

الهيئة الوطنية  
للمؤهلات وصفاان جودة التعليم والتدريب  
National Authority for Qualifications &  
Quality Assurance of Education & Training



# **Directorate of Higher Education Reviews Programmes-within-College Reviews Report**

**Bachelor's Degree in Computer and Communication  
Engineering  
College of Engineering  
Ahlia University  
Kingdom of Bahrain**

**Date Reviewed: 14-16 March 2016  
HC075-C2-R075**

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## Acronyms

ABET	Accreditation Board for Engineering and Technology
APDP	Annual Professional Development Programme
ATDC	Ahlia Training and Development Centre
AU	Ahlia University
AUQMS	Ahlia University Quality Management System
BCCE	Bachelor's Degree in Computer and Communication Engineering
BMNE	Bachelor's Degree in Mobile and Network Engineering
CAQA	Centre for Accreditation and Quality Assurance
CEAB	College External Advisory Board
CILOs	Course Intended Learning Outcomes
CME	Centre for Measurement and Evaluation
CPRC	College Programme Review Committee
DHR	Directorate of Higher Education Reviews
GPA	Grade Point Average
HEC	Higher Education Council
ILOs	Intended Learning Outcomes
PILOs	Programme Intended Learning Outcomes
QA	Quality Assurance
QQA	National Authority for Qualifications & Quality Assurance of Education & Training
SER	Self-Evaluation Report

TLAC	The Teaching, Learning and Assessment Committee
UQAC	University Quality Assurance Committee

## **The Programmes-within-College Reviews Process**

### **A. The Programmes-within-College Reviews Framework**

To meet the need to have a robust external quality assurance system in the Kingdom of Bahrain, the Directorate of Higher Education Reviews (DHR) of the National Authority for Qualifications & Quality Assurance of Education & Training (QQA) has developed and is implementing two external quality review processes, namely: Institutional Reviews and Programmes-within-College Reviews which together will give confidence in Bahrain's higher education system nationally, regionally and internationally.

Programmes-within-College Reviews have three main objectives:

- to provide decision-makers (in the higher education institutions, the QQA, the Higher Education Council (HEC), students and their families, prospective employers of graduates and other stakeholders) with evidence-based judgements on the quality of learning programmes
- to support the development of internal quality assurance processes with information on emerging good practices and challenges, evaluative comments and continuing improvement
- to enhance the reputation of Bahrain's higher education regionally and internationally.

The *four* indicators that are used to measure whether or not a programme meets international standards are as follows:

#### **Indicator 1: The Learning Programme**

*The programme demonstrates fitness for purpose in terms of mission, relevance, curriculum, pedagogy, intended learning outcomes and assessment.*

#### **Indicator 2: Efficiency of the Programme**

*The programme is efficient in terms of the admitted students, the use of available resources - staffing, infrastructure and student support.*

#### **Indicator 3: Academic Standards of the Graduates**

*The graduates of the programme meet academic standards compatible with equivalent programmes in Bahrain, regionally and internationally.*

#### **Indicator 4: Effectiveness of Quality Management and Assurance**

*The arrangements in place for managing the programme, including quality assurance, give confidence in the programme.*

The Review Panel (hereinafter referred to as ‘the Panel’) states in the Review Report whether the programme satisfies each Indicator. If the programme satisfies all four Indicators, the concluding statement will say that there is ‘confidence’ in the programme.

If two or three Indicators are satisfied, including Indicator 1, the programme will receive a ‘limited confidence’ judgement. If one or no Indicator is satisfied, or Indicator 1 is not satisfied, the judgement will be ‘no confidence’, as shown in Table 1 below.

**Table 1: Criteria for Judgements**

Criteria	Judgement
All four Indicators satisfied	Confidence
Two or three Indicators satisfied, including Indicator 1	Limited Confidence
One or no Indicator satisfied	No Confidence
All cases where <b>Indicator 1</b> is not satisfied	

## **B. The Programmes-within-College Reviews Process at the Ahlia University**

A Programmes-within-College review of the programmes offered by College of Engineering of Ahlia University (AU) was conducted by the DHR of the QQA in terms of its mandate to review the quality of higher education in Bahrain. The site visit took place on 14-16 March 2016 for the academic programmes offered by the College, these are: Bachelor’s Degree in Computer and Communication Engineering (BCCE) and Bachelor’s Degree in Mobile and Network Engineering (BMNE).

AU’s was notified by the DHR/QQA on 4. January.2016 that it would be subject to a Programmes-within-College reviews of its College of Engineering with the site visit taking place during 14-16 March 2016. In preparation for the review, AU conducted a self-evaluation of all its programmes and submitted the SERs with appendices on the agreed date in February 2016.

The DHR constituted a panel consisting of experts in the academic field of communications, mobile and network engineering and computer science and in higher education who have experience of external programme quality reviews. The Panel comprised four reviewers.

This Report provides an account of the review process and the findings of the Panel for the Bachelor’s Degree in Computer and Communication Engineering based on:

- (i) analysis of the Self-Evaluation Report and supporting materials submitted by the institution prior to the external peer-review visit
- (ii) analysis derived from discussions with various stakeholders (faculty members, students, graduates and employers)
- (iii) analysis based on additional documentation requested and presented to the Panel during the site visit.

It is expected that AU will use the findings presented in this Report to strengthen its Bachelor's Degree in Computer and Communication Engineering. The DHR recognizes that quality assurance is the responsibility of the higher education institution itself. Hence, it is the right of AU to decide on how it will address the recommendations contained in the Review Report. Nevertheless, three months after the publication of this Report, AU is required to submit to the DHR an improvement plan in response to the recommendations.

The DHR would like to extend its thanks to AU for the co-operative manner in which it has participated in the Programmes-within-College review process. It also wishes to express its appreciation for the open discussions held in the course of the review and the professional conduct of the faculty and administrative staff contributing to the delivery of the programme.

### **C. Overview of the College of Engineering**

The College of Engineering is one of the six colleges at AU. The College was established in the academic year 2008-2009 with a mission to 'provide high quality programmes through innovative and dynamic curricula designed to equip students with skills and knowledge they need to become globally competitive engineering professionals with a wide range of career choices in multiple industry sectors' as stated in the SER.

The vision statement of the College is 'to aspire to achieve preeminent position in the Middle East in engineering education and research, outstanding leadership to the profession, and in the application of cutting edge knowledge to the benefit of society.'

The College currently comprises two departments, namely: Department of Computer Engineering and Department of Telecommunication Engineering. The College offers two undergraduate programmes: Bachelor's Degree in Computer and Communication Engineering and Bachelor's Degree in Mobile and Network Engineering. At the time of the site visit, the College employed 11 academic staff members and the total number of students' was 165.

## D. Overview of the Bachelor's Degree in Computer & Communication Engineering (BCCE)

The Bachelor's Degree in Computer & Communication Engineering (BCCE) has been offered since 2007-2008. The BCCE programme was moved from the College of Mathematical Sciences and Information Technology to the College of Engineering in 2008-2009. Since 2007-2008, 108 students have graduated from the programme. The programme is supported by 11 full-time teaching staff from the College of Engineering. In addition to 10 faculty members from other colleges within AU participating in the programme delivery. The BCCE programme had its first intake in September 2007-2008 and 14 students graduated from its first batch in 2009-2010. In 2015-2016, 98 students were enrolled in the programme. Most of the registered students in the BCCE programme are Bahrainis.

