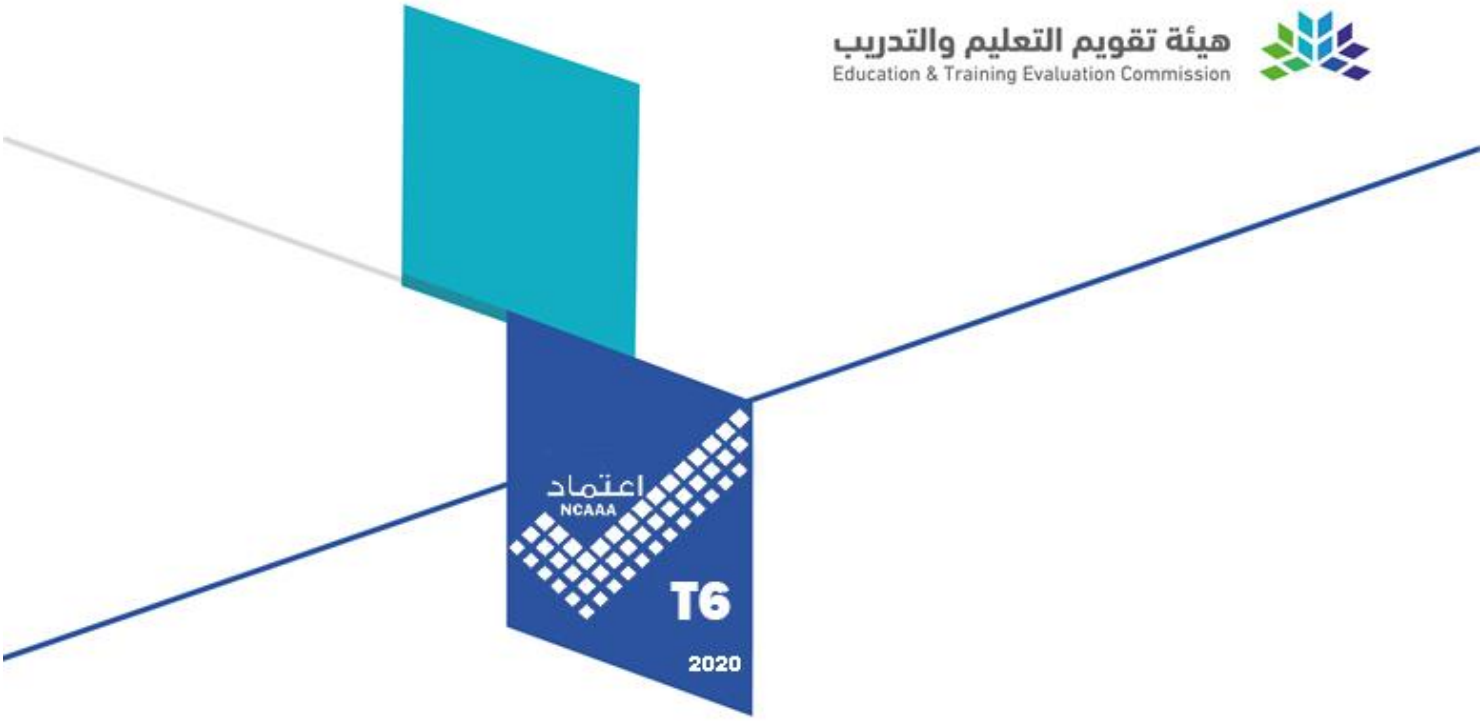
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission




# Annual Program Report

| | |
|---|---|
| **Program Name:** | **Bachelor of Science in Information Technology** |
| **Qualification Level:** | **Level 6 Bachelor** |
| **Department:** | **Information Technology** |
| **College:** | **College of Computing and Informatics** |
| **Institution:** | **Prince Musaid Bin Abdulrahman University** |
| **Academic Year:** | **2020/2021** |
| **Main Location:** | **Riyadh** |
| **Branches offering the Program:** | • **Dammam**<br>• **Jeddah**<br>• **Medina**<br>• **Abha**<br>• **Jazan**<br>• **Tabuk**<br>• **Qasim** |

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## A. Implementation of Previous Action Plan

Considering the recommendations of previous year annual report, list the planned actions and their status.

