

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



# Directorate of Higher Education Reviews

## Programmes-within-College Reviews Report

**Bachelor of Engineering Technology**  
**Faculty of Engineering, Design and ICT**  
**Bahrain Polytechnic**  
**Kingdom of Bahrain**

**Date Reviewed: 5-8 October 2015**  
HC070-C2-R070

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## Acronyms

APR	Annual Program Review
AQAC	Academic Quality Assurance Committee
AUT	Auckland University of Technology
BET	Bachelor of Engineering Technology
BPQF	Bahrain Polytechnic Qualifications Framework
BP	Bahrain Polytechnic
CAC	Curriculum Advisory Committee
CAP	Certificate in Academic Preparation
CILO	Course Intended Learning Outcome
CLP	Cooperative Learning Project
CSB	Civil Service Bureau
CTTL	Certificate in Tertiary Teaching and Learning
DHR	Directorate of Higher Education Reviews
EDICT	Faculty of Engineering, Design and ICT
HEC	Higher Education Council of the Ministry of Education, Kingdom of Bahrain
ILO	Intended Learning Outcome
LO	Learning Outcome
MIS	Management Information Systems
NQF	National Qualifications Framework
PAD	Programme Approval Document

PBL	problem based learning approach
PILO	Programme Intended Learning Outcome
QMAP	Quality, Management and Analysis Unit
QQA	National Authority for Qualifications & Quality Assurance of Education & Training
SER	Self-Evaluation Report

## **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 Bahrain Polytechnic**

A Programmes-within-College review of the Bahrain Polytechnic 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 5-8 October 2015 for the academic programmes offered by the college, these are: Bachelor of Engineering Technology; Bachelor of Information and Communications Technology; Bachelor of Web Media and Bachelor of Visual Design.

This report provides an account of the review process and the findings of the Panel for the Bachelor of Engineering Technology (BET) based on the Self-Evaluation Report (SER) and appendices submitted by the Bahrain Polytechnic (BP), the supplementary documentation made available during the site visit, as well as interviews and observations made during the review site visit.

BP was notified by the DHR/QQA in 16 April 2015 that it would be subject to Programmes-within-College reviews of its Faculty of Engineering, Design and ICT with the site visit taking place in 5-8 October 2015. In preparation for the review, BP conducted its faculty self-evaluation of all its programmes and submitted the SER with appendices on the agreed date in 15 June 2015.

The DHR constituted a panel consisting of experts in the academic field of Bachelor of Engineering Technology and in higher education who have experience of external programme quality reviews. The Panel comprised nine external reviewers.

This Report records the evidence-based conclusions reached by the Panel 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 the BP will use the findings presented in this report to strengthen its Bachelor of Engineering Technology programme. The DHR recognizes that quality assurance is the responsibility of the higher education institution itself. Hence it is the right of BP to decide how it will address the recommendations contained in the Review Report. Nevertheless, three months after the publication of this Report, BP is required to submit to the DHR an improvement plan in response to the recommendations.

The DHR would like to extend its thanks to BP 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 the BP staff in general.

### **C. Overview of the Faculty of Engineering, Design and ICT**

Bahrain Polytechnic was established by Royal Decree No. 65 for the year 2008 to address the need for a skilled Bahraini labour force, with the aim of supporting economic growth and diversification. Labour market surveys lead to recommendations for programmes to be offered by the new Bahrain Polytechnic, being a provider of applied higher education. The faculty of Engineering, Design and ICT was established to develop professional and enterprising graduates in the domains of engineering, technology and creative communication who have the necessary skills to transform those industries and fill the needs of the current Bahraini and GCC markets. The Faculty of Engineering, Design and ICT offers four programmes and comprises of three schools being; Engineering, ICT & Web Academy and Visual Design. The School of Engineering offers the Bachelor of Engineering Technology with majors in Electronics and Mechanical Engineering. The School of ICT & Web Academy offers the Bachelor of Information and Communication Technology with majors in Programming, Management Information Systems, Networking and Database Systems, as well as the Bachelor of Web Media. The School of Visual Design offers the Bachelor of Visual Design. At the time of the site visit the Faculty of

Engineering, Design and ICT had 57 full-time and one part-time academic staff with 12 full-time administrative staff. The total number of students in the Faculty was 616 students. The great majority of registered students were Bahrainis with a few students being from neighbouring countries.

#### **D. Overview of the Bachelor of Engineering Technology**

The Bachelor of Engineering Technology Programme (BET) offered by the School of Engineering at Bahrain Polytechnic is currently running two Majors, the Mechanical Major and the Electronics Major. This programme was originally created in order to produce engineering technologist graduates to address the market needs in terms of work-ready, technically competent engineering technologists with strong practical skills. Since its start, six years ago, the BET Programme has undergone several development and improvement phases after consultation from the local industries in Bahrain (through the Curriculum Advisory Committee) and after evaluation from international experts both from Industry and Academia. The programme was offered without interruption since the start in 2009. The programme had its first intake in 2009, where 43 students registered in both first and second semesters, and 11 students were the first graduates of the programme who graduated at the end of 2012-2013, with five graduates from the Electronics major and six graduates from the Mechanical major. At the time of the site visit the total number of graduates were 77, the programme had 181 registered students and there were 18 faculty members contributing to this specific programme.

#### **E. Summary of Review Judgements**

**Table 2: Summary of Review Judgements for the Bachelor of Engineering Design**

<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 Bahrain Polytechnic has vision and mission statements that have been derived from Bahrain's Economic Vision 2030, whereas the mission of the institution is to 'produce professional and enterprising graduates with the 21st Century skills necessary for the community locally, regionally and internationally'. The strategic goals of BP have been recently revised and the goals for 2015-2019 period include sustainability, graduate reputation, assurance of learning, engagement for impact and Incubating entrepreneurship and research, which are also reflected in the strategic plan of the Faculty. Moreover, there is an academic planning framework for the BET programme which clearly sets out the aims of the programme. These aims are specified for each of the two majors of the programmes and are documented in the BET Programme Approval Document. The Panel was informed, during interviews with staff, that the programme aims were developed to achieve the institution's mission and the strategic plan of the Faculty, where focus of the BET programme is to 'provide students with a comprehensive set of skills for employment as engineering technologists'. The aims also include producing graduates with theoretical, practical and analytical skills who can design engineering systems, and who are capable of working effectively in teams and having good communication skills. The Panel appreciates that there are clear programme aims which are suitable to the type of the programme and contribute towards the achievement of the mission of BP and the strategic plan of the Faculty.
- 1.2 The BET programme and its intellectual property were originally purchased from Auckland University of Technology (AUT), an accredited provider of Engineering Technology. It has two majors; Electronics and Mechanical and there is a Programme approval Document (PAD) for each major that details the programme requirement and specifications. The programme curriculum delivered over four years and is organised to provide a structured progression in each of the two majors. Students need to complete 480 credits (each credit equates to 10 nominal hours), 370 of which are compulsory for the Mechanical major or 330 for the Electronics major. These include a Co-operative Learning Project or Engineering Research Project. Another 50 credits are optional for the Mechanical major or 90 for the Electronics major. For both majors, there are 60 credits that are assigned for general studies elective courses or any course not specific to this qualification. The Panel studied the curriculum and notes that both majors of the BET programme share a common first year, and that the student workload is appropriately managed to avoid overloads at any point in the programme. The normal workload for students are 60 credits per semester (equating to 600 nominal hours over 15 weeks) and students are normally limited to a maximum of 75 credits and a minimum of 50 credits per semester. Furthermore, the Panel notes that

specialisation courses in the BET programme have a practical component along with the theoretical. Such courses include practical assignments or projects that aim to strengthen the taught theory, as reflected in the Gradebook section of the Course Descriptor. The fundamentals within the curriculum are established in years 1 & 2 and thereafter students are introduced to problem-based learning (PBL) approach in final years. After studying the curriculum, the Panel notes that the arrangements in place support the delivery of a programme that utilises a problem based learning approach with an appropriate balance between theory and practice. Moreover, the courses are organised to provide a clear and logical academic progression, where registration is regulated by prerequisite, and co-requisite courses. Furthermore, course specialisation according to the major, as well as the course level, are clearly stated and the curriculum is provided in a PBL approach, which includes a number of industrial engagement, that provides the student with the opportunity to get involved in real-world applications and problems. The Panel appreciates that the curriculum is appropriately organised to provide a practical delivery approach for the BET programme that supports academic progression with suitable student workload and balance between theory and practice.