## E. Summary of Review Judgements

**Table 2: Summary of Review Judgements for the Bachelor's Degree in Computer and Communication Engineering**

<b>Indicator</b>	<b>Judgement</b>
1: The Learning Programme	Satisfies
2: Efficiency of the Programme	Satisfies
3: Academic Standards of the Graduates	Satisfies
4: Effectiveness of Quality Management and Assurance	Satisfies
<b>Overall Judgement</b>	<b>Confidence</b>



## 1. Indicator 1: The Learning Programme

*The programme demonstrates fitness for purpose in terms of mission, relevance, curriculum, pedagogy, intended learning outcomes and assessment.*

- 1.1 Ahlia University has mission and vision statements which are provided on-line and in the University Catalogue. The vision of the University clearly states that it aims 'to become an outstanding regional and international academic institution by promoting the highest level of integrity in the achievement of excellence in education and research.' The strategic plan of AU has been recently revised and six themes have been identified for 2016-2021 period (Governance, Management and Finance), (Teaching and Learning), (Research), (Community Engagement), (Support Services) and (Quality Assurance, Enhancement and Accreditation). The College of Engineering has a mission, vision and an operational plan that has been aligned with the AU strategic plan. The College operational plan clearly indicates how the college objectives are aligned with the university's strategic plan. The aims and the objectives of the BCCE programme are clearly defined and are consistent with the college vision and mission statements through aiming to provide the programme 'with international standards that enables students to pursue their professional engineering practice.' From interviews with staff members and review of submitted evidence, the Panel confirms that the BCCE programme aims are appropriate to the type and level of programme offered by the College of Engineering. The Panel appreciates that the aims of the BCCE programme are clearly defined, aligned to the college's mission and suitable for the type and level of the programme.
- 1.2 The BCCE programme consists of 134 credit hours divided into university requirements, college specific requirements, major requirements and free electives distributed over four years as per programme structure. The structure of the BCCE curriculum shows course details and pre-requisites for individual courses along with a list of elective courses. The Panel studied the provided curriculum and its study plan and notes that these provide suitable year on year and course by course progression. The Panel was provided with evidence on benchmarking the programme with the IEEE Computer Engineering 2004 curriculum and the ABET Engineering Technology Accreditation Commission Criteria (2014-2015). The Panel notes that students' workload is acceptable and appropriate for this kind of programme. Interviews with students and alumni confirmed the panel's view on the suitability of the allocated workload. During interview sessions, the Panel was informed that the programme has benefited from the periodic reviews in strengthening its practical component during which the BCCE programme was injected with courses that require hands-on experience through practical laboratory work and the use of other hardware and software applications. Examples include Signals and Systems (ECTE224) course where a special hardware equipment is utilized while specific softwares, such as MATLAB

and Simulink for (ECCE204) course. During the site visit, the Panel was introduced to the new hardware and software utilised in delivering the programme. During interviews, students indicated their satisfaction with the balance between the theoretical and practical components of the courses such as the increased practical time provided in specific courses and the newly introduced software applications in the new laboratories. The Panel appreciates that the curriculum of BCCE programme is well-organised to demonstrate academic progression with a balance between theory and practice.

- 1.3 The syllabus of the BCCE in general has good breadth and depth and is consistent with similar programmes, regionally and internationally. The College benchmarked the BCCE syllabus with professional associations such as the ACM/IEEE and ABET. All course specifications follow a unified template consisting of course code, course title, number of credits, prerequisites, description and objective of the course, contact details of the instructor, Intended Learning Outcomes (ILOs), teaching materials (textbook, supplementary), resources and assessment methods. All course materials are posted online on Moodle for students' reference. The syllabi covers the different topics in computer and communication engineering needed for this type of programme while the progression within each topic across different course levels provide the needed depth. However, the Panel notes that courses such as Windows Server Environment (ECCE 333) and Windows Server Infra (ECCE334) were replaced by CISCO professional network courses (CCNA & CCNP). Whilst the Panel understands the need for professional certificates in the market; yet the Panel recommends that the College should decouple the CISCO component from the programme syllabi and offer it as a separate component that students may opt to take should they want to strengthen their vocational skills.
- 1.4 The Programme Intended Learning Outcomes (PILOs) are outlined in the programme specification document. The BCCE programme has 13 PILOs divided into four main categories: knowledge and understanding (A1-A3), subject-specific skills (B1-B3), thinking skills (C1-C3), and general and transferrable skills (D1-D4). The specified PILOs are well-written, measurable and meet the requirements of the programme. The PILOs are aligned with the programme aims and objectives and are appropriate for the level and type of the degree. Moreover, a number of workshops has been conducted on how to write these PILOs; and interviews with academic staff members confirmed that they are fully aware of the PILOs and their importance to support programme aims, objectives and its delivery. The Panel appreciates that the PILOs are clearly stated, suit the delivery of the programme and its aims and objectives.
- 1.5 Course Intended Learning Outcomes (CILOs) are clearly stated in the course syllabi and specifications documents. The Panel studied the course specifications and notes that the CILOs are, in general, suitable for the type and level of the courses and their

contents and support the achievement of the PILOs. Moreover, courses and hence their CILOs are mapped to the PILOs through the Curriculum Skills Map which clarifies how each course ILO is mapped to the PILOs depending on the nature of each course and its ILOs. However, the Panel notes an over-mapping of the CILOs to the PILOs in some courses such as Computer Security (ECCE401) and Wireless Communications (ECTE424) where mapping is done to almost all the PILOs. The Panel recommends that the College should revise the mapping of the CILOs to the PILOs to make it more selective.

- 1.6 The BCCE programme follows AU's documented Guidelines for the Undergraduate Internship Programme (INTR432) which is allocated six credit hours taken either in the 3<sup>rd</sup> or 4<sup>th</sup> year of study. The internship has clear documented course specification that stipulates the aims of the course, how the specified CILOs contribute to the achievement of the PILOs along with the assessment methods used. According to the Guidelines for the Undergraduate Internship Programme, the BCCE students have to complete 90 credit hours of the programme requirements to be eligible to register for the internship provided that their minimum GPA is 2. The assessment of the internship consists of several components (site supervisor mid evaluation (25 marks), site supervisor final evaluation (25 marks), academic supervisor evaluation (10 marks), student bi-monthly report 1 (10 marks), student bi-monthly report 2 (10 marks) and student final report (20 marks). The Panel appreciates that the work-based component of the programme has clear learning outcomes with clear assessment methods that contribute to the achievement of the PILOs. According to the regulations, students have to attend a minimum of 180 hours over a period of eight weeks at the internship worksite. The Panel is concerned that the allocated number of credits for the internship (six credits) is high compared to the number of contact hours in similar programmes and the amount of work expected from students. Consequently, the Panel recommends that AU revise the allocated number of credit hours for its internship programme. It is worth noting that the SER states that the internship course is compulsory 'unless there are extenuating circumstances' where students are allowed then to select two elective courses worth six credit hours from a set of the programme elective courses including (ECCE323, ECTE433, ECTE434, ECCE324). Yet this raises concern that students taking the elective courses might not obtain equivalent experience to that specified in the internship module. Furthermore, reasons for exemption are not stated in the guidelines. Therefore, the Panel recommends that criteria for exempting students from the internship should be clear and transparent; and that the College has to ensure that the two substituted courses provide an equivalent learning experience.
- 1.7 AU has a formal Teaching and Learning Plan that has been revised to incorporate more specific goals and reflect the amended/updated graduate attributes to suit its mission, vision and strategic plan. This revised plan encourages the use of a diversified set of

teaching methods and strategies, encouraging lifelong learning, the use of blended learning and students' responsibility of their own learning. Examples include individual assignments, group projects, presentation on projects, class discussion, case studies, problem-solving, hands on practical experience and field visits. In addition, 'Moodle' is utilized as an e-learning platform in most courses, where in addition to uploading course content presentation and assessment; it is used for discussion and communication. All these teaching methods are documented in the course files showing how they contribute to the achievement of the CILOs. Interviewed students expressed their satisfaction with the teaching methods utilized in delivering the BCCE programme and appreciated the practical component injected in the courses. The Panel appreciates that a variety of teaching methods are adopted for the BCCE programme to enable the achievement of the ILOs.