| Planned Actions | Responsibility of Action | Planned Completion Date | Level of Completion | | If Not Completed | |
|---|---|---|---|---|---|---|
| | | | Completed | Not Completed | Reasons | Proposed Actions |
| 1. Continuing the lab support for all courses requiring practical training at all level of undergraduate program. | Department chair & courses coordinators | Jun 2020 | | No | It is a continuous process. | |
| 2. Continuing the IT industry collaboration to be initiated with active participation of students and faculty members for current concepts and understanding. | Department chair & courses coordinators | Jun 2020 | | No | It is a continuous process. | |
| 3. Continuing the content development and feedback from faculty members should be carried out for each semester. | Department chair & courses instructors. | Jun 2020 | | No | It is a continuous process. | |
| 4. Faculty incentives for more research contribution should be announced, such as publishing fees compensation. | Deanship of Scientific Research | Jun 2019 | Yes | | | |
| 5. Conducting more outreach to employers | Department chair | Jun 2020 | | No | It is a continuous process. | |
| 6. Activating the Alumni Unit | Department chair | Jun 2020 | | - | Unit Transferred out of the collage | |
| 7. Activating academic Advising system across all branches | Department chair | Jun 2020 | Yes | | | |
| 8. Activate Research groups | Dean & Department chair | Jun 2020 | Yes | | | |
| 9. Offering extra tutorial classes for low achievers to improve their performance | Department chair | Jun 2020 | | No | It is a continuous process. | |
| 10. Updating the program Curriculum according to the latest ACM/IEEE 2013 curriculum guidelines | Department chair | Jun 2020 | Yes | | | |
| 11. Adding lab sessions for particular courses | Department chair with courses groups | Jun 2020 | Yes | | | |

## B. Program Statistics

### 1. Students Statistics (in the year concerned)

| No. | Item | Results |
|---|---|---|
| 1 | Number of students who started the program | **2136** |
| 2 | Number of students who graduated | **240** |
| 3 | Number of students who completed major tracks within the program (if applicable) | |

| | | |
|---|---|---|
| | **a.** | |
| | **b** | |
| | **c.** | |
| 4 | **a.** Number of students who completed the program in the minimal time | **36** |
| 5 | **a.** Percentage of students who completed the program in the minimal time (Completion rate) | **1.8 %** |
| 6 | Number of students who completed an intermediate award specified as an early exit point (if any) | |
| 7 | Percentage of students who completed an intermediate award specified as an early exit point (if any) | |

**Comment on any special or unusual factors that might have affected the completion rates:**

## 2 . Cohort Analysis of Current Graduate Batch

| Student Categories / Years | | Total cohort enrollment | Withdrawn | Retained till year end | Not passed | Passed | Passing rate |
|---|---|---|---|---|---|---|---|
| **2017** | M | 1259 | 761 | 498 | 128 | 370 | 74.3% |
| | F | 699 | 323 | 376 | 200 | 176 | 46.8% |
| | **Total** | 1958 | 1084 | 874 | 328 | 546 | 62.5% |
| **2018** | M | 470 | 211 | 259 | 144 | 115 | 44.4% |
| | F | 370 | 193 | 177 | 91 | 86 | 48.6% |
| | **Total** | 840 | 404 | 436 | 235 | 201 | 46.1% |
| **2019** | M | 276 | 64 | 212 | 117 | 95 | 44.8% |
| | F | 182 | 26 | 156 | 73 | 83 | 53.2% |
| | **Total** | 458 | 90 | 368 | 190 | 178 | 48.4% |
| **2020** | M | 229 | 30 | 199 | 177 | 22 | 11.1% |
| | F | 163 | 7 | 156 | 142 | 14 | 9% |
| | **Total** | 392 | 37 | 355 | 294 | 36 | 10.1% |

**Comments on the results:**

As PMAU students are majority studying while working and our program is design for full time students, in the first academic year (University unified common year), majority of students have underestimated the work load of full time students and overrated their ability to balance the load between studying and working full time. Thus, many students drop during the first year of the program. Similar situation is reoccurring when student get to the second year of the program where they will start taking higher number of courses per semester and more advance courses.
2017 is the first academic year for student( Common First year) and there are some requirements to pass in this year . The students should pass in STEP exam to continue in the program, because of that, the passing rate is low in this year. After Common first year, the students start enrolling the courses under CCI college, so the environment changes on the students.

* add more rows for further years ( if needed )
** attach separate cohort analysis report for each branch

## 3.Analysis of Program Statistics

(including strengths, areas for improvement, and priorities for improvement)

**Strengths :**

The passing percentage rate in 3rd and 4th academic years are high and acceptable.

**Areas for Improvement:**

| |
|---|
| Need to review the courses in common first year and the courses in the 2nd academic year to make a transition for the student more smooth. |
| **Priorities for Improvement:** |
| Review the courses in common first year and the courses in the 2nd academic year to make a transition for the student more smooth. |