- 1.3 The BET programme contains course descriptors that are comprehensive and correspond to all aspects of the course, which include syllabi and weekly topics, appropriate Course Intended Learning Outcomes (CILO), assessment methods, CILO mappings, and suggested books. The Panel studied the course documents provided on 'Moodle' and noted some inconsistency in content of course modules on 'Moodle' and this was confirmed by tutors that no specific format for content on 'Moodle' exists. The Panel studied the provided syllabus and notes that the syllabus generally meets the requirements for a programme in the engineering field in terms of its breadth, depth, relevance and currency. Nonetheless, the Panel notes that research outcomes are insufficiently used to enhance the syllabus. The Panel recommends that course material be further enhanced with latest research outcome to enrich the student learning experience. As stated earlier, the programme was purchased from Auckland University of Technology (AUT) where the syllabus were also included in the initial purchase of the programme. During interviews, the Panel was informed that the curriculum and syllabus were contextualised by BP tutors whom have international engineering and higher education experience. Furthermore, updates were implemented with consultation of Curriculum Advisory Committee (CAC) and were subjected to two external reviews; one in 2012 by an International reviewer and the other in 2014 by an International panel of reviewers. However, the Panel notes that there is no evidence of direct feedback from industry that is currently being utilised for programme development and recommends that further contextualisation of the curriculum and its syllabus to be continued through acquiring direct and formal feedback from local industry to ensure that the programme is fit for local needs.

- 1.4 The BET Programme Approval Document (PAD) for each of the two majors, Electronics and Mechanical, specify the aims of the qualification and the Qualification/Programme Learning Outcomes, which are also named the Graduate Profile. The Programme Intended Learning Outcomes (PILOs) are classified into knowledge and theoretical understanding, knowledge of practical applications, employability and enterprise skills. The PILOs are available on the 'Sharepoint' and 'Moodle' for both staff and student's use, and during interviews, the Panel noted that both staff and students are aware of the learning outcomes. Moreover, the original BET programme was purchased from an accredited international provider to ensure that learning outcomes, completion requirements, course content and assessments were at an appropriate level. The Panel notes that the PILOs related to subject specific skills focus on problem solving, modelling, designing, and applying various methods and tools, which are appropriately written and measurable. These are mapped to the programme aims in an appropriate manner, emphasising extensive problem-based and project-based learning approaches, with a leaning towards graduating enterprising professionals in keeping with BP's mission. The Panel appreciates that the PILOs are mapped appropriately to the programme aims, well written, measurable and suitable for each programme major requirements.
- 1.5 There are approved course descriptors for every course in the BET programme that specify the Course Intended Learning Outcomes (CILO) and is subject to thorough checking and approval from the BET Programme Committee, the Faculty Board and the Academic Quality Assurance Committee (AQAC). The checks and approval processes on the course descriptors are conducted prior to each semester, in order to make sure that the delivery of the course is directly aligned with the programme aims and links to the PILOs. The course descriptors include specific learning outcomes (LOs), each of which link to the PILOs of the BET programme. The Panel studied the provided course files and notes that there are clear statements of the CILOs in three categories, namely: Generic Transferable Skills, Knowledge and understanding, and Practice covering applied knowledge and understanding. Moreover, the CILOs were effectively benchmarked during the programme purchase to ensure that these are appropriate to the aims and the level of the courses. The Panel also notes that the CILOs are appropriately mapped to the PILOs (Graduate Profile) in each course descriptor as well as having a mapping matrix in the PAD linking all courses to the PILOs. During interviews with the staff and students, the Panel confirmed that they understand the purpose and meaning of the learning outcomes. The Panel appreciates that there are clearly stated CILOs that are appropriate to the aims and the level of the courses and are appropriately mapped to the PILOs.
- 1.6 According to the SER, all students are required to complete 80 days of work experience during their studies as a non-credit but compulsory completion requirement. The work placement logbook provides information for the employer and the student. It

provides instructions for the employer on completing the logbook as well as guidelines for students on their rights and responsibilities. The logbook also contains an evaluation section to be filled by the employer on the performance of the student. Additionally, the BET programme has incorporated into its curriculum an optional course called Co-operative Learning Project (CLP) (ENB7904 Electronics and ENB7910 Mechanical) which is undertaken by engineering students in their last semester of studies. An industry liaison team, in coordination with CAC committee, is responsible for allocating the engineering students to interested engineering companies in Bahrain in order to undertake their CLP project. The students are involved in the solution of an Engineering problem/project where they act as industry consultants in terms of working towards solving a real Engineering problem, by applying the knowledge gained in the previous years of their degree, under the general supervision and guidance of a Faculty member. The alternative option is the Research Project (ENB7098 Electronics and ENB7911 Mechanical) for more theoretically oriented students. The two courses are mapped to the PILOs appropriately covering the practical application of knowledge. There are appropriate CILOs in the course descriptors to apply specialist skills in the major concerned and demonstrate employability skills suitable for a graduate in both courses, as well as using appropriate research methodologies in the latter. These courses help the students develop both technical knowledge and skills. Assessment of work-based learning is covered in the Assessment and Moderation Policy, and in the Offsite and Workplace Activities Policy. The CLP course is assessed in five categories; the project proposal (5%), the progress reports (20%), the project presentation (15%), the project demonstration (40%) and the final project report (20%). Assessment procedures for the aforementioned courses are stated in their respective course descriptors and are clearly documented in the project logbook. The Panel noted from the course files that appropriate rubrics and presentations of the completed projects including weekly/progress reports were part of available evidence. The Panel appreciates that the industrial experience incorporated in the work based learning components of the BET programme provides an enhanced skills base to augment the practical aspects of the programme which contributes to improved career prospects.

- 1.7 In line with its mission, BP provides student-centred education using a problem based learning approach (PBL), which is implemented in the delivery of its programmes, including the BET programme. The BET PAD describes the delivery philosophy and teaching and learning strategies, through a mixture of lectures, tutorials, laboratory work, supervised projects and workplace experience. PBL philosophy is introduced at the start, and the level of BPL application is gradually increased as students' progress through to the final year courses. A PBL implementation plan is currently being developed to enhance the delivery of the BET programme. The Panel notes that interviewed students are satisfied with the PBL approach that is implemented by most tutors, a view which is also reflected in student surveys. Course files and interviews

with both faculty and students provided evidence of the use of a wide range of teaching and learning methods. However, course descriptors do not list the teaching methods to be employed per week or linking them to particular topics and ILOs. The Panel suggests that teaching methods to be mapped accordingly. All tutors are required to complete the Certificate in Tertiary Teaching and Learning (CTTL) which is an in-house tutor training programme for student-centred approach. The Panel appreciates that the formal teaching plan used in delivering the course contents, which concentrates on problem-based learning approach, is conducive for student learning and supports the practically oriented programme in achieving the learning outcomes of the courses and thus the programme. Nonetheless, during the interviews, the Panel noted that staff need more assistance with the delivery of BPL approach, especially the new staff, to ensure consistency in the way the PBL approach is implemented. Furthermore, interviews with the students indicated that the PBL approach adopted by their instructors differs very much from all self-study methods the students have previously experienced, and the Panel is of the view that students need to be trained on the adopted BPL methods to further support their learning process. The Panel recommends that students and staff, especially new staff and first year students, receive more assistance on the BPL approach.