- 1.8 The BCCE programme follows AU's Assessment Manual, Guidelines for the Undergraduate Project and the Roles and Responsibilities of Coordinators of Multi-section Courses. All these documents are available to students and staff in hard copies and on the Intranet. The policies specify the formative and summative course assessment methods and are part of the course specification provided to students at the beginning of each semester. According to the manual, staff are obliged to pass on their feedback to their students few days after the assessment and before the next assessment as clarified in the Assessment Manual. This is done either through 'Moodle' or face-to-face meetings. Interviewed students confirmed that they receive regular feedback on their submitted assignments in approximately a week time. Written feedback is provided on practical assignment submitted and the 'Moodle' platform provides timeous feedback. Assessment tools are also subject to internal and external moderation as detailed in paragraphs 3.5 & 3.6 of this Report. Moreover, students at AU have the opportunity to challenge their grade through the appeal procedure. Interviewed students clarified that they consult their instructor before submitting an official appeal request. During interviews, the Panel confirmed that students and faculty members are aware of the assessment and appeal procedure. The Panel appreciates AU's comprehensive assessment procedure that is transparent, well-documented and available to staff and students.
- 1.9 In coming to its conclusion regarding The Learning Programme, the Panel notes, *with appreciation*, the following:
- The aims of the BCCE programme are clearly defined, aligned to the college's mission and suitable for the type and level of the programme.
  - The curriculum is well-organized to demonstrate academic progression with a balance between theory and practice.
  - Programme intended learning outcomes are clearly stated, suit the delivery of the programme and its aims and objectives.

- The work-based component of the programme has clear learning outcomes with clear assessment methods that contribute to the achievement of the programme intended learning outcomes.
- A variety of teaching methods are adopted for the BCCE programme to enable the achievement of the intended learning outcomes.
- There is a comprehensive assessment policy that is transparent, well-documented and available to staff and students.

1.10 In terms of improvement the Panel **recommends** that the College should:

- decouple the CISCO component from the programme syllabi and offer it as a separate component that the student may opt to take should they want to strengthen their vocational skills
- revise the mapping of the CILOs to the PILOs to make it more selective
- revise the allocated number of credit hours for the internship programme to reflect actual students' efforts
- clarify the reasons for exempting students from the internship programme and ensure that the two substituted courses provide an equivalent learning experience to it.

### 1.11 **Judgement**

On balance, the Panel concludes that the programme satisfies the Indicator on The Learning Programme.

## 2. Indicator 2: Efficiency of the Programme

*The programme is efficient in terms of the admitted students, the use of available resources - staffing, infrastructure and student support.*

- 2.1 The BCCE programme follows AU's admission policy. The admission policy is well-documented and is published in various media including the University Catalogue. The policy is revised regularly as clarified in the University Policies and Procedure Manual. Interviewed students and staff, show clear understanding of the policy and indicated that it is available online and in Ahlia's University Catalogue. The policy stipulates that an applicant should have a secondary school certificate or its equivalent and pass an English language placement test along with a mathematics one prior to registering in the programme. Nonetheless, the Panel notes that the admission policy does not specify a minimum requirement of high school GPA or its equivalent. The Panel recommends that AU should clearly state its minimum requirements for the high school GPA or its equivalent for admitting students in the programme. The applicant needs to score at least 50% in both tests to be accepted. If the applicant does not pass the placement tests then he/she ought to be enrolled into an orientation programme (English, mathematics) for one semester. Once the student has successfully completed the orientation then he/she will be allowed into the BCCE programme. Applicants with international tests such as IELTS or TOEFL are exempted from the English language placement test. During interviews, the Panel was informed that a proposal from the Admission and Exemptions Committee is being discussed at AU level to reconsider the passing mark in the mathematics placement test amongst other issues. Any suggested changes if approved, will be implemented on the next intake of students. The Panel encourages the programme team to follow up with the admission review process. Interviewed staff highlighted that transfer students are also accepted in the programme if they have successfully completed at least one semester in another recognised institution. Transferred students may transfer a maximum of 66% of the programme credits from the courses taken in the other institution if their grades were at least 'C' in these courses. The Panel acknowledges that there is a clear procedure that is applied for transferred students.
- 2.2 During the site visit, the Panel was provided with the profile of the admitted students and notes that in general it matches the BCCE programme aims. The profiles present information on the educational background of students, secondary education track, nationality, gender and their GPAs in the secondary school certificate. Most of the registered students are from Bahrain and the ratio of male to female students is 5:1 which is a norm in this type of programme. The Panel notes that the high school score for the admitted students ranges between 97% and 52% with the average being 77.6%. Moreover, it was noted that that students from Arts, Science, Commercial and Vocational tracks are being admitted to the programme without having any additional

support to help them when joining the programme. Consequently, the Panel recommends that AU should conduct a study to evaluate students' progress against their entry level to ensure that the programme is admitting students that meets its requirements.

- 2.3 The duties and responsibilities of management and operational teams are clearly outlined in the submitted College Organizational Chart. At the management level, the Dean of the College of Engineering has overall responsibility for the College and is assisted by the College Administration Officer. The Chairperson of the Department reports to the Dean and handles the day-to-day responsibilities. Faculty members are fully aware of their duties as academics and are enrolled in committees at college and university level. Regular meetings are conducted within the programme and results are communicated to the Dean. Interviewed staff and students showed a knowledge and understanding of the hierarchy of the College and its departments. The Panel is satisfied that there are clear lines of responsibility which are followed by the programme team.
- 2.4 There are 11 faculty members (one Professor, two Associate Professors, five Assistant Professors, three lecturers) with a range of experience in academia and industry-contributing to the delivery of the core courses of the programme. During the site visit, the Panel reviewed the CVs of the department members teaching in the programme and confirmed that there is an adequate range of credentials for teaching in the programme. The institution calculates the ratio of students to staff as 6.15:1. The Panel observed evidence of student numbers in the courses ranging from eleven to seventeen students. Additionally, in laboratory classes the lecturers are assisted by laboratory assistants within the programme. From interviews, the Panel learnt that staff workload is administered through the teaching load and is managed by the Chairperson. The Panel views the number of teaching staff being adequate as some courses are taught by members from the Department of Information Technology. The Panel notes that whilst academic staff members at AU are encouraged to conduct innovative research as per its mission statement a few courses are injected with research findings in the field of Computing Engineering. Therefore, the Panel advises the College to support its faculty members to conduct more research related to the BCCE programme in line with the institution's strategic goals.
- 2.5 Well-documented procedures related to recruitment, appraisal and promotion are in place at AU which are known by its academic and support staff. More than one party is involved in the recruitment procedure including the Chairperson, Department Council, Dean, Appointment and Promotion Committee and ends with the University Council for final approval. According to the SER, the retention rate in the last two years was 100% which is exceptionally high. Interviewed staff confirmed that the environment within the University is contributing to the satisfaction of the staff. Staff