## C. Program Learning Outcomes Assessment

### 1. Program Learning Outcomes Assessment Results.

| # | Program Learning Outcomes | Assessment Methods (Direct and Indirect) | Performance Target | Results |
|---|---|---|---|---|
| **Knowledge and Understanding** | | | | |
| K1 | Demonstrate a deep understanding of the main concepts and technologies related to information technology. | Q1.1-1.3, 1.5, 1.9 ,1.12 ,1.14 and Q2.1-2.2, 2.4-2.9, 2.34 in final exam (System Integration) | 70% | 94.8% |
| K2 | Realize the evaluation and assessment of tasks performed as IT professionals. | Q1.1-1.4,1.17,-1.22,1.29 and Q2.1-2.4,2.7-2.8,2.12,2.19-2.21 in final exam (Data Mining and Data Warehousing) | 70% | 95.7% |
| K3 | Describe and analyze the user needs and computing requirements appropriate to problems' solutions. | Q1.2,1.7,1.9-14,1.16-1.18,1.21,1.26-1.30,1.32,1.34-1.36,1.39 and Q2.1,2.3,2.4,2.7-2.9,2.11-2.15,2.23-2.29,2.21,2.34-2.36 in final exam (Mobile Application Development) | 70% | 97.1% |
| **Skills** | | | | |
| S1 | Apply the concepts, methods, tools and technologies mastered during the academic program. | Q1.3, 1.24-1.25, 1.30, 1.38 and Q2.3, 2.30 in final exam (Professional Issues in IT) | 70% | 91.9% |
| S2 | Apply theories in modelling and designing IT systems using cutting edge tools and technologies. | Q1.7-1.13 and Q2.7-2.12, 2.16, 2.36, 2.40 in final exam (IT Project Management) | 70% | 97.8% |
| S3 | Apply analysis, design, implementation, testing and evaluation principles of IT solutions to fit industrial requirements. | Q1.5-1.6, 1.22-1.23, 1.27-1.30, 1.32-1.34 and Q2.4-2.6, 2.17, 2.22, 2.24-2.26, 2.31, 2.33-2.34, 2.39-2.40 in final exam (Enterprise Systems) | 70% | 96.5% |
| S4 | Carry out the assigned tasks with quality of work in accordance with international standards. | Q1.8-1.11, 1.17, 1.19, 1.22-1.23, 1.25-1.26, 1.28, 1.35-1.36 and Q2.14-2.15, 2.20, 2.24, 2.26, 2.36, 2.38, 2.40 in final exam (Decision Support Systems) | 70% | 91.3% |
| S5 | Communicate effectively, both orally and in written form, using appropriate media. | Q1.18-1.22 and Q2.18-2.22 in final exam (Web Technologies) | 70% | 97% |
| **Values** | | | | |
| V1 | Identify the needs for continuous development of professional, legal and | Q1.6, 1.13, 1.21, 1.23, 1.31-1.32, 1.40 and Q2.6, 2.8, 2.14-2.16, | 70% | 97.3% |

| | | | | |
|---|---|---|---|---|
| | ethical skills with the ability to engage all group members. | 2.18, 2.23, 2.25, 2.35 in final exam (Professional Issues in IT) | | |
| V2 | Function effectively on teamwork projects and activities to accomplish a common goal. | Q1.37-1.38, 1.40 and Q2.37-2.38, 2.40 in final exam (Mobile Application Development) | 70% | 95% |

**Comments on the Program Learning Outcome Assessment results.**

All PLOs achievement rates are satisfactory. The above results of measurements were relied on the IT assessment plan shown here , which presents the alignment of PLOs with program courses.

* Include the results of measured learning outcomes during the year of the report according to the program plan for measuring learning outcomes

** Attach a separate report on the program learning outcomes assessment results for male and female sections and for each branch (if any)

## 2. Analysis of Program Learning Outcomes Assessment

(including strengths, Areas for Improvement:, and priorities for improvement)

**Strengths :**

The target for all program learning outcomes are achieved with high percentages.

**Areas for Improvement:**

Concern more in practical part to increase the skills of students

**Priorities for Improvement:**

Increase the number of practical activities in some courses that have labs

# D. Summary of Course Reports

## 1. Teaching of Planned Courses / Units

List the courses / units that were planned and not taught during the academic year, indicating the reasons and compensating actions.

| Course | Units/Topics | Reasons | Compensating Actions |
|---|---|---|---|
| N/A | N/A | N/A | N/A |
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## 2. Courses with Variations

List courses with marked variations in results that are stated in the course reports, including: (completion rate, grade distribution, student results, etc.), and giving reasons for these variations and actions taken for improvement.

| Course Name &Code | variation | Reasons for variation | Actions taken |
|---|---|---|---|
| N/A | N/A | N/A | N/A |
| | | | |

| Course Name &Code | variation | Reasons for variation | Actions taken |
|---|---|---|---|
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## 3. Result Analysis of Course Reports

(including strengths, Areas for Improvement:, and priorities for improvement)

