment, nor how this will be addressed. For example, the Model Making Workshop Benchmarking Report identifies a range of 3D printers as 'missing' and several vital yet basic modelling tools as 'not available' such as the thermal wire cutter. The document also lacks any output related analysis, for example, what the tools will enable students to do, in relation to which course and how such activities will affect the PILOs.

The provided evidence also includes the specifications of 12 required equipment as well as a purchase-request of additional equipment for the model-making workshop. During the tour of the physical premises, the Panel noted that the workshop was relocated and renovated. The Panel was also informed that KU purchased additional equipment supplies for both models making workshop and the building material laboratory. The Panel acknowledges the College's efforts and is of the view that the College should further improve the status of technologies and equipment in both the workshop and the building material laboratory to meet the needs of staff and students and provide them with a material samples (e.g. product/manufacturer samples) library. Hence, the Panel considers this recommendation partially addressed.

Recommendation 2.5: *Develop and implement comprehensive policy and procedure to address the special needs of both students and staff.*

Judgement: *Fully Addressed*

The Accreditation & Quality Assurance Office (AQAO), the Student Support and Counselling Unit and the Human Resources Department developed a new policy and procedures, which clearly describe the arrangements and the support that can be provided to students with learning difficulties and/or mobility or dexterity limitations or difficulties. The policy confirms KU's compliance with the law and regulatory bodies' requirements as well as its commitment to ensure equal access, fairness and equivalent learning experience for prospective and registered students. The provided arrangements include priority registration/enrolment, note takers, interpreters and readers for examinations, and training for assistive technology. The procedures

describe the role and the responsibilities of the Student Support and Counselling Unit, University Admission Committee, College Deans and the Chairpersons of the Departments.

The Policy and procedures were reviewed by the University Programme Review and Development Committee and approved by the University Council. The employee Handbook includes a section for individuals with special needs that was recently added as indicated during the interview with members from the Planning and Development Unit, the Human Resources Department and the Student Support & Counselling Unit. The Handbook asserts KU compliance with regulatory requirements particularly in terms of the accessibility of its facilities for employees and visitors with special needs, disabilities and medical conditions. Interviewees were aware of their roles and responsibilities as depicted in the related policy and procedures. Moreover, evidence provided confirms that they were provided with guidance/training in relation to dealing with students with learning difficulties. Overall, the Panel is of the view that the recommendation is fully addressed.

3. Indicator 3: Academic standards of the graduates

This section evaluates the extent to which the BSAE programme of KU, 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: *Formally benchmark the programme against professional body criteria and leading Architectural colleges on a regular basis, and expand the benchmarking activities to include the teaching and learning methods, learning resources and student's standards.*

Judgement: *Partially Addressed*

As per the progress report, during the academic year 2016-2017, the Department Council discussed the criteria of the NAAB for accreditation and prepared a matrix showing the mapping between the learning outcomes of the BSAE programme and the NAAB's Students Performance Criteria. Furthermore, it was arranged with the NAAB to have an initial eligibility visit in October 2018. The progress report also refers to the role of faculty members as external jurors for the Graduation Project Research in another public university, which helped in benchmarking the structure of the graduation project and students' standards with the other university. At the regional level, communications have started with several universities, which offer similar programmes to facilitate information exchange between the institutions for benchmarking purposes. Benchmarking activities conducted to date include, (i) improving the facilities in the workshop by benchmarking against the Architectural Engineering and Technology Programme at Cairo University (ii) improving the graduation project research/jury by benchmarking against the University of Bahrain. Furthermore, the benchmarking agreement with the University of Cairo indicates a commitment to ensuring the benchmarking process results in 'mutual benefits'.

The benchmarking covers programme specification, sample of courses' specifications, graduation project plan, industrial training guidelines and teaching responsibilities. The Panel was informed during the follow-up visit that further points will be included in other benchmarking reports during the 2nd semester of the academic year 2017-2018. The Department also started the communication with selected four leading Architecture programmes (among the top 10) in the USA and three in the UK for formal benchmarking cooperation. Furthermore, KU drafted a customized proposal for benchmarking cooperation to facilitate communications with other institutions. A formal benchmarking cooperation with the Department of Architectural Engineering, Cardiff University is currently under negotiation.

In response to the review judgement, a number of documents were provided in order to evidence the efforts made to address this shortfall. The evidence includes the BSAE programme mapping matrices, which map (i) the aims of the BSAE programme against those stated within the CAED mission, (ii) the PILOs with the aims of the programme, (iii) the BSAE aims with the University and College's goals, (iv) the PILOs with the College's graduate attributes and (v) the PILOs with NAAB's Students Performance Criteria (SPC). The latter item is proving essential, ahead of the NAAB visit scheduled for October 2018.

Whilst the Department also provided evidence of email correspondences with leading architecture colleges with whom benchmarking has been discussed, the remaining contracts need to be issued/signed. Furthermore, the contracts should identify a time-period for the reciprocal agreement, perhaps aligned with the BSAE periodic review. This will allow on-going improvements to the programme to be more effectively and efficiently monitored over time. In light of the need for these continuing improvements, the Panel concurs that this recommendation is partially addressed.