confirmed within interviews that exit surveys are conducted; and most of their colleagues who leave do so due to personal reasons. During interviews, newly appointed staff praised the induction programme organized by Human Resources Department as it introduced them to all aspects of the teaching environment as well as the university structures and procedures. They also confirmed the effectiveness of the arrangements in place to allow for a smooth integration into the University. An unofficial mentorship programme exists to allow newly appointed staff to be assessed/mentored by senior staff members. The Panel appreciates that there is a well-structured induction programme for new recruits. A well-articulated appraisal system is in use once a year at AU. The Department Chair evaluates staff members whereas the Chair is appraised by the Dean of the College. The appraisal system includes several aspects such as self-evaluation, students' evaluation, Chairperson evaluation, quality of research, quality of teaching, any administrative tasks and community engagement; and the results from the appraisal are utilized to create a professional development plan for each staff member. Interviewed staff confirmed the process and the use of the results to create the professional plan development. The Panel appreciates the existence of a comprehensive procedure for the appraisal system which feeds into staff development plan. The institution has a clear policy for promotion which is known to all its staff members. The criteria and weightage of the different indicators within the promotion policy are appropriate and are consistently implemented by the management. From interviews with staff and senior management, the Panel notes that promotions did not occur in the last five years. The Panel recommends that the College should investigate the reasons for the absence of promotions within the College.

- 2.6 AU uses an in-house developed Management Information Systems (MIS), for the management of student records and data. 'Sharepoint' is utilized as platform for information and data throughout the institution to ensure sound decision-making processes. When touring the facilities, the Panel was informed that the Admission and Registration software system ADREG is widely used by staff and the registrar, in particular, for registration and storage of student records including official grades. During the site visit, this capability was demonstrated to the Panel and sample reports generated from the system were provided. It was evident from these reports that decisions related to programme management, student retention, student progression and identifying 'at-risk' students have been facilitated by these reports as the ADREG system is always being updated by its dedicated team. The Panel acknowledges the utilization of the ADREG system to support decision-making at the institution.
- 2.7 There are well-established policies and procedures to ensure the security of students' record. As mentioned earlier, ADREG is used to store course attendance, transcripts, change in grade, students' results, students' personal records/profile, archive and back up all the data. AU has a detailed and well-documented risk management plan that



discusses, amongst other things, procedures for ensuring data backup during which daily, weekly and monthly backups of all student and staff data are kept on site and off campus. When touring the facilities, the Panel confirmed that the physical security of all student and staff records is in place. These records are stored in a safe environment with well-defined authorization procedures. In addition, all users are given passwords to log into the ADREG system and access to information depends on their authorization level. There is also a procedure to verify students' grades before releasing them online. The procedure includes the instructor, the Department Chairperson and the College Dean. In case of grade change, a multi-level verification process is required starting by the Department Chairperson, the College Dean and ends with the Dean of Students' Affairs. Accuracy of students' grades is also being verified by a quality assurance officer to ensure students' grades. Staff interviewed confirmed the above mentioned processes and their full awareness of the required steps. The Panel appreciates that policies are in place to govern the security and accuracy of students' records.

- 2.8 During the site visit, the Panel toured some classrooms, computer laboratories, library, student counselling, internship office, and other facilities within the campus. The Panel notes that all classrooms are equipped with electronic projectors and computers. The Panel notes that there are sufficient numbers of computers, ready access to e-mail and electronic resources, and Wi-Fi coverage appears to be good throughout the campus. During the tour, the Panel viewed the available resources in the library such as books, e-books, journals, databases and e-resources and are satisfied that these resources are adequate for the BCCE students. Students studying at AU have access to all library resources on and off campus. However, the Panel raised their concern with respect to the physical size of the library. Interviewed students clarified that the physical size of the library is not an issue to them as they have access on and off campus and most of them prefer to surf the net rather than reading from hard copies resources in the library. Nonetheless, the Panel encourages the College to investigate possibilities of providing the students with appropriate study areas on campus. The Panel met people working in the Helpdesk and IT support staff and learned that a lot of support is provided to students including email services, troubleshooting support, software installation, and access to all online university services such as 'Moodle' where all courses are uploaded. Students utilize either the computer laboratories in the College of Engineering or the ones in the IT College depending on the nature of the course and its requirement. The Panel toured the computer laboratories and was told that specialized technicians are always available to help students and course instructors. Each computer laboratory has a timetable posted on the door showing its utilization and its free hours. The Panel found the laboratory facilities and the equipment adequate for the BCCE programme. The equipment is current and the software utilized in all courses is applicable. The Panel further noted that the support provided by administrative staff during practical sessions to be of a high standard.

Staff and students confirmed their satisfaction with the facilities and resources available on-campus as well as the maintenance of all services. The Panel acknowledges all the above available resources to students.

- 2.9 Several systems are used to track the usage of resources at AU. Examples include the e-learning platform 'Moodle', ADREG and databases in the library. The ADREG system generates several reports on the utilization of laboratories and classrooms. A dedicated committee entitled 'The textbooks & library Committee' reports on the usage of the available databases which is done by tracking the logs in the library to help in decisions related to extending or stopping subscription to certain databases. The Panel is satisfied with the utilization of different systems to track the usage of resources and help in decision-making.
- 2.10 AU provides varied types of support for the students. The services are offered by the library, laboratory assistants, academic guidance and support, Career Office and Student Counselling Support Unit. Furthermore, 'Moodle' is utilized for e-learning where all course materials and assignments are available for students all the time. The students are informed of all these services during the orientation programme which is held in the first week of the semester. Once a student is admitted to the programme he/she is immediately assigned to an academic advisor to assist in selecting the courses and mentor his/her academic progress. Non-academic concerns are forwarded to the Student Counselling Support Unit. The Panel notes that the institution seeks regular feedback on the appropriateness of these services either from student representatives or when students complete an on-line form using these services. Services to students with special needs are also provided but limited to what the institution specified in the Ahlia University Student Guidebook. Students interviewed by the Panel showed good knowledge and enthusiasm for these services and many indicated that they benefited substantially from using these services. This was also confirmed from students' surveys. Moreover, the Panel notes that students are appreciative of the level of support they received from their academic advisors as well as the support given by staff in various centres, such as the library and the help desk. The Panel appreciates that there is a wide range of academic and non-academic support provided to the BCCE students.
- 2.11 AU conducts annual orientation for newly admitted and transferred students to its programmes. It is organized at the beginning of the first semester in each academic year. The objective of organising this event is to introduce students to university-wide processes, different policies and procedures related to students such as attendance, plagiarism, GPA, advising, counselling, misconduct along with information on the BCCE programme and its team members. They also receive a copy of the Student Handbook. Interviewed students expressed their high appreciation for the arrangements of the orientation programme and its delivery. Despite the above

mentioned, the Panel raised their concern with respect to the students who could not attend the orientation programme. Staff clarified that they always support students and they all have an open door policy to assist students whenever needed. The Panel encourages the College to introduce alternative arrangements for those students who could not attend the orientation programme. Moreover, the Panel notes that there is no evidence on formal feedback collected on the orientation programme. Consequently, the Panel recommends that AU should establish a formal process to evaluate the effectiveness of its orientation programme.