**Strengths :**

- Most of the instructors were fully committed to the delivery of the course, have good interaction with students, use blackboard tools effectively, and were enthusiastic about what they were teaching.
- The things the students had to do to succeed in the course, including graded assignments and tasks; and criteria for assessment, were made clear to them at the beginning of the course.
- The course outlines (including the knowledge and skills the course was designed to develop) were made clear to them at the beginning of the course.
- The course contents were covered as scheduled across all the branches.
- Updating the courses is an ongoing process. All instructors participate in updating their courses during each semester. A record of current and previous syllabi, projects, exams, and other assessments is maintained every academic semester including a statistical report about student grades, rate of completion, and general performance.
- Each course instructor must prepare the course reports at the end of every semester stating their problems faced, or concerns raised concerning all aspects of the planning and delivery of the course contents including course learning outcomes, facilities & services for the support of teaching and learning. Evaluation of all courses and the program is done based on individual course reports. Based on the feedback from the program report, necessary adjustments are made in the program to enhance the quality of the program and to continue its relevance.
- Every course is assessed by using:
  a. Direct Rubrics to assess the achievement of the CLOs.
  b. Course Evaluation Survey: To assess the overall quality of course delivery.
  - Each course group analyzes result assessments based on the chosen assessment tools and prepares a consolidated report of the recommendations and submits it to the Quality Assurance Committee for further improvement.
  - The Quality Assurance Committee compiles all the recommendations from the course groups and various assessment tools and submits them to the Department Council.
  - Department Council reviews recommendations and approves the changes required to improve the program.
  - The approved recommendations are then finally sent to the course instructors for their immediate implementation which in turn are followed up with the appropriate course groups. The Quality Assurance Committee monitors the improvement in the course learning outcomes and takes the required actions for further improvement of the program in the next academic semester.

**Areas for Improvement:**

- Increasing the number of practical activities would help in improving students' performance.

- There is a need to help the students to improve their ability to think and solve problems rather than just memorize information.
- The students should be encouraged to develop teamwork skills.
- The structure and organization of some of the courses need to be improved.
- Strategies and methods of teaching the courses should be suitable for the course content.
- The students should be encouraged to ask questions and develop their own ideas.
- Marks for assignments and tests should be given within a reasonable time.
- More hands-on examples should be shared during the lecture.

The approved recommendations are then finally sent to the course instructors for their immediate implementation which in turn are followed up with the appropriate course groups. The department monitors the improvement in the course learning outcomes and takes the required actions for further improvement of the program in the next academic semester.

**Priorities for Improvement:**

The priority for the improvement is as follow:

1. Students require more time for practical in some courses. For those courses, attending the lab sessions should be mandatory.
2. Discussion about the assignments during class is a healthy activity, that can be incorporated.
3. Students' participation in the course review should be increased.
4. For some courses, materials are required to be reviewed to incorporate the latest technological advancements in the related areas.

For some courses, the textbook and/or the syllabus are required to be updated to make it suitable for fulfilling the academic requirement of the course.

# E. Program Activities

## 1. Student Counseling and Support

| Activities Implemented | Brief Description* |
|---|---|
| Announcing important students services | An on-line Student Services icon is always available on the PMAU's website that offers tremendous support. |
| Assigning office hours | Faculty members announced their contact information as well as office hours on Blackboard. |
| Open-door meeting policy | The department adopted an open-door policy, according to which a student is free to meet the department chairman, Dean of Student Affairs, Dean or advisor at any time. |
| Dealing with student's issues | The Student and academic Affairs Committee is responsible for handling students' issues and complaints as they arise. |
| Solving technical issues | The on-line Da'am System is always available to solve any technical issues faced by students. |
| Participating in university activities | Students have the right to enjoy the benefit of the services provided in student activities. the university and can participate in the |
| Assigning Academic Advisors | Students can get help on their academic plan, understand the pre-request courses and choosing their courses by contacting their academic advisor. |
| Conducting Dean meetings | The Dean of the college, Dr. Abdulaziz Al-Bishr, held a number of internal meetings at the college level with faculty members to discuss the following:<br>1. Emphasis on following the CCI Policies and Regulations by faculty members including their tasks. |

| | |
|---|---|
| | 2. Develop the academic course plans during the academic semester; where each course coordinator prepare a course plan then submits it to the committee for approving them.<br>3. Discussing the correct exams preparation procedure by faculty members, the grading distribution mechanism, the mechanism of conducting the electronic exams, and the tasks of the college's branch coordinators and instructors during the exams period.<br><br>In addition, the Dean of the college held a meeting with college students, at the branch level, in order to talk with them about electronic exams (exams conducting procedures, duration of the exam, etc.) among many other aspects. Moreover, the Dean answered the students' inquiries about different issues faces students. |
| Graduation projects guides | The college held an awareness lecture for its students at the beginning of each semester about the graduation projects, including the registration steps and the project requirements, goals, tools and procedure to be followed. |
| Updating academic curricula based on quality requirements | The college works on applying the highest standards to update the academic curricula periodically in line with the development of technology and the needs of the labor market by analyzing the students, faculty members and courses coordinators' questionnaires, and following up the continuous developments in the technical field from scientific sources such as books and published scientific papers. |
| Seeking students' rights and responsibilities | The university seeks to educate the students about their rights and responsibilities, and guarantee their rights. Therefore, the university established two committees to protect students' rights:<br>• Sub-Committee for Student Rights Protection:<br>○ It considers all educational and administrative grievances and complaints of students, except for administrative matters outside the framework of the college.<br>• Main Committee for Student Rights Protection:<br>It considers all students 'grievances and complaints filed against the administrative authorities at the university and grievances coming from the sub-committee. |

**Comment on Student Counseling and Support** **

- Faculty members had post their contact information as well as office hours on Blackboard.