- 1.8 According to the SER there is an Assessment and Moderation policy that provides a comprehensive set of procedures and requirements relating to the design, moderation, administration and storage of assessment activities. Furthermore, the Panel noted from interviews that staff are also provided with a set of appropriate assessment and moderation guidelines, which can also be accessed online. The Panel was informed that prior to each semester the BET Programme Committee approves an assessment plan for each course, which is then reflected in the course gradebook, and the process involves monitoring the nature, purpose and timing of each assessment. During interviews, the Panel acknowledged that the assessment system and approach is well defined and organised with specific training to staff. Moreover, interviewed students confirmed that they are provided with a course outline which shows the nature and timing of all assessments and further stated that these course outlines are also available on the 'Moodle' for every course and accessible by students off-site. The Panel studied samples of the gradebooks and notes with appreciation that mark distribution is made course dependent and is adjusted according to the nature of the course by increasing the weight of the marks on the practical aspect of the courses in the latter years. The Panel notes that formative assessments are an on-going procedure where workshop and laboratory activities generate on-going feedback as students apply new knowledge and skills. Furthermore, feedback is provided to students after each assessment, both in the form of their results and a breakdown of how the result was calculated, along with how it could have been improved. In many instances, this feedback is incorporated into the marking rubric, which is provided to the students. The Panel notes that the assessment and moderation guidelines state that feedback,

written or oral, should be provided to students in a timely manner. Evidence of comprehensive feedback including comments and notes were noted in marked student scripts and assignments and interviewed students confirmed prompt and individual transparent feedback. Results are entered in 'Banner' Gradebook within ten working days after the assessment has been post-moderated, which are considered provisional until approved by Academic Board. During the interviews, the Panel also confirmed that students are aware of the Student Academic Appeal Policy and the appeal procedures. The Panel appreciates that there are well-structured assessment mechanisms that are flexible to cater for course requirements in meeting the programme aims and are well known by faculty and students.

1.9 In coming to its conclusion regarding The Learning Programme, the Panel notes, *with appreciation*, the following:

- Programme aims contribute towards the achievement of the institution's mission.
- The curriculum supports academic progression with suitable student workload and balance between theory and practice.
- The Programme Intended Learning Outcomes are appropriate for the programme type, mapped appropriately to the programme aims and are measurable.
- Course Intended Learning Outcomes are appropriate to the aims and the level of the courses and are appropriately mapped to the Programme Intended Learning Outcomes.
- Work based learning components of the BET programme provide an enhanced skills base that augment the practical aspects of the programme.
- The teaching plan is conducive for student learning and supports the practically oriented programme in achieving the learning outcomes of the courses and thus the programme.
- Assessment mechanisms cater for course requirements and meet the programme aims.

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

- further enhance the course material with the latest research outcome to enrich the student learning experience
- contextualisation of the curriculum and its syllabus to be continued through acquiring direct and formal feedback from local industry to ensure that the programme is fit for local needs
- provide more assistance to students and staff, especially new staff and first year students, on the BPL approach.

### 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 BP has clear and well-documented admission policy and procedures for all students applying to the different programmes of BP including the BET programme. To admit a student to the first year at BP, the applicant must have a high-school certificate with a minimum score of 70%, where the specialisation/stream is not specified. Further requirements for admission in the BET programme are; the successful completion of mathematics & English courses (ELC3203 English 2 & MAC3102 Mathematics 2) or Passing the English and mathematics selection tests at the required level. However, if an applicant does not meet these requirements he/she will be enrolled in BP's foundation programme. The policy on entry is regularly reviewed in accordance with the Policy on Creating Policies, which specifically outlines timeframes for policy review. During interviews with staff, the Panel was informed that the entry criteria to the programme are set and approved by the Academic Board and endorsed by the senior management team. Interviewed students and staff, show clear understanding of the policy and indicated that it is available on 'Sharepoint', BP's website and Student Handbook. The Panel appreciates that there are well documented admission policy and procedures suitable for the programme needs and the details of the requirements are reviewed annually.
- 2.2 Students enrol in the BET programme from both government and private schools where the average high school scores of students entering the programme is approximately 90%, ranging between 72% to 98% from 2012 to 2015, indicating a high calibre students' profile. Most of the admitted students are Bahraini nationals and enrol full time. Evidence provided to the Panel showed high pass and retention rates, further demonstrating that the programme is attracting an appropriate level and type of student. As stated earlier, students enter the BET program either through direct entry or after completing a Certificate in Academic Preparation (CAP), depending on the results of their entry tests. All but one of the students interviewed by the Panel had entered the BET programme after completing the CAP, all were from the science stream in high school and they generally viewed the CAP programme as being adequate to prepare them for the needs of the BET Programme. The Panel acknowledges that the profile of admitted students to the BET programme is appropriate for the level of the programme as indicated in students' pass rates.
- 2.3 The duties and responsibilities of BP's management and operational teams are clearly outlined in the submitted organisational chart in the SER. At the management level, the Dean has overall responsibility for the EDICT faculty, and is assisted by a Faculty Operations Manager and an Academic Quality Manager. Each of Faculty's three

schools is headed by a Head of School (Engineering, ICT & Web Academy, Visual Design) who report to the Dean. Reporting to the Head of School are two Programme Managers for each of the two majors of the BET programme (Mechanical & Electronics) who act as the line managers for the academic staff members. Additionally, a separate Programme Manager who is at the same level as the other programme managers administers the Year 1 programme. The Panel noted during interviews, that there is provision for the Head of School of Engineering to be assisted by a Workplace Specialist who would aid with maintaining links with local industry (in the form of work placements, projects etc.), but at the time of this review the position was vacant. The Panel recommends expediting the process of employing a suitable person for the role of Workplace Specialist to ensure that BP maintains currency with local industry. The respective job descriptions of the aforementioned managers are reported in Job Descriptions document. At the operational level, teaching staff who deliver course programmes are referred to as tutors, whom are informally ranked into senior tutors, tutors and assistant tutors. Laboratory technicians occupy a different technical level to teaching staff, and are managed by an Engineering Manager (who is at an equivalent level to the programme managers). Regular meetings are conducted amongst these entities and results are communicated to the Programme Manager after bi-monthly management meetings. Interviewed staff and students showed a strong knowledge and understanding of the hierarchy of the Faculty. The Panel appreciates the clear lines of accountability with regard to the management of the BET programme that is well established.

- 2.4 There are 14 faculty members (Five PhDs., Seven Master's, Two Bachelor, and one Post-Graduate Diploma) with a range of experience in both academic and industrial environments who contribute to the delivery of the programme. During the site visit, the Panel reviewed the CVs of the faculty members teaching in the programme and confirmed that there is an appropriate range of credentials for teaching in the BET programme. Furthermore, all staff members have taken the Polytechnic Certificate of Tertiary Training and Learning (CTTL). The staff workload is administered through the application of the Academic Workload Policy. On average, staff have 10.25 contact hours per week, and in 2014-2015, had an average of 3.71 hours of additional overtime work, and the Panel considers it to be within international standards. Whilst the Panel views the number of teaching staff being adequate, there is a clear and definite need to employ more technicians in particularly in the Electronics major programme, where only four technicians are available in the Engineering School which operates 17 laboratories. Interviewed students reported that staff were easily accessible and their availability can be checked through 'Moodle'. The ratio of students to staff is 10.27 and the average number of students in the classes is 11.6, with the maximum capped at 20. The Panel observed evidence of student numbers in the courses ranging from seven to seventeen students. The Panel is of the view that this is appropriate for PBL, being resource intensive and requiring extensive interaction by tutors. Additionally, in

classes which are heavily practical and may have additional risk factors (for example the Engineering Practice Course); the student to staff ratio may drop as low as 9:1. Research at Bahrain Polytechnic is limited due to lack of motivation for staff to get engage in research, which is influenced by limited resources and lack of incentives (e.g., promotion) to publish. However, research is still an important part of industry engagement however, and the Panel was pleased to observe that despite the challenges a few staff were still conducting research and publishing regularly. During interviews, several staff reported that despite the limitations they are still satisfied that BP did have an adequate framework for conducting research and that the institution was 'doing its best' to support them. Nonetheless, the Panel recommends that the Faculty introduce measures to support applied research amongst the teaching staff in their relevant technical fields.