- 2.12 As mentioned earlier, different kinds of support are provided to students including those who could not perform up to standard and their GPA is approaching 2.00. According to 'Student at-risk Policy', students are red flagged by the ADREG system and notifications of at-risk cases are sent by email to the student's academic advisor, course instructors, the University Counsellor and the Department Chairperson. The student then will be contacted and the intervention will start on academic, social and personal matters. All consultations and actions are noted and tracked at a higher management level. Sessions are arranged with the student and the progress monitored. Interviewed staff confirmed that they receive information on how to provide the needed support. During interviews, students confirmed that at-risk students are required to attend sessions with their academic advisor and University Counsellor. During the site visit, the Panel was provided with evidence showing the interventions that have been taken to support at-risk students. The Panel appreciates the clarity of the implemented arrangements which are used to identify 'at-risk' students in a timely manner to enable them to progress academically.
- 2.13 AU provides varied opportunities for informal learning to students. Several seminars are organised to enhance and widen students' knowledge. Extra-curricular activities occur through the Engineering Club, Engineering Colloquium, career day, culture day, inviting guest speakers, exhibitions and field trips to major companies in Bahrain. Students can also enrol in an exchange programme with EPITA Graduate School of Computer Science in France where students are exposed to different culture and learning environment. Furthermore, BCCE students participate in several events held on or off campus and feedback collected showed a high level of students' satisfaction towards these activities. The Panel is satisfied with AU's extra-curricular activities to enhance students' informal learning environment.
- 2.14 In coming to its *conclusion* regarding the Efficiency of the Programme, the Panel notes, *with appreciation*, the following:
- There is a well-structured induction programme for newly appointed staff.
  - A comprehensive appraisal system is utilized to enhance staff professional development plan.
  - Policies are in place to govern the security and accuracy of students' records.

- There is a wide range of academic and non-academic support provided to the BCCE students.
- The implemented arrangements for identifying 'at-risk' students are clear and followed by all involved parties in a timely manner to enable students to progress academically.

2.15 In terms of improvement, the Panel **recommends** that the College should:

- clearly state the minimum requirements for the high school GPA or its equivalent in the admission policy
- conduct a study to evaluate students' progress against their entry level to ensure that the programme is admitting students that meets its requirements
- investigate the reasons for the absence of promotions in the College establish a formal process to evaluate the effectiveness of the orientation programme.
- **Judgement**

On balance, the Panel concludes that the programme **satisfies** the Indicator on **Efficiency of the Programme**.

### 3. Indicator 3: Academic Standards of the Graduates

*The graduates of the programme meet academic standards compatible with equivalent programmes in Bahrain, regionally and internationally.*

- 3.1 AU has a documented Teaching and Learning Plan clearly specifying 13 graduate attributes to prepare students to face workplace challenges. These attributes are embedded in the programme learning outcomes which are delivered by mapping the course syllabus and their ILOs to the PILOs. All the courses in the BCCE programme have specific ILOs which are linked to the PILOs. The Panel also notes that each course specification clearly indicates the assessment methods utilised in the course; and that these methods are linked to specific ILOs within the course. This in turn means that the graduate attributes are not explicitly mapped to the PILOs but are covered in the delivery of the courses and by using different kinds of assessment. Interviewed staff show clear understanding of these attributes and their application by using appropriate assessment methods. The Panel acknowledges the programme team's effort in linking graduate attributes to the CILOs and the PILOs and encourages the College to clearly link the graduates' attributes to the PILOs.
- 3.2 AU has an official Benchmarking Policy and Procedure specifying the purpose, guiding principles and detailed benchmarking procedures. The policy requires that all AU programmes are benchmarked against programmes offered at leading international higher education institutions. The benchmarking process at AU is managed by a sub-committee of the Departmental Council and independent academics. In 2014-2015 an informal benchmark study for the BCCE programme was conducted by five faculty members in accordance to the AU's Benchmarking Policy and Procedure. The BCCE programme is a hybrid degree and the Benchmarking Committee identified four similar programmes offered in UK, Ireland and Lebanon. These programmes are Brunel's Bachelor's degree of Engineering in Electronics & Communication Engineering, Leeds's Bachelor's degree of Engineering in Telecom & Network Engineering, Dublin Institute of Technology's Bachelor's degree in Engineering Computer & Communication Engineering and American University of Beirut's Bachelor's degree in Electronics & Communications Engineering. During interview sessions, the programme team informed the Panel that no programme was selected locally because no similar programme is offered in Bahrain. The benchmarking process covered the structure of the programme and the details of course content and as a result, key gap areas were identified and presented to the Department Council and college management to update programme offering and its course content. Moreover, the benchmarked items were limited to the curriculum and course contents. The Panel studied the benchmarking report and notes that the study was conducted informally and heavily depended on the information available online. The Panel recommends that AU should establish formal relationships with the

institutions it wants to benchmark the programme with and expand the benchmarking process to include the academic standards of the graduates and the resources used. During interviews, academics and senior management indicated that the BCCE programme is further benchmarked against international professional body guidelines, such as the ACM/IEEE CE2004 guidelines and ABET Criteria for Accrediting Engineering Programs. However, the Panel found no evidence that the new IEEE CE 2016 curriculum guidelines are formally evaluated and utilized in the BCCE programme. The Panel encourages the programme team to evaluate the programme against current professional guidelines to ensure the currency of the programme and its compatibility with the needs of the profession.

- 3.3 AU has a comprehensive set of Assessment and Moderation policy that includes different aspects of the assessment procedures and mechanisms. The procedures are regularly revised, updated and well-known to students and academic staff. During interviews with academics, they highlighted the different kinds of internal verification/moderation and external moderation which are utilized by the programme team (more details in paragraphs 3.5 & 3.6). From interviews, the Panel confirmed that staff members including new recruits are well-informed of the assessment policies and procedures related to the BCCE programme. During interviews, the Panel was informed that to ensure that grades are correct/accurate, the Department Chairperson has to check and approve all students' grades before being placed on the intranet. In addition, the Centre for Accreditation and Quality Assurance (CAQA) collaborates with the Department to oversee the implementation of all assessment policies and procedures. According to interviews conducted during the site visit, AU has a standing committee entitled 'University Teaching, Learning and Assessment Committee' to follow up the feedback received from the Centre for Accreditation and Quality Assurance (CAQA) and revise the policy as needed. Staff interviewed, confirmed the above procedure and stressed that assessment procedures are carefully designed/aligned to achieve CILOs and PILOs. The Panel appreciates that the assessment procedure is consistently implemented, monitored and revised as needed.
- 3.4 The BCCE programme team follows AU's procedures to align the assessments with CILOs and PILOs to assure the academic standards of the graduates. According to the process, two kinds of internal verification occur. Verification for course syllabus/specification and verification for assessment (final laboratories reports, final examination, and any major piece of work). An appointed verifier by the Department Chairperson is responsible to review the course specification and ensure that the CILOs are measurable and assessment tools are properly linked to them. Moreover, he/she verifies the assessments tools utilized. External moderation, on the other hand, is a post moderation that occurs at the end of the semester to verify course syllabus/specification, assessment tools and course grade distribution. To ensure alignment of

assessment tools to the CILOs, AU has developed an ILO Assessment Matrix. The Panel studied the matrix and is satisfied that it enables a sufficient alignment. Moreover, students' achievement of CILOs is discussed at department level. During the site visit, the Panel scrutinized a number of course files and found that formative and summative assessment were documented and both were robust in ensuring that the CILOs have been addressed. The Panel acknowledges that in general the assessment tools are appropriately aligned to the CILOs of the BCCE courses. Interviewed senior management clarified that AU conducts regular capacity building workshops on assessment methods, CILOs and PILOs to address staff's professional needs and ensure that all faculty members including newly appointed ones are familiar with these topics. The Panel is satisfied with the current implemented mechanism to ensure that all forms of assessment are aligned with their respected ILOs. Nonetheless, the Panel is concerned as detailed in paragraph 3.8, that the institution does not measure the level of students' achievement of the PILOs.