- All faculty had physical and virtual office hours each week where students contacted them via email, video conference, messages or by phone. Faculty were also available throughout the week and responded to students.
- Students of the IT Program had the right to use the health care provided in the health facilities of PMAU.
- Students of the IT Program took advantage of the available credit services and facilities such as electronic university books, sports facilities, basements, car parking, etc...
- On-line Da'am System was available to solve any technical issues faced by students during lectures and exams.
- The periodic meeting for male and female students was held on a fixed basis at the beginning of each semester, where students sent direct inquiries and raised inquiries to the Dean of the CCI.

| |
|---|
| Different activities and services were implemented at the PMAU and IT department levels to support students during their study journey. For example, the PMAU has efficient Student care center portal contains all necessary units the student needs, such as the social counseling unit, Mental Health Support Unit, The academic advising unit, The career counseling and career support unit, The scholarship and aid unit, Talent and Creativity Unit, and the Disabilities Support Unit. **This Student care center portal can be reached via** https://seu.edu.sa/aasa/en/student-care-center |

* including action time, number of participants, results and any other statistics.
** including performance evaluation on these activities

## 2. Professional Development Activities for Faculty and Other Staff

| Activities Implemented | Brief Description* |
|---|---|
| Improving teaching skills | Encourage the teaching staff to attend courses and workshops related to the development of their teaching skills. |
| Reviewing faculty performance | Audited, annually, teaching performance for faculty members. |
| Guiding teaching performance | Provide advice and guidance to improve and enhance the performance of teaching. |
| Providing workshops | Encourage members to enroll in the training courses and workshops in other areas. |
| Joining conferences and symposia. | Encourage faculty members to attend conferences and symposia. |
| Indorsing scientific contact | Promote scientific contact through visits and visiting professors. |
| Ongoing education | Encourage faculty members to enroll in continuing education programs. |
| Faculty members training courses | The faculty members at the level of male or female have received a number of training courses:<br>- The college collaborate with IBM Company to train their faculty members in three tracks: Predictive Analytics Modeler , Artificial Intelligence Analyst, Internet of thing Cloud Developer.<br>- The College signed a memorandum of understanding with Red Hat Company. This agreement aims to provide leading expertise in the fields of digitization, distinguished qualification and training for faculty members and students in the college.<br>- The College signed a memorandum of understanding with Huawie company to train their faculty members within the teacher training program and accreditation as Huawei Academy trainers. |
| **Comment on Professional Development Activities for Faculty and Other Staff** ** | |
| By the above points, the teaching staff have the opportunity to pursue professional development of their teaching and research skills. | |

* including action time, number of participants, results and any other statistics.
** including performance evaluation on these activities

## 3. Research and Innovation

| Activities Implemented | Brief Description* |
|---|---|
| Publishing researches and articles in journals and scientific conferences | In the IT department, 57 faculty members have published at least one research paper. A total of 217 publications have been published in journals, scientific conferences, and books. Total number of articles published in journals is 148. The total number of conference articles is 35, 17 patents and 17 books have been published. |
| Participating in scientific conferences, competitions, etc. | **Scientific Conferences:**<br>35 conferences were attended by the teaching staff.<br><br>**Competitions:** |

| | |
|---|---|
| | Participation in multiple competitions in their fields has been active among the teaching staff. In total, the college had 14 teams participating in eight competitions this year. CCI participated in the Cyber Saber Hackathon 2019, 2021 IEEE 11th Annual Computing, Advances in Intelligent Systems and Computing, Springer, the 12th International Conference on Internet (ICONI 2020), IEEE/ACM International Conference on Technical Debt, Madrid, Spain, 2021. Competing successfully resulted in higher rankings and recognition for the teams. |
| Joining and conduction training courses | **Joining Training Courses:**<br>In the computing and information technology domains, 7 courses were presented that focused on enhancing soft skills. There were lectures on artificial intelligence, Python programming, data security, writing scientific papers, architectural design, network security and design, and developing a voice recognition system. Feedback from the audience was positive and encouraged the continuation of similar training programs for the upcoming academic year.<br><br>**Conducting Training Courses:**<br>Training courses have been offered in IT, AI, Computing, and Professional and Research Writing by faculty members.<br><br>**Students Participation:**<br>Competitions and conferences were open to students and encouraged. |
| Joining National and International Workshops | Several CCI activities are aimed at enhancing, improving, and developing skills needed in professional settings. These topics include software development, artificial intelligence, big data analytics, IT, cyber security, Cloud computing, Blockchain, and information systems. A few examples of the topics we cover include Business, Management, Energy, Tourism, and Transportation. |
| **Comment on Research and Innovation** ** | |
| We can infer from the analysis provided that this year's publications and conferences were significantly improved over the previous ones. Publications in journals and conferences are increasing compared to last year. The department's research groups should be activated to improve the research process even further. | |