- 2.5 BP has very clear, well-documented policies for the recruitment of new staff. BP is required to liaise with the Civil Service Bureau (CSB) (and its associated policies and guidelines) for staff recruitment. According to interview sessions with staff, BP communicates its recruitment requirements to the CSB, which then sub-contracts the sourcing of candidates to an external consultancy to perform an initial filtering. The Panel expressed concerns over this two-step process, which in the view of the Panel is rather a lengthy process especially if BP aims at retaining and hiring high-quality staff members. Interviewed, staff appeared to have had an almost identical recruitment process indicating consistency of recruitment in BP. Nonetheless, they expressed some concern over the length of time between initially applying for a position at BP and being sent an offer. Meanwhile, once physically on campus, staff unanimously reported a very high level of satisfaction with the orientation process. They reported receiving training on the teaching systems (e.g., 'Moodle' and 'Banner') as well as general lectures on different topics such as quality assurance policies and procedures, safety, and library resources. Furthermore, all staff members at BP are required to enrol on the Certificate of Tertiary Teaching and Learning (CTTL) course, which by all accounts is working well and highly appreciated by staff. The Panel appreciates that BP has a well established effective orientation programme for its new faculty. Moreover, staff indicated that they receive guidance and mentorship from colleagues but the process is not administered in a formal manner, and staff conducting the mentoring do not receive any incentive for this work. The Panel encourages BP to formalise the mentoring process. BP has a formal process for faculty appraisal. Faculty meet yearly with their direct line managers to discuss performance. Interviewed faculty reported a high level of satisfaction with this process and are satisfied that they are given opportunities to raise concerns, request funding for professional development activities, and engage in other developmental tasks. One major concern identified by the Panel was the lack of a Promotion Policy at BP and the complete lack of academic promotion opportunities available to staff members. As discussed previously, BP is required to follow CSB guidelines in this regard, and the concept of

academic rank is not recognised. As such, new teaching staff members are hired as tutors regardless of qualifications and experience, which undermines their career development opportunities, such as academic promotion. This obviously impacts faculty's motivations to perform at a higher level. During interviews, it was clarified that BP is currently negotiating with the CSB for a custom promotion policy, and the Panel recommends that this be expedited to ensure that faculty will perform at the highest quality possible. The vast majority of academic staff currently contributing to the programme are expatriates (96%) and BP follows CSB guidelines where expatriate staff members are granted fixed-term contracts with a maximum length of two years. In this regard, the Panel notices that BP has not developed a formal policy for staff retention and the Panel recommends that BP introduce and implement a formal policy for staff retention and promotion to ensure that qualified academics are available to deliver the programme.

- 2.6 BP uses two Management Information Systems (MIS), which are 'Banner' and 'Sharepoint', to ensure sound decision-making processes. Staff, in general, and registrar, in particular, use 'Banner' for registration and storage of student records including official grades. 'Banner' is capable of automatically generating reports (e.g., flagging at-risk students). During the site visit, this capability was demonstrated to the Panel. Additionally, 'Banner' can generate statistics and graphs as well as academic transcripts. This capability allows staff to make informed decisions on students' academic progress based on their current and past performance. Staff use 'Sharepoint', but the implementation appears to be limited as a 'file sharing' platform, only. The Panel suggests improving the utilisation of 'SharePoint's' powerful report generation, database, and other analysis tools to better understand the data contained within the system. During interviews, the Panel was informed that BP also plans to implement a new reporting tool, Argos, so that customised data and reports will be available. However, the Panel was not given any exact date on when Argos will be effective. Moreover, the Panel is concerned that without fully utilising the current reporting resources available to staff members and programme team, adding new reporting tool might not solve the problem. Hence, the Panel recommends that BP develop a comprehensive training programme on 'Sharepoint' to enhance its utilisation and enrich decision making.
- 2.7 There are three main policies to ensure accuracy of students' records namely Assessment and Moderation, Results and Reporting, and Student Academic Appeal. According to the SER, and as was confirmed during interviews, prior to entering students' grades into 'Banner', they are signed off by course coordinators and then approved by the Academic Board. Moreover, BP has a detailed and well-documented business continuity plan that discusses, amongst other things, procedures for ensuring data backup. Whilst it is impossible to verify the efficiency of any disaster recovery plan prior to a disaster occurring, in general the BP policy appears to be

comprehensive and well thought out, where daily backups of all student and staff data are kept on site and monthly backups off campus. During the site visit, the Panel confirmed that the IT services at BP are supported with adequate equipment and operated by knowledgeable staff and that all of the involved parties have different levels of access with unique user names and passwords. Touring the facilities, the Panel observed that physical students' records were housed in filing cabinets behind staff in the Registration Office. Although the Panel understands that these records are effectively backed up (and that usually digital versions of the records would be used for day-to-day operations), there are still some concerns about record storage. In this regard, the Panel did not observe any physical barrier (in the form of a glass window or steel wires) between the lobby and the filing cabinets. This offers a very real possibility for records to be stolen, destroyed, or physically altered. The Panel advises that BP include further measures for augmenting the security and protection of student records whilst still allowing Registry staff to access these records.

- 2.8 During the site visit, the Panel toured some classrooms, laboratories, and other facilities that included 15 laboratories for the BET programme, being; Engineering graphics, PBL Room, PBL Teaching room, Engineering Mechanics, Materials, Telecommunication, Renewable Energy, Manufacturing, Car Project workshop, PLC and Electrical, Computing and Electronics, Instrumentational and Control, Electronics workshop, Project room and PCB manufacturing, as well as utilising other laboratories within the campus. The Panel notes that the number of classrooms and laboratories is adequate for current student numbers, but will need to be carefully monitored if student numbers increase. Furthermore, the amount of equipment in the Electrical/Electronics laboratories is adequate, although there is a lack of physical equipment in the telecommunications area as indicated by students. During interviews with students, the Panel was informed that items such as computers were frequently not operational and there is shortage in equipment availability in some of the laboratories for the Electronics major. The Panel notes that Mechanical laboratories are modern and well laid out, but the amount of equipment in these laboratories is slightly low, where interviewed staff and students' informed the Panel that some experiments have up to five students on a single piece of equipment. The Panel is of the view that at most two students should work on any one piece of equipment at a given time and suggests increasing the number of equipment to ensure all students have hand-on exposure in the laboratories. Notwithstanding the above, the Panel notes that, whilst the equipment is not brand new, it is well maintained, modern and certainly capable of demonstrating the concepts to students. Furthermore, the Panel is pleased with the new computers in the Project laboratory and the fact that BP has licenced software for off-campus use, which is important for PBL-based learning and provides students with the opportunity to develop their knowledge and skills in their own time. During the tour, the Panel viewed the available resources in the library and has concerns about the number and type of books available for the BET programme in

the library, which was confirmed during students interviews as being extremely low, and that the Ebrary mainly catering for the business specialisation. Another major limitation is the library's operation hours (weekdays between 8am and 6pm with no weekend access). In practice, the campus closes at 5pm further limiting availability. The Panel recommends that BP review the library resources available to the BET programme and further investigate ways to extend the opening hours of both the library and the campus in general. On the other hand, IT general facilities toured by the Panel appeared to be adequate and students expressed their satisfaction in this regard. 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. Furthermore, BP offers a large number of informal study areas across the campus, including the library. There is also a large auditorium used for events and expositions. Students have access to an on-campus subsidised gymnasium and recreational facilities, which are modern and well-maintained. There is also an on-campus modern, well-equipped health centre that is staffed by a registered nurse. The Panel notes with appreciation the general facilities available to students.