- 3.5 AU has a well-documented procedure on internal moderation/verification which is followed by the BCCE programme team. The procedure stipulates that each course syllabus and its final examinations (laboratory Final Examination Reports, Final Examination) and any major piece of work ought to be internally verified by an appointed faculty member nominated by the Chairperson of the Department at the beginning of each semester. The Panel noted that the internal moderator/verifier is selected to verify courses related to his/her specializations provided also that he/she has taught the course before. According to the procedure, a form entitled 'Internal Verification of Course Syllabus/Specifications' is to be filled and passed to the course instructor to alter the course specification if required before distributing it to the students at the commencement of the semester. In case of verifying final examination, a different form 'Internal Verification of Final Examination' is used; and once filled it should be passed to the Department Chairperson before students set for the final examinations. Interviewed verifiers clarified that they have to check the structure of the question paper, marking rubrics, ensure that each question covers at least one of CILOs, the appropriateness of the questions in terms of language used and ensure that the given examination suits the course level. From interviews, the Panel confirmed that results of the final examinations were also subjected to post internal moderation by the Internal Moderation Committee which comprises the Chairperson, the instructor/course coordinator in the case of multi-section courses and a third faculty member. This committee moderates students' final examination marks including scripts with low, average and high score ones. During interviews, academic staff indicated that they consider and apply moderation feedback and in the process continually improve the course quality. They also highlighted that the CAQA monitors the process closely to ensure that all courses are internally verified/moderated. The Panel appreciates that a good system for internal moderation is in place to ensure the roles and responsibilities of each involved party.

- 3.6 The BCCE programme team follows AU's external moderation procedure which is conducted every semester for each academic programme. According to the procedure, at least 20% of the programme courses ought to be externally moderated each year. External assessors/examiners whether being local, regional or international are recommended by the Department and subject to College and University Council approval. Once approved, they are appointed for two years. A description of the role of the external assessors is detailed in the AU Assessment Manual. Interviewed staff clarified that the role of external assessors is to produce a comprehensive report on the programme and course specification, the linkage between the course and programme ILOs, questions of the final examinations, any major piece of work allocated more than 20% and its related marking criteria, model answers, marking rubric, course grade distributions and a random sample of students final examination scripts with different marks. During interviews, staff highlighted that the external assessor feedback is incorporated where appropriate after discussing it at the department level before passing it to the Vice President for Academic Affairs and /or Assessment Committee. Any suggestions, improvements or alteration from the external assessor will be considered in the following academic year. Staff gave examples of comments they received and acted upon including alignment of ILOs to assessment and requesting course instructor to give more than one quiz during the semester. These recommendations were incorporated in their respected courses. The Panel studied samples of the external assessor reports and acknowledges that there are processes to ensure that external assessors' feedback is disseminated and acted upon. Nonetheless, the Panel notes that only one external assessor is utilized for the BCCE programme. Therefore, the Panel recommends that the College should utilize more than one external assessor to ensure that the range of their specialization is suitable to assess each course according to its nature and requirement.
- 3.7 During the site visit, the Panel was provided with samples of students' assessed coursework such as moderated scripts, quizzes and examinations along with course material from first year to fourth year. The Panel is satisfied that the assessment tools are well-aligned with the CILOs. Moreover, the graded coursework is of an acceptable standards, similar to programmes offered regionally and internationally, and the awarded grades reflect the level of students' work. The Panel further evaluated research projects produced in the (Research Methods in IT and Engineering/ (IERM498)) course and noted that these projects cover different areas and are in general of an acceptable level. The Panel acknowledges that the level of student work is appropriate to the nature of programme and its level. During interviews, students indicated that they were obliged to check their work against plagiarism by using 'Turnitin' before submitting it. Although interviewed staff confirmed students' remark; yet the Panel was concerned that a few cases of plagiarism was spotted in the samples of students' work submitted to the Panel. The Panel recommends that the



programme team should improve the effectiveness of the plagiarism detection methods.

- 3.8 The College of Engineering makes good efforts to scrutinize its graduates' achievement by ensuring that the BCCE programme team fulfils the objectives of the programme and its ILOs. This is done internally by examining and analysing students' results in all courses, securing appropriate placement for the internship and assessing students in selecting relevant and updated topics for their final projects. For external scrutiny, firstly when employers complete the surveys sent by AU; secondly Advisory Board members are rich resource to gauge graduates' achievement in the workplace. Interviews with employers, showed a very positive feedback on the graduates performance and their quick ability to adopt and accept any given task. Moreover, they were pleased to recruit those who conducted their internship at their organizations. Students GPA for this cohort ranged from distinction 34% to good 43%. The average time for a BCCE student to graduate is 4.5 years, which is at an acceptable level for a four year programme. Another implemented mechanism to evaluate graduates achievement is the external assessors who look at the programme structure, course specifications, ILOs, examinations and students work as mentioned earlier. This in turn enables the College to ensure that its graduates are similar to the ones graduating from other institutions whether locally, regionally or internationally. Nonetheless, the Panel was not provided with any mechanism used by the programme team to assess the level of each PILO's achievement on a cohort or student individual level. The Panel recommends that the College should develop and implement a mechanism to assess/evaluate the level of each PILO's achievement on a cohort or student individual level.
- 3.9 According to the SER statistics, the mean length of study of BCCE students is 4.21 years with a standard deviation of 0.66 year since the inception of the programme. This is a good indicator for a four year programme. The total number of graduates to date is 108 which is accumulative of 53, 22, 16 and 17 graduating in 2011-2012, 2012-2013, 2013-2014 and 2014-2015 respectively. The SER states that 37 out of 180 graduates, i.e. (67.59%) of them have been employed in 2011-2012 and of those employed 91.78% proceeded to appropriate employment.' Since programme inception and according to the provided statistics 19.6% discontinued their studies and 74.2% have either graduated or are currently enrolled including temporarily withdrawn. The Panel acknowledges that the statistical data is consistent with what is expected from this type of programme.
- 3.10 As stated earlier the BCCE programme has a work-based learning (INTR432) in its structure. The internship programme (INTR432) is managed by the Directorate for Students Career and Recruitment at AU in collaboration with the BCCE programme team. The Internship Office also assists students in selecting a suitable company from

a list of companies associated with the University. Clear procedures are in place to ascertain that a systemic implementation is followed by all involved parties (student, academic supervisor and workplace supervisor). Approval from AU has to be granted if a student finds a placement in any of the unlisted organization. The academic supervisor visits the student regularly to meet the student and his workplace supervisor to ensure that the student is on track and the tasks given are relevant and appropriate to the level of a bachelor's degree. Students submit bi-weekly forms to the academic and industrial supervisor and upon completion of the internship, each student has to write a final report which will be evaluated by both the academic and industrial supervisor to agree on the overall performance of the students and agree on the grade. When touring the facilities, the Panel met members of the Internship Office who gave detailed explanation on how the internships are organized, their administrative processes, reporting, support structures and how and when they provide their stamp of approval. The Panel notes that students who have completed the internship appreciated the internship requirement as it gave them the opportunity to work with potential employers. The Panel's interviews with employers revealed their high satisfaction with the performance of the students during the internship and their ability to transfer theoretical knowledge and put it in practice. Interviewed alumni confirmed employers point of view and stressed that they learned a lot and managed to reflect what they acquired and put it into real world situations to face the challenges of the workplace. A number of alumni indicated that they are employed in the same organisation they conducted their internship programme. The Panel appreciates that there is a well- executed procedure for the internship programme conducted by Internship Office.