* including action time, number of participants, results and any other statistics.
** including performance evaluation on these activities

## 4. Community Partnership

| Activities Implemented | Brief Description* |
|---|---|
| External Collaboration | The BSIT program, in cooperation with IBM, has held several training courses for the IT faculty members, in three distinct tracks such as:<br>• Predictive Analytics Modeler.<br>• Artificial Intelligence Analyst.<br>• Cloud Internet Developer.<br><br>Each of those training course lasted for three weeks, where two trainees were measured in two stages, the first one by passing the Explorer Award test and the second one by passing the Mastery Award test, while the two trainees obtained the course certificate. After passing the exams, the BSIT program organizes these |

courses in order to develop the skills and increase the efficiency of its staff members on a continuous basis, which eventually is reflected in the development of students' skills in modern technologies, and is compatible with the requirements of sustainable development and the needs of the labor market.

The CCI College also signed a memorandum with Red Hat Company. This company considered to be, the one of the leading companies in the field of digital solutions, open source systems and cloud computing in the Kingdom. The signed agreement aims to provide leading expertise in the fields of digitization, distinguished qualification and training for the faculty members and students at the BSIT program, stressing that the program always seeks to develop and support its students and raise their academic and knowledge level, and aims to benefit from the high expertise in the field of open systems and contribute to the Saudi digital transformation and advance, Innovation, by providing a modern educational, training environment that contributes to the creativity and excellence of students college in the labor market.

Another important training program was in cooperation with Microsoft Corporation (Ref.2.18). Within the framework of the partnership between the PMAU and Microsoft Corporation, and in the interest of the BSIT program to support the university's vision to build knowledge in new technical solutions and qualify national experts for the needs of the future and the labor market, the PMAU was nominated for Microsoft's initiative a partnership with Zakka company to intensively train students in the BSIT program on artificial intelligence to serve the development of their skills and enable them to use and build applications based on artificial intelligence techniques, and accordingly, this cooperation was activated as the training of 15 students began with the training program (AI Ready Academy) for a period of 3 months, with a total of 160 hours, so that the trainee can obtain three professional Certificates Provided by Microsoft:

- Microsoft Azure Certification
- Microsoft Data processing Certification
- Microsoft Artificial Intelligence Certification

Similarly, the PMAU also signed a memorandum with Huawei to qualify the students of BSIT program in advanced technologies and raise the readiness of graduates for future jobs. The main propose of this cooperation is to set up a joint program aimed at developing talented students with regard to information and communication technology, where the two parties will work on developing training programs to transfer information and communication technology to students.

**Capture the Flag competition from the Saudi Federation for Cyber Security, Programming and Drones.**

| | |
|---|---|
| | Students, organized in teams, of the BSIT program achieved the second and the fifth were focused on the Capture the Flag competition, which was held via the first platform in the field of cybersecurity (CyberHub) by the Saudi Federation for Cyber Security, Programming and Drones. It was held under the patronage of His Excellency the Minister of Education, Hamad Al-Sheikh, at the level of Saudi universities within the CyberHub initiative, and the previous one started on March 12, 2021 and lasted 24 hours. The BSIT program was represented by a group of distinguished male and female students. |
| Community cooperation and conformances | The CCI College has also established IEEE student branch for the students of the BSIT program. IEEE is one of the largest professional and technical organizations in the world and is dedicated to promoting and developing technology. The established IEEE student branch provides the BSIT program's students with the opportunity to learn, meet peers from IEEE and interact with local professional members of the association. In addition to benefit from the programs, activities and conferences presented by the association and building a strong professional network.<br><br>Therefore, the establishment of the this branch at the university helps students of the BSIT program to benefit from programs and activities from older systems that attract their interest such as allowing participation:<br>• Conferences, workshops and regional events.<br>• Developing leadership skills and dealing with others.<br>• Presenting awards, scholarships, programs and precedents.<br>• Create a library Branch of IEEE at the College which will contain publications of IEEE<br>• Access to IEEE services and resources over the Internet. |
| Competitions | **The sixth programming challenge competition**<br>In the interest of the BSIT program to develop the skills of its students and improve their level of customary qualification, the II program urges its students to register for the current competitions locally and on regional level; It has great benefits in supporting students' capabilities and developing competencies in line with the requirements of the labor market and in line with Saudi Vision 2030. One of these competitions is the predecessors of the Sixth Programming Jam 6. (ACM) competition which are more distinguished among the activities due to their remarkable success in previous years, which were held at Prince Sultan University, March 20, 2021, and was organized by the ACM branch in the Kingdom of Saudi Arabia.<br><br>The precedent aims to provide opportunities for the BSIT program's students towards innovation and creativity, enhance skills in the ability to solve problems, and develop a spirit of |