- 2.9 BP uses different information systems to track the usage of its resources including 'Banner' as a student information system, Celcat as a timetabling system, Millenium as a Library Management System, 'Moodle' as a virtual learning environment, and 'Sharepoint' as a document management system. The library's tracking system of digital resources usage is used to justify the continual renewal of licences for some products. Laboratories and classrooms are electronically scheduled and usage is tracked by Celcat. The usage of laboratories by students is not tracked electronically but logged manually while the use of the Internet is tracked and monitored by the IT Department. Interviewed staff confirmed how these reports, which are provided by the various systems, are utilised to inform decision making. During interviews, the Panel learnt that BP plans to use access cards for all campus laboratories in order to reinforce equipment security and allow better tracking of their use. The Panel suggests that BP enhance the current tracking system to comprehensively track the usage of the laboratories and further support decision making.
- 2.10 BP provides varied types of support for the students such as the Writing Centre, located in the library, which provides support for students concerning general writing skills as well as basic mathematics and academic skills. Furthermore, the Career and Employment Centre provides a comprehensive service to meet the students' initial career decision making and development needs. Students interviewed by the Panel showed good knowledge and enthusiasm for both Centres and many indicated that they benefited substantially from using these services. BP has also implemented a system where high achieving students provide peer support to other students upon the recommendations of their tutors. This allows those students to gain experience mentoring other students in need of academic support and build their knowledge and

confidence of the subject, while at the same time helping peers. The system is well advertised and students interviewed by the Panel demonstrated awareness of it. 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. In addition, BP has a Student Council consisting of 12 high-CGPA students who are elected by the student body. A major limitation of this council however is that there is no requirement for members to be from different BP Faculties or achievement level not be restricted. As such, students from EDICT interviewed by the Panel felt the current council was of little-to-no value to them and generally did not vote in elections. The Panel suggests that BP Student Council considers developing a constitution outlining membership, procedures for nominations and to review its mandates to include students from different Faculties and levels. Nonetheless, the Panel appreciates the amount and type of support available to students at BP.

- 2.11 BP conducts annual orientation for newly admitted and transferred students to its programmes. It is comprehensive and organised at the beginning of semester one of each academic year. The orientation programme covers key areas of information (e.g., policies, procedures, and attendance rules) that students reasonably require in order to succeed in their studies. Students are introduced to the programme team and tour BP's facilities. They also receive a copy of the Student Handbook. Staff interviewed by the Panel demonstrated no hesitation in helping students to gain whatever knowledge they need. Interviewed students whom had attended the orientation programme expressed their satisfaction with its organisation. The Panel appreciates the comprehensive orientation programme offered to new and transferred students. Notwithstanding the above, the Panel notes that no provision is given to students who miss the orientation programme, where these students are left with the responsibility of gaining the knowledge presented during the orientation programme independently. The Panel encourages BP to introduce an alternative arrangement for students who miss the orientation programme to ensure that they are well informed about the institution policies, procedures, facilities and resources.
- 2.12 BP has a rigorous and robust policy for identifying at-risk students. The Students at Risk Policy is comprehensive and exemplifies the different types of at-risk cases like academic progress, personal and psychological issues, health/safety related issues, financial issues, and social/behavioural issues. The Panel views the information provided in the document as good practice as it specifically guides faculty members on how to identify at-risk students, which also details some examples and types of support that could be offered (depending on the circumstances) and then sets out the entire process by means of a flow diagram. In conjunction with using Banner to identify at-risk students for the reasons of low attendance, faculty members are also expected to be pro-active by following-up with students who are absent, where the limit is set at 20%. Moreover, at-risk students are discussed at the monthly Programme

Committee meetings where at-risk students are a standing agenda item. Once a student is identified as being at-risk of academic failure an extensive support system is available in terms of the Library Writing Centre and PASS System, as noted previously. Furthermore, students who could not obtain the required grades are identified as 'on probation' and such students are given reduced workloads until they succeed in lifting the probation. During interviews, students confirmed that at-risk students are required to attend weekly sessions with their academic advisor for one to one tutoring and may also have to attend peer tutoring. Faculty members are made aware of at-risk students *via* a summarised staff information document detailing reasons for at risk students such as lack of academic progress and irregular class attendance. During interviews, staff confirmed that they receive information on how to identify at-risk students and how to refer them to the correct support providers. The Panel appreciates the current arrangement for identifying students at risk that provides support in a timely manner.

2.13 BP provides varied opportunities for informal learning to the student of the BET programme. Several seminars are organised by the Career and Employment Centre to enrich students' knowledge. Invitations to attend guest lectures on-and off-campus are always communicated to students. Furthermore, interviewed students confirmed the easy access to staff on-and off-campus and praised their positive response to their requests or queries even if these queries were not directly related to the curriculum. The Panel notes that this form of informal learning motivates students to be self-learners. Opportunities for engaging in extra-curricular activities like summer work in the engineering sector and special projects or industrial visits are also made available to students. Other facilities supporting informal learning and enriching students' experiences include the Writing Centre, Career and Employment Centre, and Students' clubs (as mentioned earlier). Interviewed students expressed their satisfaction with the extracurricular opportunities provided by BP and further stated that the Health and Wellness Centre, Writing Centre and the Career and Employment Centre conduct regular awareness seminars. The Panel appreciates the learning environment provided to the students of the BET programme is conducive to expanding the student experiences and knowledge through informal learning.

2.14 In coming to its conclusion regarding the Efficiency of the Programme, the Panel notes, *with appreciation*, the following:

- The implemented admission policy and procedures are well documented, suitable for the programme needs and reviewed annually.
- The well-established clear lines of accountability with regard to the management of the BET programme.
- The well established effective orientation programme for BP's new faculty.
- The general facilities available to students.
- The amount and type of support available to students at BP.

- The comprehensive orientation programme offered to new and transferred students.
- The current arrangement for identifying students at risk that provides support in a timely manner.
- The learning environment provided to the students of the BET programme is conducive to expanding the student experiences and knowledge through informal learning.

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

- expedite the process of employing a suitable person for the role of Workplace Specialist to ensure that BP maintains currency with local industry
- introduce measures to support applied research amongst the teaching staff in their relevant technical fields
- introduce and implement a formal policy for staff promotion and retention, to ensure that qualified academics are available to deliver the programme
- develop a comprehensive training programme on 'Sharepoint' to enhance its utilisation and enrich decision making
- review the library resources available to the BET programme and further investigate ways to extend the opening hours of both the library and the campus in general.

## 2.16 **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 According to the SER, BP uses the Graduate Profile terminology interchangeably with Graduate Attributes and Programme Intended Learning Outcomes, which are stated in the BET PAD. For each major the PAD includes clear statements of the aims of the programme and the graduate attributes, which are described under four categories: 'generic transferable skills (employability skills); knowledge and theoretical understanding; knowledge and practical application and enterprise'. These attributes ensure that graduates are work ready and are skilled within the relevant engineering discipline. Furthermore, the PAD provides a table for mapping the PILOs with the individual courses in the curriculum. The Panel notes from viewed course files, that the graduate attributes, which include soft skills (e.g. ethics, leadership and self-reflection) are incorporated into the design of the courses and are enriched within the work-based learning component of the programme. Course learning outcomes are mapped against the graduate attributes, which are in turn, linked to the assessments in their respective gradebooks, enabling the achievement of the graduate attributes. Assessments reliability in assessing learning outcomes of the course are ensured through the implementation of the Assessment and Moderation policy. The Panel notes that graduate attributes for the BET programme are aligned with international agreements laying out the graduate profile for Engineering Technology qualifications and the Panel appreciates how the graduate attributes have been linked down to the course level and to a robust assessment structure, informing the teaching and learning activities.
- 3.2 According to the SER, BP originally purchased the programme from an accredited provider, which contributed to the initial international benchmarking of the programme. The Panel noted from course files that benchmarking of CILOs and the assessments were accomplished at the start when the programme was first purchased from AUT. However no evidence of further benchmarking of these was available and the Panel is of the view that the standard of the assessments need to be verified through further benchmarking of the level and the outcomes. In addition, programme reviews were conducted by external reviewers but the programme was not benchmarked against a specific standard or professional standard, which does not accomplish an official benchmarking of the programme. The Panel notes that the current status is that there is no evidence of benchmarking, which was confirmed during staff interviews, where the Panel was informed that no benchmarking policies are currently implemented as the policy is currently under development. The Panel recommends expediting the approval and implementation of a comprehensive formal

benchmarking process to benchmark all aspects of the programme against programmes offered locally, regionally and internationally.