- 3.11 The BCCE programme has clear guidelines for the undergraduate project (ECCE499) to govern its implementation. The guidelines state the processes for the undergraduate project, roles and responsibilities of the various parties (student, supervisor, two internal examiners), examination and deadlines. According to the SER, students have to take Research Methods in IT and Engineering course (IERM498) before registering for the final project course. The allocated supervisor utilizes ADREG to record student meetings and progress. The Department Chairperson tracks the supervision process by using ADREG as well. During interview sessions, it was highlighted that more than one party is involved in evaluating students' projects including the Department Chairperson, the project supervisor and the Internal Examiner and Examination Committee. Interviewed students complemented the programme team as they allowed them to select the topics of their projects which enabled them to work on areas of their interest as long as they could secure a supervisor who is specialised in this area. Interviewed staff confirmed students' remark and stressed that the graduation projects allow students to work independently to enhance their knowledge and put it into practice. The Panel reviewed samples of students' graduation projects and is

satisfied that the level of these projects is in general acceptable. The Panel appreciates the clear, transparent and well-implemented guidelines for the graduation project.

- 3.12 There is one External Advisory Board that serves both the College of Engineering and the College of Information Technology (CEAB) with members holding senior positions in private and government sectors along with heads of professional organizations and AU alumni. Roles and responsibilities of the Board members are clearly stated in guidelines governing its function. The Panel studied the CVs of the board members and notes that they are of high calibre and include programme alumni. Nonetheless, the Panel is of the view that the Advisory Board could benefit from expanding its membership to include more engineers. Minutes of meetings provided to the Panel on site show that members take their role seriously, provide feedback and ensure that action plans are drafted and acted upon. During interviews with CEAB members, it was evident that the programme receives useful feedback from the CEAB; one example amongst others is to modify the professional courses taught in the programme. The Panel appreciates the role of the CEAB in providing useful feedback to improve the delivery of programme and enhance its linkage to local market needs.
- 3.13 Two annual surveys to measure the level of AU alumni and their employers' satisfaction are conducted by the Centre for Measurement and Evaluation. The Centre analyses these surveys to get feedback on the programme delivery and the academic standards of its graduates. According to the analysed surveys, alumni and employers are satisfied with the programme and its structure. The employer survey shows that 86.5% are satisfied with the graduates' level and are willing to hire them. The alumni survey indicates that 74.6% of the alumni are satisfied with the programme content and its delivery. Interviews with employers and alumni show positive feedback towards the BCCE programme. The alumni expressed their satisfaction with the efforts of the programme team to facilitate their learning experience. The Panel acknowledges that employers' and alumni are satisfied with the programme and its delivery.
- 3.14 In coming to its conclusion regarding the Academic Standards of the Graduates, the Panel notes, *with appreciation*, the following:
- Assessment procedures are consistently implemented, monitored and revised as needed.
  - A good system for internal moderation is in place to ensure the roles and responsibilities of each involved party.
  - There is a well- executed procedure for the internship programme conducted by the Internship Office.
  - There are clear, transparent and well-implemented guidelines for the graduation project.

- There is an active Advisory Board on the college level with clear remit that provides effective feedback used to enhance the programme and its linkage to local market needs.

3.15 In terms of improvement, the Panel **recommends** that the College should:

- establish formal relationships with the institutions AU wants to benchmark itself with; and expand the benchmarking process to include the academic standards of the graduates and the resources used
- utilize more than one external assessor to ensure that the range of their specialization is suitable to assess each course according to its nature and requirement
- improve the effectiveness of the plagiarism detection methods
- develop a mechanism to assess/evaluate the level of each PILO's achievement on a cohort or student individual level.

### 3.16 **Judgement**

On balance, the Panel concludes that the programme **satisfies** the Indicator on **Academic Standards of the Graduates**.

#### **4. Indicator 4: Effectiveness of Quality Management and Assurance**

*The arrangements in place for managing the programme, including quality assurance and continuous improvement, contribute to giving confidence in the programme.*

- 4.1 The University Policies and Procedure Manual includes a comprehensive set of policies regarding aspects of governance, quality assurance, programme development, human resources, accounting, purchasing, ICT, benchmarking, promotion along with other administrative aspects. The custodian of these policies is the Centre for Accreditation and Quality Assurance (CAQA) at AU. There is also a Quality Assurance Manual for all the policies and procedures related to quality assurance such as admissions, programme development and programme reviews. The policies are well structured and have gone through a rigorous approval process. From interviews, the Panel learned that policies are reviewed and, if necessary, revised on a regular basis at least every three years or earlier if needed as stated in the Development of New, Review and Closure of Existing Academic Programmes document. Policy development takes place mainly in committees before approval proceeds through the various university levels. Any significant changes to the policies are presented at seminars to allow for discussion and feedback. During interviews with staff, the Panel confirmed that there is good awareness of policies amongst academic and administrative staff members and policy changes are communicated in meetings or by email or through AU's Intranet. As mentioned earlier, new staff members are provided with an overview of the policies during their induction programme. The Panel appreciates that there is a mechanism that governs the introduction and implementation of policies and procedures related to the programme and staff members are well-aware of policies related to their work.
- 4.2 The Chairperson of the Department is ultimately responsible for the programme and represents the programme in the CAQA and the College Council. The Chairperson also leads the Department Council which is the first body approving any matters relevant to the programme. The Chairperson reports to the Dean of the College of Engineering, who is closely involved in the overall management of the programme. According to the SER the College Programme Review Committee (CPRC) which is chaired by the Department Chairperson is utilized to 'generate new ideas and initiatives' to develop the programme; and it is the responsibility of the Chairperson to report back to the Department Council and College Council on these issues. From interviews with academic and administrative staff, including representatives from CAQA, the Panel noted that the Dean provides a lot of support for the Department which leads to effective leadership of the programme. The Panel acknowledges that the programme has a responsible effective leadership which facilitates its activities.