| | |
|---|---|
| | cooperation and teamwork. The challenge took place in a virtual environment, in which the participants compete in the form of teams. Three teams of students from the BSIT program participated in a previous competition with other universities, and they were honored to participate in the challenge. |
| Training Courses | The Club of the College of Computing and Informatics held a number of training courses presented by faculty members from the college during the academic year 1441-1442 AH:<br>• Introduction to IoT Programming: Cloud IoT and Arduino Programming<br>• Data mining: from beginner to advanced<br>• Analyzing texts of social media using artificial intelligence technology<br>• Hacking Ethical (Training for Ethical Hacker Certification)<br>• Quarantine a hacked guest using a virtual environment<br>• (SDL) Scientific Writing, Publishing and Saudi Digital Writing<br>• (AADL) and Architectural Analysis and Design Language (UML) Modeling languages: Unity Modeling Language (IoT) Introduction to Programming the Internet of Things |
| **Comment on Community Partnership** ** | |
| Different professional training courses were implemented for teaching staff and students to improve their professional and research skills. In addition, the teaching staff participated in a number of speeches locally and globally. | |

* including action time, number of participants, results and any other statistics.
** including performance evaluation on these activities

## 5. Analysis of Program Activities

(including strengths, Areas for Improvement:, and priorities for improvement)

**Strengths :**

- The dean of the college of computing and informatics, Dr. Abdulaziz Albesher, held a meeting with students and discussed many topics regarding teaching and exams. Also, the issues that students faced during the semester were addressed by the dean. Moreover, students had participated in several competitions in the kingdom of Saudi Arabia. The College of Computing and Informatics encouraged students to register in the CyberHub competition provided by the Saudi Federation for Cybersecurity, Programming, and Drones. The College of Computing and Informatics participated in the initiative with ten teams, and they competed strongly with other universities.
- The faculties had attended several workshops during the academic year to improve their skills in teaching and researching as well as to adopt the most recent in the computer field and transfer this knowledge to students. Also, a session was conducted with the new faculties in policies and regulations. Meetings were conducted to the faculties by course coordinators to explain the teaching strategies and assessment plan.
- The faculty who are advisors were working along with students who got low performance than the average to encourage them and motivate them to study hard and submit their coursework on time.

**Areas for Improvement:**

- Provide more training to faculties in their field in order to improve their skills in teaching and research.
- Provide lab sessions and concentrate more practical in most essential courses.
- Develop the courses and rearrange course materials very well, such as PowerPoint slides and assessment plans.
- Provide training sessions to students and faculties to use the resources in the university, such as the Blackboard system.
- The College of Computing and Informatics(CCI) should get evolve with alumni students regularly.
- CCI should work with the students affairs office to organize a workshop for unemployed alumni.
- Provide training for faculties in advising systems to work with students and guide the students very well.

**Priorities for Improvement:**

- Provide training to the faculties in academic advising.
- Give access or permission to advisors when working with students in enrolling in the courses at the beginning of semesters.

# F. Program Evaluation

## 1. Evaluation of Courses

| Course Code | Course Title | Student Evaluation ( Yes-No) | Other Evaluations (specify) | Developmental Recommendations |
|---|---|---|---|---|
| ENG001 | English language Skills | Yes | Course Instructors | None.. |
| CS001 | Computer Essentials | Yes | Course Instructors | None |
| COMM001 | Communication Skills | Yes | Course Instructors | None. |
| MATH001 | Fundamentals of Math | Yes | Course Instructors | None. |
| CI001 | Academic Skills | Yes | Course Instructors | None. |
| CS140 | Computer Programming I | Yes | Course Instructors | Though most students seem satisfied with course delivery, and contents, some claimed that the course is not well structured. |
| IT101 | Introduction to IT & IS | Yes | Course Instructors | None |
| MATH150 | Discrete Mathematics | Yes | Course Instructors | Provide Supporting Material. |
| ENG103 | Technical Writing | Yes | Course Instructors | None. |
| IT110 | Computer Organization | Yes | Course Instructors | None. |
| ISLM101 | Islamic Culture (1) | Yes | Course Instructors | None. |
| CS141 | Computer Programming II | Yes | Course Instructors | - One programming practice session should be included with F2F classes.<br>The Instructors may provide the students with some practice exercises(ungraded) to make them assess their understanding. |
| MATH251 | Linear Algebra | Yes | Course Instructors | Provide Supporting Material |
| IT242 | Software Engineering | Yes | Course Instructors | None |
| IT241 | Operating Systems | Yes | Course Instructors | None. |
| MGT101 | Principals of Management | Yes | Course Instructors | None |
| ISLM102 | Islamic Culture 2 | Yes | Course Instructors | None. |
| IT243 | System Analysis and Design | Yes | Course Instructors | Reducing the theoretical contents and adding short questions. |
| IT244 | Introduction to Database | Yes | Course Instructors | None. |
| IT201 | Human Computer Interaction | Yes | Course Instructors | None |
| IT210 | Computer Networks | Yes | Course Instructors | None. |
| STAT101 | Statistics | Yes | Course Instructors | Update the power point presentations. |
| IT344 | Database Management Systems | Yes | Course Instructors | None.. |