- 3.3 BP has an Assessment and Moderation Policy that includes procedures for assessment, pre- and post-assessment moderation which is implemented and monitored. The BET Programme Manager is responsible for monitoring the implementation and review of the assessment procedures and policies. The Programme Committee oversees changes made to course descriptors and the revision of assessment methods and their alignment with learning outcomes. The Results and Reporting policy is in place to ensure that student results are recorded, approved, reported and managed accurately, effectively and in a timely manner. Moreover, there is a clear Assessment and Moderation Guidelines that is communicated to academic staff and students as well as a policy for managing the assessment of multi-section courses. During interviews, the Panel noted that BP ensures the availability of the assessment procedures to the students through a variety of channels, such as; the assessment cover page which provides relevant information for the students, that includes a matrix mapping the assessed work with the course learning outcomes, mark distribution and a marking rubric with the assessment criteria. Also laboratory cover sheets include a marking rubric, an overview of the practical tasks to be performed, the due date for the submission and the learning outcomes assessed. Furthermore, the same information is also available to students on 'Moodle'. The Panel also observed that information related to assessment is set out for students in each course specification. During interviews, the Panel was informed that the students are aware of the relevant assessment arrangements. The Panel acknowledges that assessment tasks and processes are effectively implemented, which was confirmed scrutinising the provided samples of course files that included assignments, projects, mid-term examination, and a final examination. Staff interviews confirmed that they are knowledgeable regarding the implementation of the assessment policy and procedures, which are accessible on 'Sharepoint'. The Panel appreciates that the assessment methods and procedures are transparent, monitored and subjected to regular reviews.
- 3.4 BP has Assessment and Moderation policy that focuses on the alignment of assessments with the CILOs and the coverage of the assessment for these outcomes. The assessment plan provided in each course 'Gradebook' links the learning outcomes with the assessment tasks to ensure that course learning outcomes are addressed by the course assessment plan. From the course files, the Panel noted that internal pre- and post-moderation is implemented which checks that assessment tasks have the appropriate level and adequately assess learning outcomes. However, no external moderation is currently taking place. The Panel also noted that an aligning assessment guide matrix is used for analysing the extent that the assessment cover all course outcomes, which is utilised for programme development. The Panel viewed course

specification documents and confirmed that assessment methods are set out in line with their relevant ILOs, topic title, and teaching method. The weighting of the contribution of the different assessment tasks to the overall course result is also set out in this document. Furthermore, formative and summative assessment tasks are clearly noted in the document. During interviews, the Panel was satisfied that faculty members are well informed on assessment and moderation procedures and how new staff members are instructed in aspects of designing assessment tasks that are appropriately linked to course ILOs. The Panel appreciates the mechanisms in place for the alignment of assessment with outcomes being appropriate.

- 3.5 The Assessment and Moderation policy specifies moderation procedures, which indicates that 'internal moderation of every course assessment is carried out both prior to the assessment delivery (pre-moderation) and following the completion of the grading process (post-moderation)'. The document also includes pre- and post-assessment moderation templates, to be completed by the course moderator to ensure the validity of assessments. According to the SER, 'the EDICT Faculty Board and Academic Board approve all course moderators prior to the start of the each semester', and ensure that the moderators are different from the designers of the assessments, a process that is ensured through a moderation tracking sheet. Furthermore, the progress of pre-assessment moderation is monitored as a standing item at every Programme Committee and Faculty Board meeting. The Panel examined samples of moderation documents and student work, and the viewed course files confirmed that the moderation forms and procedures are implemented by the BET programme. The Panel also notes that the results of the internal moderation process is evident in the programme updates and interviewed staff considered the internal moderation process as a development process for the courses. The Panel notes with appreciation the mechanisms in place for the implementation of the internal moderation processes and procedures, which ensures an assessment process that is fair to all students.
- 3.6 According to the SER, the 'Assessment and Moderation policy requires external moderation of courses at least once every five years for each academic programme offered by BP. Moreover, the policy 'includes procedures and guidelines to secure moderation and monitoring services'. The Panel encourages the Faculty to increase the frequency of the external moderation of the programme courses. Furthermore, the policy also refers to external examiners that need to be appointed for the moderation of course assessments. During interview sessions, the Panel was informed that Auckland University provided external moderation at the start of the programme for the courses in the first two years. However, according to the SER and confirmation by interviewed staff, no regular formal external moderation of the BET programme is currently implemented, although the Panel acknowledges that plans are in place for the implementation of external moderation process in the near future. Nonetheless, the Panel is of the view that external moderation need to be resumed to validate the

standard of the assessments taking place within the programme. The Panel recommends that the implementation of external moderation be expedited to cover the full range of courses constituting the programme.

- 3.7 Samples of course files that were provided during the site visit for different years of the BET programme were scrutinised by the Panel. From the viewed students' assessed work, the Panel notes that the level of the students' achievements expressed in their assessment responses are appropriate for the programme. Furthermore, the level of complexity expected from students' work within the courses progresses as students take higher level courses. Technology covered within the courses and the implementation thereof to solve real-life problems is incorporated as part of most of the theoretical and practical assignments. For example, the motorcar project within the Mechanical major demonstrates how the students' problem-solving skills are implemented in solving industry-related problems. The Panel is satisfied with the level of students' achievement compared with similar programmes locally, regionally, and internationally.
- 3.8 The BET programme has graduated four cohorts to date, where 59 students have graduated from all the intakes starting in 2009. BP sets the qualification completion requirements, given in the PAD, as the measure for meeting its graduate profile such that a student has to meet all the learning outcomes in every course, whereas the implementation of the Assessment and Moderation Policy is the mechanism used to ensure that learning outcomes are met. Moreover, student grades are checked by the course coordinator and the Programme Committee as well as the Faculty Board, which approve grade changes before final approval by Academic Board, whereas Programme Managers check and sign off the Registry records. The Panel viewed the GPAs of graduated students between 2012 to 2014 and notes that the average GPA ranges from 3.05 to 3.09, the minimum ranges from 2.47 to 2.86 and the maximum GPA ranges from 3.25 to 3.66. Furthermore, the student profile indicates that nearly 80% of the current year four students have acquired GPA's above 3.0. During interviews, the Panel was informed that stakeholders are satisfied with the level of achievement of the BET graduates and that the final semester project, the CLP, in conjunction with the 80 days' work placement are features that improves employability of the BET graduates. Overall, the Panel is satisfied that the graduates' achievements meet the programme aims which as confirmed by the stakeholders during the visit and the viewed evidence. Nonetheless, the Panel did not see evidence for the overall evaluation of the actual achievement of the PILOs. The Panel recommends that BP closes the loop on graduate attributes and implement a mechanism to assess the achievement of the overall graduate attributes.
- 3.9 BP maintains reports of retention and completion data for the programme in its Annual Programme Review (APR) report. The statistics provided in the BP's Profile

indicate that 11 students graduated in semester two of 2012, 23 students in 2013 and 23 students in semester one of 2014. Furthermore, the Panel notes the high retention and passing rates, for example, with the percentage of retention rate ranging from 98.4% to 100% and the average pass rate from 92.8% to 92.9% for the academic year 2013-2014. Moreover, out of the 276 students in total who joined the program since 2009, 59 students have graduated and 59% completed the programme within eight semesters. The Panel is of the opinion that the retention and progression numbers are within international norms. Telephone destination surveys of the first cohort done by the Career and Employment Centre were carried out six months after graduation and show that of the 15 graduating students from the first cohort, 53%, reported that they had found employment. Furthermore, in second and third cohorts, this ratio changes to 100% and 73% respectively. The fourth cohort of students has yet to be surveyed. Furthermore, out of the 13 respondents from the second and third cohorts, six students pursued further study. The Panel is of the view that further analysis of these data over longer timeframe would help in identifying trends. The Panel is satisfied that the retention and progression data compares well with similar international programmes and that the graduates are meeting their career objectives as they have acquired a particular set of skills that meet local industry requirements.