- 4.3 The Ahlia University Quality Assurance Manual contains extensive policies related to the quality assurance management system and describes the overall QA structure at the institution. The Panel studied the Quality Assurance Manual and notes that it covers the different needed aspects to ensure the quality of the programme and its delivery. The University Quality Assurance Committee (UQAC), Ahlia University Quality Management System (AUQMS), the CAQA and all university-level committees are key bodies responsible for the implementation, monitoring and evaluation of the quality assurance management system. Moreover, the College and Department Councils complement and support the efforts of the CAQA. Interviewed staff confirmed that all these entities are heavily involved in ensuring that all quality assurance aspects are covered across the institution. The Panel appreciates that the quality management system is rigor and consistently implemented, monitored and evaluated to enhance the delivery of the programme.
- 4.4 The University has made use of various means to ensure academics and support staff have a thorough understanding of the internal quality assurance system within the institution and their role in assuring the quality of the programme delivery. The CAQA conducts regular training workshops for all staff members and collects attendees feedback which indicates their satisfaction with these workshops. Moreover, all staff members are assigned to serve in different committees to disseminate good practices to their departments either in Department Council meetings or through AU's Intranet. In discussions with various staff members, the Panel confirmed the high level of knowledge staff members have in regards to their role in the internal quality assurance system and their commitment to its implementation. The Panel appreciates that staff members are aware of and committed to the implementation of quality assurance policies and procedures related to the programme.
- 4.5 In 2014, the University revised its Policies on the Development of New, Review and Closure of Existing Academic Programmes. The process of developing a new programme starts with the College preparing a proposal after conducting a feasibility study and market needs analysis. The proposal has to go through official channels such as College Council, Curriculum Committee and University Council. Once approved, a request has to be submitted to the Higher Education Council for licensing. Interviews with the senior management revealed that currently there are no plans to introduce new programmes. The Panel is satisfied with the procedures that AU follows when developing and introducing new programmes.
- 4.6 An internal evaluation of the programme is conducted at the beginning of each semester during which each course syllabus is evaluated in terms of ILOs, teaching and assessment methods and textbooks. The assigned verifier has to complete a form entitled 'Internal Verification of Course Syllabus/Specification'. Each course instructor receives a verification on his/her courses to enhance these courses prior to the

beginning of the semester as clarified in the SER and confirmed during staff interviews. The internal programme evaluation also considers students' feedback collected from surveys distributed at the end of the semester and feedback collected from the Advisory Board. From interviews, the Panel learned that these internal reviews have resulted in changes, such as the selection of textbooks for courses and revision of CILOs. The Panel appreciates that there is a clear procedure for the annual internal evaluation of the programme which results in enhancing its delivery.

- 4.7 According to the institution processes, every academic programme ought to be reviewed every three years to ensure that it is relevant, up-to-date and meets labour market needs. There is a 'Quality Periodic Programme Review and Utilization of Feedback' procedure to 'ensure that the structured comments are utilised in the programme improvements' as stated in the SER. The periodic review involves several parties including the Department Programme Review Committee, Curriculum Review Committee, the Teaching, Learning and Assessment Committee (TLAC) and is overseen by the CAQA. The process of the periodic review requires feedback from course tutors, alumni and employer surveys, benchmarking and market research studies, student evaluations and input from the College External Advisory Board. The Panel learned from interviews with staff that the inclusion of CISCO component in the curriculum is an example of a change that was initiated as a result of the latest periodic review. Currently, admissions criteria are being reviewed for suitability and appropriateness. At the end of the review, the Department Programme Review Committee documents their findings and forward them to the Department Council for possible action. The Panel acknowledges that the process for the periodic review has been recently implemented and encourages the College to ensure its consistency.
- 4.8 Internal and external stakeholders' feedback is collected by the Centre for Measurement and Evaluation (CME) through surveys distributed to students, alumni and employers. The CME has recently conducted and analysed student feedback on the quality of course offering and evaluations of instructors. The analysis is passed to the Department, College and University Councils for discussion. The alumni surveys aim to acquire data on the quality of the programme and their learning experience at AU. Based on information received during interviews with academic and CME staff members, the Panel learned that employer and alumni surveys are conducted every three years. As the sample size has been small so far, the information collected has had limited statistical value. Although the Panel acknowledges the efforts of the CME staff members in conducting these surveys; yet it is recommended that the College should establish a systemic procedure to analyse all surveys and take actions in a holistic manner to enhance its programmes offering.
- 4.9 The Ahlia Training and Development Centre (ATDC) main responsibility is to address academic and administration staff members' professional needs. At the beginning of

each academic year the ATDC starts assessing training needs by collecting feedback from all staff members, designing an Annual Professional Development Programme (APDP), implementing the training needs and ending by monitoring and evaluating the conducted activities to incorporate any kind of improvement or enhancement. Furthermore, interviewed staff members indicated that most of them had at least attended one conference last year as part of exposing them to international good practices. During the site visit, the Panel learnt that some of the training workshops are organized to fulfil individual staff needs related to their field or their personal development such as teaching, research, technical skills, managerial skills and people skills. Moreover, the ATDC collects participant feedback to evaluate the effectiveness of the workshops. The outcome of these surveys and faculty interview session reveals that staff members are highly satisfied with the workshops provided to them. The Panel appreciates the efforts of the ATDC to cater for all AU staff members needs by organizing different kinds of workshops and evaluating the effectiveness of their offerings.

- 4.10 The SER states that the College of Engineering depends on its internal and external stakeholders to scope labour market needs. The alumni, CEAB members, employers are all involved in the process either *via* surveys or face-to-face meetings. During interview session, the Panel was informed that outcomes of alumni and employers surveys provide information to the programme team on the labour market needs as most of the employers have well-established organizations with many years of experience in Bahrain's market. Furthermore, the College considers all the studies conducted by Tamkeen and benefited from them by placing more emphasis on technical skills in the programme to move away from the theoretical approach as stated in the SER. Nevertheless, the Panel is of the view that the College could do more with respect to scoping labour market as no formal mechanisms are in place for the continuous scoping of the national and regional labour market needs especially in light of low number of student enrolment in the programme. The Panel recommends that the College establish and implement a formal mechanism for scoping labour market needs to enhance the programme content and its delivery.
- 4.11 In coming to its conclusion regarding the Effectiveness of Quality Management and Assurance, the Panel notes, *with appreciation*, the following:
- The College has a mechanism that governs the introduction and implementation of policies and procedures related to the programme and staff members are well-aware of policies related to their work.
  - The current quality management system is rigor and consistently implemented, monitored and evaluated to enhance the delivery of the programme.
  - Staff members are aware of and committed to the implementation of quality assurance policies and procedures related to the programme.



- There is a clear procedure for the internal evaluation of the programme which results in enhancing its delivery.
- There are well-implemented processes for the periodic review and actions taken are to improve the quality of the programme and its structure.
- The efforts of the Ahlia Training and Development Center to cater for all AU staff members needs by organizing different kinds of workshops and evaluating the effectiveness of their offerings.

4.12 In terms of improvement, the Panel **recommends** that the College should:

- establish a systemic procedure to analyse all the surveys in a holistic manner and take actions to enhance the delivery of the programme
- establish and implement a formal mechanism for scoping labour market needs to enhance the programme content and its delivery.

#### 4.13 **Judgement**

On balance, the Panel concludes that the programme **satisfies** the Indicator on **Effectiveness of Quality Management and Assurance**.

## 5. Conclusion

Taking into account the institution's own self-evaluation report, the evidence gathered from the interviews and documentation made available during the site visit, the Panel draws the following conclusion in accordance with the DHR/QQA *Programmes-within-College Reviews Handbook, 2012*:

**There is confidence in the Bachelor's Degree in Computer and Communication Engineering programme of the College of Engineering offered by Ahlia University.**