Recommendation 3.2: *Reconsider the list of external moderators and follow the formal selection procedure for external moderators.*

Judgement: *Fully Addressed*

The AE Department communicated with four senior professors from outside the University seeking their initial approval to be external moderators for the BSAE programme. The academicians who accepted the offer were added to the list of external moderators, which was discussed with the academic staff in the Department Council and was raised to the College Dean for approval. During the meeting with the moderators, they confirmed that they have an agreement in principle with KU, but no contract. The Panel was provided with evidence of the correspondences with external moderators (in effect, email agreements), the CV's of senior and international external moderators, and documents confirming that the members of the Department were collectively involved in running a formal selection process in order to appoint the moderators. In addition to this, the samples of external moderators' reports demonstrate that the moderators are already active in offering useful feedback to the programme. Comments from the external moderators highlight the need for a clearer connection between recommended texts and their utility in teaching. This echoes the Panel's earlier concern about reading lists. Documents such as 'Action Plan-External Moderators Comments-1st-AY 16-17' demonstrate that feedback from moderators are being implemented. This document also captures the advice given to the programme by the external moderators within a matrix, allowing for clear comparison, and delineates an action plan for implementation.

While the Panel acknowledges that currently the Department follows the formal procedure in selecting the external moderators, the Panel is of the view that the procedure needs to be revised to ensure that the moderators agree to a specific period of engagement that is long enough in order to become commensurate with other BSAE programmes and to avoid the risks associated with constantly changing moderators offering contradictory or conflicting advice regarding programme changes. Moreover, during the meeting with moderators, the Panel was informed that they were unaware as to how their advice was being implemented. The Panel, therefore, also suggests that the College inform moderators of how their advice is being implemented. In balance, the Panel agrees that this recommendation has been fully met.

Recommendation 3.3: *Revise the moderation procedures for design courses to require independent external moderation of the assessments decided by design juries.*

Judgement: *Fully Addressed*

The College Teaching, Learning and Assessment Committee (CTLAC) revised the design jury procedures to include independent marking by both internal and external jurors, and a 'drawings verification' mark given by the instructor. The revised procedures were approved by the University Policy and Procedures Review Committee (UPPRC) and were added as a separate section in the University Assessment procedure. Moreover, design courses were included in the post external moderation process. According to the progress report, external moderators verify about 25% of the offered courses each academic year and since 2016-2017, four to five design courses per semester were sent for post external moderation. The sent course files included course specifications, CILOs/PILOs mapping, design briefs, samples of students' submissions, the filled jury assessment forms and the final grade breakdown structure. The external moderators' evaluation forms were discussed in the Department Council and an action/improvement plan was prepared to address their comments, which refers to some areas for improvement such as considering users with special needs, contextual design and indication of the material used in the projects. The CTLAC also required design juries to engage in external sampling, marking and ratification, which has been approved by the UPPRC. In light of the evidence presented, the Panel is of the view that the recommendation is fully addressed.

Recommendation 3.4: *Revise the programme's capstone project delivery and assessment mechanisms to ensure that the level of graduate achievement is adequate for the programme type and level.*

Judgement: *Partially Addressed*

The Department revised the capstone project delivery and assessment mechanisms to address this recommendation and the suggestions made by the external examiners and

jurors for the graduation project, and to better streamline the capstone projects. The CTLAC developed a checklist of minimum requirements for students' graduation projects to ensure that students prepare a comprehensive documentation for submission as a Graduation Project that includes clear elaboration of the design process. The Graduation Project course aims and learning outcomes were revised in order to incorporate different design aspects in the knowledge and understanding skills, subject-specific skills and intellectual skills that were expected to be demonstrated through the course, as indicated during the interviews with faculty members. Furthermore, comprehensive guidelines for the graduation project were developed by the CTLAC that include graduation project objectives, general procedures, submission stages, minimum requirements and detailed assessment criteria. A customized rubric based on the revised learning outcomes was also developed for each pre-jury and final jury assessment.

During interview sessions, the Panel was informed that revisions to the Capstone Project are intended to assist students in preparing more rigorous documentation of their work for their Graduation Project. The Panel notes with appreciation that the guidelines developed by the CTLAC include ethical protocols and a standard assessment template/rubric for consistency and parity between students. The students work was evidenced within 'samples' of coursework. The Graduation Project samples, however, offer an indicative insight into the limited range of references students are using in their written work. The Faculty is therefore encouraged to make continuing improvements in this area. This could include amending briefs/coursework descriptors (e.g. graduation project minimum requirements) to include clear advice on referencing. A continuing commitment to increasing synthesis between theory and practice and encouraging the students to develop/demonstrate critical thinking is also highly recommended, in order to advance the students' visual and textual outputs significantly. In view of these continuing improvements, the Panel concludes that this recommendation is partially met.