- 3.10 As reported earlier, the BET programme has two main aspects to work-based learning. All students are required to complete 80 days of work experience at an approved engineering workplace, as a non-credit but compulsory completion requirement. In addition, the BET programme also has a compulsory final-year Cooperative Learning Project (CLP), which is a work-based industry project. Assessment of work-based learning is covered by the Assessment and Moderation policy and by the Offsite and Workplace Activities policy. The former deals with assessment aspects while the latter is focused more on the setting up and monitoring of the learning experience. The Panel notes that there is a clear process for full or partial exemptions from the 80 days work experience if students could submit a report of prior experience. As part of the assessment process, workplace supervisors have to fill in the employee skills evaluation form which is part of a logbook. The logbook layout is comprehensive and appropriate but the Panel notes that there is no evidence of utilising the feedback provided by the industry in the logbook. While the logbook is to be signed by the industrial mentor and assessed by a staff member, the Panel notes from the evidence reviewed that some logbooks are not signed off and not all the sections are completed. Moreover, record of completed workdays based on evidence presented from employers are maintained by the Head of School. During interviews with the stakeholders, students found the work-based learning components of the programme very helpful to gain experience with a real-world situation and the students noted that there are enough industrial work place opportunities for them to select from in their area of interest. Furthermore, industry liaison managers expressed their satisfaction with the arrangements made by programme staff for the management and the

assessment of the work-based learning components of the programme. Furthermore, students are also satisfied with arrangements and assistance provided by the programme staff in this respect. The Panel appreciates the measures in place for the management and assessment of work-based learning, where students benefit from exposure to industry, staff interact with industry and industry have the opportunity to provide feedback. However, the Panel suggests utilising the valuable feedback from industry, which is provided in the logbook, to its full potential by the programme.

- 3.11 BET students take the Co-operative Learning Project in their final year and have to submit a substantial project report, Electronics major students register the ENB7904 course and the Mechanical major register for the ENB7910, where a BP staff and an industry mentor supervise the project. The supervision of work-based project is covered by the Assessment and Moderation policy and by the Offsite and Workplace Activities policy. Students have to submit a comprehensive report and their responsibilities are stated in the Assessment and Moderation policy, while the Offsite and Workplace Activities policy provides guidance for the monitoring of the learning experience. Moreover, the duties of the industry mentor are documented in the Memorandum of Agreement, which is to be signed by industry mentor, student and academic supervisor. Furthermore, the course descriptor provides the guidelines with regards to project supervision and assessment, indicating that 25% of the marks are assigned for the project proposal and the progress reports. The project presentation and the demonstration of the completed work to a panel of experts is assigned 55% of the final marks. The final project report is assigned 20%, which gives an overall account regarding the project work, the achieved outcomes and the impact of the project. During interviews, the students confirmed that they gain valuable practical experience within this project and the staff confirmed that this project provides the opportunity for them to get industry exposure. The Panel viewed the available evidence and appreciates that there are clear policy and procedures for supervising and evaluation students' project, which are implemented systematically, and that students get the opportunity to gain soft skills when they present their completed project. Nonetheless, the Panel noted that feedback from workplace mentors on students' achievements is not formally utilised. The Panel recommends giving industry the opportunity to evaluate the level of student's achievements and provide feedback to be utilised for programme improvement.
- 3.12 There is a Curriculum Advisory Committee (CAC) for the BET programme that provides advice on the technical aspects of the curriculum and that supports the programme. The CAC operates according to the terms of reference and the set annual objectives, which are revised every year. The Panel viewed the evidence and notes that a representative from industry chairs the CAC and the Members include employees from major companies in Bahrain who are specialists in relevant engineering fields, as well as BP staff. Nonetheless, CAC membership does not include programme alumni

as yet and there are plans to include them after the first Alumni Association meeting which is scheduled in June 2015 to include their input. During interview sessions, the Panel was informed that the CAC meets at least twice a year, which is evident in their minutes of meetings. Moreover, the Panel notes that feedback and proposals from the CAC are conveyed to the programme and evidence of CAC's recommendations being implemented by the programme, to improve the delivery of the programme, was observed in the minutes of CAC and programme committee meetings. During interviews, the Panel noted that both BP senior management and CAC members appreciate the importance of the CAC as it provides inputs from industry which is expected to employ BP graduates. Furthermore, the committee was involved from the start of the programme to help with the contextualisation of the initial programme to the needs of the industries in Bahrain, the evidence of which is confirmed in CAC minutes. For example, the addition of English courses and PLC programming applications to the programme was proposed by the CAC. The Panel acknowledges that the CAC is providing input from industry and has been consulted on different programme aspects and the inputs from CAC have been implemented in almost all instances. However, the Panel suggests that the Faculty should expedite representations from current programme students and alumni in the CAC.

- 3.13 In collaboration with the Careers and Employment Centre, the Industry Liaison conducts employability surveys, which provided evidence of market satisfaction with the graduates of the BET programme. Furthermore, interviewed alumni expressed their high satisfaction with the programme and indicated that it prepared them for the requirements of the job market. During interviews with employers, the Panel was informed that they are satisfied with the graduates of the BET programme and that the graduates are motivated, have the passion to learn and have acquired the basic engineering skills to prepare them for the work place. Furthermore, the Panel appreciates that there is evidence of good rates of graduate employment and further training after the programme has been completed, and that interviewed alumni and employers expressed satisfaction with the programme and the level of graduates. Notwithstanding the above, during interviews, the Panel was informed that an Alumni Survey has been formulated and is awaiting approval by the senior management team, also an employer survey is yet to be implemented. The Panel is of the view that BP should systematically evaluate the level of employer satisfaction. This is discussed in more details in paragraph 4.8.
- 3.14 In coming to its conclusion regarding the Academic Standards of the Graduates, the Panel notes, *with appreciation*, the following:
- Graduate attributes have been linked down to the course level and to a robust assessment structure, informing the teaching and learning activities.
  - Assessment methods and procedures are transparent, monitored and subjected to regular reviews.

- The mechanisms in place for the alignment of assessment with outcomes being appropriate.
- The mechanisms in place for the implementation of the internal moderation processes and procedures, which ensures an assessment process that is fair to all students.
- Measures in place for the management and assessment of work-based learning.
- There are clear policy and procedures for supervising and evaluation students' project, which are implemented systematically.
- The Curriculum Advisory Committee is effective and provides input from industry, which is implemented.
- There is evidence of alumni and employers satisfaction with the programme and the level of graduates.

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

- expedite the approval and implementation of a comprehensive formal benchmarking process to benchmark all aspects of the programme against programmes offered locally, regionally and internationally
- expedite the implementation of external moderation to cover the full range of courses constituting the programme
- implement a mechanism to assess the achievement of the overall graduate attributes
- implement a formal mechanism to utilise the feedback from workplace mentors to further improve the programme.

### 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 There are general policies and procedures pertaining to the management of the programme where the Quality, Measurement, and Analysis Directorate at BP has the overall responsibility for monitoring the implementation of these policies and procedures across all academic programmes. On-site interviews with the Faculty administrative and academic personnel confirm the existence of policies and procedures that provide necessary support for maintaining academic standards and operation of the BET programme. The Panel had access to several policies and procedures related to teaching and learning such as Assessment and Moderation, Students at Risk, Student Academic Appeal, Evaluation and Review, AQAC Review Process Approval, and Creating Policies. Moreover, the Panel was provided with evidence of the quality-assurance management process that ensures the effectiveness of each policy. From the submitted documents and interviews with administrative, academic, and quality assurance staff, the Panel noted that BP implements policies effectively with the participation of all appropriate stakeholders. The Panel also notes that all policies related to students and staff are available on 'Moodle' and 'SharePoint', respectively. Interviewed students expressed their satisfaction with the availability and implementation of these policies. The Panel appreciates that BP has an effective quality management system that ensures the effective implementation of all policies across the institution.
- 4.2 The BET is managed at different levels starting from the institutional level to the course co-ordinator level. Interviews with staff indicated that the Head of School supported by the Programme Manager, one for each of the two majors in the BET programme, and Course Coordinators leads the delivery of the BET programme, while the Programme Manager focuses on day-to-day matters including students and staff teaching BET courses. Academic decisions are taken by the Programme Committee and endorsed by the Head of School, which are submitted to the Faculty Board for final approval. The Panel appreciates that the BET programme has effective leadership to ensure the quality of its delivery.
- 4.3 The quality assurance system at BP is divided amongst several bodies; Quality Management System (QMS) and AQAC. The former is responsible to manage all the policies and procedures while the latter ensures consistency in the implementation of these policies across all programmes. At the Faculty level, the manager of the Quality Measurement and Planning Directorate is responsible to maintain the standards of the quality assurance across all EDICT programmes. The BET Programme Committee

plays a vital role in monitoring and evaluating the implementation of all the policies. During interviews, academic and administrative staff show clear understanding and involvement in all quality assurance processes at institutional and programme level. The Panel was provided with evidence showing an action list of measures for implementation as part of the improvement plans for the BET programme. The Panel appreciates that BP has a comprehensive quality assurance system that is applied, monitored, and evaluated.

- 4.4 BP spreads quality assurance culture amongst its staff through training programmes and regular meetings or seminars. For example, all faculty members have to sign up in the Certificate in Tertiary Teaching and Learning programme, which is BP's in-house tutor training program that lasts 150 hours, to strengthen their understanding of how to integrate quality assurance requirement in teaching. The Panel acknowledges that such a policy effectively helps the academic staff to establish sufficient understanding of the quality assurance issues within their teaching practice. During interviews, the Panel was informed that new staff are expected to attend an induction programme to strengthen their understanding of the teaching requirements, including Problem-Based Learning (PBL) and quality assurance practices. In addition, staff are provided with the Quality Manual, which defines BP's quality assurance model, as well as the Standard Operating Procedures manual for the EDICT Faculty, which is intended as a guide for tutors on aspects of moderation, class delivery and assessments. Moreover, interviewed staff confirmed that all courses undergo internal moderation and they are involved in the process. Furthermore, academics and support staff confirmed their participation in several workshops organised by the Teaching and Learning Unit on the aforementioned aspects and they highlighted that quality assurance issues are always discussed during meetings and any updates or changes in the policies are communicated to them *via* email for possible comments and feedback. The Panel appreciates that BP staff are fully aware of the quality assurance requirements and take part in enhancing the ones related to their duties.
- 4.5 There are formal policies and procedures in place for the development of a new programme where essential factors are taken into account. Their objective being to ensure that new programmes are in line with BP's vision and mission. These factors include labour market needs, feedback from stakeholders, learning outcome alignment, and internal and external validations as per the QQA institutional listing standards. Interviewed staff clarified the process of introducing a new programme. This process is demonstrated in the SER mentioning all parties involved such as Faculty Board, AQAC, Academic Board, and Board of Trustees. Nonetheless, during interviews, the Panel was informed that until now no new programmes have been introduced by the EDICT. The Panel is satisfied with the existence of policies and procedures to introduce new programmes whenever needed.

- 4.6 There is a formal policy for the annual internal review of the programme which is conducted by the Curriculum Unit and AQAC, during which academic tutors and programme managers meet to discuss employers and Academic Advisory Committee's feedback so that suitable actions are taken. The process starts by evaluating each course in details and concludes with a list of actions to be taken which is translated into a new action plan and areas for improvements. The BET programme committee and Faculty Board monitor the process throughout the year. Interviewed staff indicated their participation in reviewing each course and developing the action plan. The Panel notes that although the process is clear and followed; yet evidence of actions taken after the revision was not sufficient to provide further enhancement and improvement to the programme. The Panel recommends that the Faculty of Engineering, Design and ICT further utilise the generated data from the annual programme review to improve its quality assurance system and strengthen the delivery of the programme.
- 4.7 Periodic programme review at BP is grounded by policies including Programme Approval, Assessment and Moderation, and Evaluation and Review. According to the Programmes Approval Policy programmes are reviewed every four years where academic staff members and program managers consider: student progression, moderation procedures, learning outcomes, feedback from employers, and staff needs for professional development. Upon review completion, recommendations are produced in order to improve the quality assurance management. During interview sessions, the Panel was informed that the Mechanical major of the BET programme was reviewed in 2013 and the outcome was implemented in 2015 curriculum. The BET programme was further reviewed in 2014 by a review Panel that included academics and industry representatives from the region, locally and internationally. In addition, an external international monitor reviewed the programme in 2012. The Panel satisfied with the efforts of the EDICT Faculty to conduct periodic reviews for its programmes every four years.
- 4.8 BP acquires feedback *via* its Institutional Quality Survey Framework, which includes surveys on tutors, courses, student experience, student services, and alumni. Analysis of these surveys is used to enhance the quality of the programme and its delivery and feedback is usually provided to stakeholders. From interviews, the Panel was informed that alumni and employers' surveys have been drafted but not approved yet by senior management. Students surveys are analysed by the Quality, Measurement and Analysis Unit (QMAP) and results are forwarded to the Dean, Head of School, and teaching staff. Interviewed staff expressed their satisfaction with the results of the surveys as these results led into enhancing their professional development plans and improving the quality of the programme delivery. The Panel recommends BP to expedite the implementation of the alumni and employers' surveys to strengthen the programme and ensure that it caters for the market needs.

- 4.9 Efficient and effective procedures are in place to ensure the effectiveness of staff professional development. This is characterised by the identification of staff needs in a bottom-up manner, running a series of in-house training, providing opportunities for external training and conference attendance, and completing the Certificate in Tertiary Teaching and Learning (CTTL) which is a 150-hour training programme offered in-house for new members of staff to improve their teaching skills. Moreover, a hierarchical management system across faculty members, Human Resources, and various academic boards/committees provides ample opportunities to create a culture of engagement and learning. During staff interviews, they expressed their satisfaction with the arrangements in place for professional development of staff and clarified that an evaluation form for each training session is circulated to collect feedback on these trainings. The Panel appreciates the current arrangements in place for staff professional development. Notwithstanding the above, the Panel notices that the component of research is absent from the staff's activities, which was highlighted during interviews. Staff indicated that they keep their materials updated regularly to inform students about the latest trends in the Engineering field. Although the Panel acknowledges their efforts, yet staff ought to be encouraged to conduct applied research.
- 4.10 According to the SER the Curriculum Advisory Committee (CAC) members provide the industry's feedback to BP in order to fulfil its mission as currently there is no systematic analysis of labour market data in Bahrain. Furthermore, employers and industry supervisors of the internship and CLP courses confirmed that they provide informal feedback. Interviewed employers expressed their satisfaction with the BET graduates and praised their commitment and communication skills. Furthermore, members of the CAC acknowledge that their feedback is taken into consideration for keeping the programme up to date and are satisfied with the graduates of the programme. The Panel acknowledges that there are prompt and effective interactions between the quality assurance management and the programme to ensure that it is updated in accordance with inputs from advisory board on labour market needs. Nevertheless, as mentioned earlier, alumni and employers surveys are yet to be implemented and the Panel did not see evidence on a formal process for scoping the labour market. Hence, the Panel recommends that the Faculty introduce a formal mechanism for the continuous scoping of the labour market needs to ensure that the programme is appropriately contextualise and up-to-date with Bahrain's market needs.
- 4.11 In coming to its conclusion regarding the Effectiveness of Quality Management and Assurance, the Panel notes, *with appreciation*, the following:
- There is an effective quality management system that ensures the implementation of policies across the institution.
  - The effective leadership that ensures the quality of the programme delivery.

- A comprehensive quality assurance system that is implemented, monitored, and evaluated.
- Staff members are aware of the quality assurance requirements and are involved in enhancing the ones related to their duties.
- There are arrangements in place for staff professional development.

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

- further utilise the generated data from the annual programme review to improve the quality assurance system and strengthen the delivery of the programme
- expedite the implementation of the alumni and employers' surveys to strengthen the programme and ensure that it caters for the market needs
- introduce a formal mechanism for the continuous scoping of the labour market needs.

#### 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-School Reviews Handbook, 2014*:

**There is confidence in the Bachelor of Engineering Technology of Faculty of Engineering, Design and ICT offered by the Bahrain Polytechnic.**