4. Indicator 4: Effectiveness of quality management and assurance

This section evaluates the extent to which the BSAE programme of KU, 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: Review the college improvement plan as it pertains to the BSAE programme for detailed/analysis, evaluation and implementation.

Judgement: Partially Addressed

In response to the recommendation, the College reviewed the improvement plan to include three new columns that incorporate the AQAO's remarks and indicate whether the proposed actions are fully, partially or not implemented. The progress report provides detailed description of the annual programme review process and its significance in ensuring the academic standards of the programme and the quality of learning. As per KU's Performance Measurement and Effectiveness Policy, the Chairperson of the Department is responsible for preparing the programme annual review report and the improvement plan by addressing all the areas covered in the annual programme review template. These areas include students' course and instructor evaluations, the results of students' satisfaction surveys related to the programme organization and management, CILOs and PILOs' attainment reports, annual student cohort analysis and the comments of external moderators. The College Programme Review and Development Committee reviews the improvement plans and the College Quality Assurance Committee (CQAC), in conjunction with the AQAO, monitor and review the implementation of the improvement plan through periodical internal audits.

The evidence provided includes the annual programme review report of 2016-2017, the BSAE improvement plan of 2016-2017 and minutes of meetings of the CQAC (31 October 2017), the AQAO (26 September 2017) and the University Quality Assurance Committee (22 October 2017). The Panel notes, however, that the improvement plan template does not have clear measurable key performance indicators for evaluation and definable target dates in some cases. The remarks raised by the AQAO were also minimal and do not offer detailed analysis. Nevertheless, the Panel notes that several proposed actions were implemented as per the expected date of completion and the status on the progress of the action plan is based from the submitted evidence by the Chairperson of the Department. The cycle continues until the action item is closed out. Overall, the Panel is of the view that the improvement plan requires further refinement

to fully address the recommendation. Hence, the recommendation is partially addressed.

Recommendation 4.2: *Develop a mechanism to utilize the outcome of the stakeholder surveys in improving the programme and its outcomes.*

Judgement: *Partially Addressed*

The progress report states that, in accordance with Section 5.1.2 of the Quality Assurance and Enhancement Policy, KU's system and processes are based on evidence whereby outcomes and feedback from various stakeholders namely students, staff, alumni, employers, external assessors and Industry Advisory Council provide the basis for analysis and conclusions, on which improvements are formulated across its programmes, courses and activities. Section 5.8 of the same policy affirms and ensures that all stakeholders' feedback is periodically sought regarding the academic programmes and reacts positively to their expectations. This is supported by KU's Performance Measurement and Effectiveness Policy, in which the University (through its Institutional Measurement Unit (IMU)) provides periodical analyses of the different surveys to relevant colleges, departments and support/administrative offices. These surveys include an annual student satisfaction survey, a biannual alumni survey, and an employer/market survey, which is conducted every three years.

The Performance Measurement and Effectiveness Procedure was approved by the University Council in November 2017. The evidence provided includes the IMU Annual Report of 2016-2017, which comprises the outcomes of all stakeholders' surveys as one consolidated report that serves as a major input in the annual programme review cycle and improvement plan as well as the periodic reviews. The Panel was also provided with samples of relevant minutes of meetings. The Panel notes that the implementation of the procedure is at an early stage and urges the College to ensure its systematic implementation. In light of the above, the Panel concludes that the recommendation is partially addressed.

Recommendation 4.3: *Formally scope the market needs and conduct this process in a rigorous manner, cognisant of national, regional and international opportunities and developments.*

Judgement: *Not Addressed*

To scope the market needs, KU revised the Performance Measurement and Effectiveness Policy and Procedure to include provisions for the development of customized employer surveys. As per the revised policy and procedure, a customized Existing Employer Survey for the BSAE programme was developed by faculty members to assess the satisfaction levels of employers of the acquired skills and

competencies of KU AE graduates. They also developed a Potential Employer Questionnaire, as corroborated during the interviews with senior management at institutional and college levels, to gather information related to the competency expectations for KU's AE graduates from local, regional and international firms. Evidence provided includes empty templates of the Existing Employer Survey and the Potential Employer Questionnaire. It was revealed to the Panel during the follow-up visit that KU has recently contracted a private company to conduct the surveys and analyse the results. The analysis of results of the existing and potential employer surveys for the graduates of the two programmes (BSID and BID) offered by CAED were consolidated in one report. The Panel is of the view that results of the two surveys should have been analysed separately and for each programme individually. The company also provided KU with an Exploratory Research Report that was circulated to the Dean and the Department Chairpersons. The Exploratory Research Report is incomplete and does not provide sufficient signification information that recommendations can be drawn on. It only identifies anticipated construction sector expansion in the near future, requiring an increase in qualified graduates from the region. The Panel recommends that CAED should revise the mechanism used to scope the market needs to ensure more robust and relevant responses that pertain for each programme separately. Thus, the Panel concludes that weaknesses persist in relation to this recommendation and consequently agrees that this recommendation remains unaddressed.

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 Architecture Engineering programme offered by Kingdom University has made adequate progress.

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,