| Course Code | Course Title | Student Evaluation ( Yes-No) | Other Evaluations (specify) | Developmental Recommendations |
|---|---|---|---|---|
| IT230 | Web Technologies | Yes | Course Instructors | None |
| IT270 | IT Project Management | Yes | Course Instructors | None. |
| IT340 | Network Management | Yes | Course Instructors | None. |
| E-COM101 | E-Commerce | Yes | Course Instructors | Change the individual project to a group project.<br>Increase critical thinking and teamwork among students. |
| ISLM103 | Islamic Culture 3 | Yes | Course Instructors | Support contents by videos. |
| IT490 | Senior Project I | Yes | Course Instructors | None. |
| IT440 | System Integration | Yes | Course Instructors | None. |
| IT342 | Enterprise Systems | Yes | Course Instructors | None. |
| IT446 | Data Mining & Data Warehousing | Yes | Course Instructors | None |
| IT448 | Mobile Application Development | Yes | Course Instructors | None |
| ISLM104 | Islamic Culture 4 | Yes | Course Instructors | None. |
| IT491 | Senior Project II | Yes | Course Instructors | None |
| IT445 | Decision Support Systems | Yes | Course Instructors | None |
| IT 441 | Multimedia Systems Development | Yes | Course Instructors | None. |
| IT407 | Professional Issues | Yes | Course Instructors | None |
| IT409 | IT Security and Policies | Yes | Course Instructors | None |
| IT499 | Practical Training | Yes | Course Instructors | - Increase interaction with training supervisors |

## 2. Students Evaluation of Program Quality

| **Evaluation Date :17/01/2021 and 14/04/2021** | **Number of Participants:1983** |
|---|---|
| **Students Feedback** | **Program Response** |
| **Student Surveys can be accessed from here :**<br><br>**Strengths:**<br>• The instructors use blackboard tools effectively.<br>• The instructors were fully committed to the delivery of the course contents.<br>• Course plan was made clear to me at the beginning of the course. | The department encourages instructors to establish good communication with their students and use technology effectively to deliver course content more efficiently. |
| **Areas for Improvement::** | The department continuously evaluates courses and their contents to assure |

| | |
|---|---|
| • Some courses did not help students to improve the ability to think and solve problems.<br>• Overall, students are not satisfied with the quality of some courses.<br>• Overall, students did not find that courses develop their teamwork skills. | enabling students the ability to develop thinking and solving problems skills.<br>Many course contents have already been improved or created over the summer and more courses are scheduled for improvement. |
| **Suggestions for improvement:**<br>• Reducing the content of some courses without affecting the learning outcome<br>• Add more practical tasks in different courses<br>Enhancement to some courses contents are needed. | The department continuously evaluates courses and updates IT Program curriculum.<br>Many course contents have already been improved or created over the summer and more courses are scheduled for improvement. |

* Attach report on the students evaluation of program quality

## 3. Other Evaluations

(e.g. Evaluations by independent reviewer, program advisory committee, and stakeholders (e.g., faculty members, alumni, and employers)

| **Evaluation method :** | **Date:** | **Number of Participants :** |
|---|---|---|
| **Summary of Evaluator Review** | | **Program Response** |
| **Strengths:**<br>•<br>• | | |
| **Points for Improvements::**<br>•<br>• | | |
| **Suggestions for improvement**<br>•<br>• | | |

* Attach independent reviewer's report and stakeholders' survey reports ( if any)

## 4. Key Performance Indicators (KPIs)

List the results of the program key performance indicators (including the key performance indicators required by the National Center for Academic Accreditation and evaluation)

**The full analysis of KPIs for the IT program in 2020/2021 can be accessed Ref.2.36.**

| No | KPI | Target Benchmark | Actual Value | Internal Benchmark | Analysis | New Target Benchmark |
|---|---|---|---|---|---|---|
| 1 | Percentage of achieved indicators of the program operational plan objectives | 100% | 83.3% | 100% | The target is not achieved based on the values of indictors in college plan. The program is opened in new branches | 100% |
| 2 | Students' Evaluation of quality of learning experience in the program | 4.0 | 3.8 | 3.8 | The value is not increased Because of COVID-19 epidemic. The students for this year did not attend practical labs in the campus. | 4 |
| 3 | Students' evaluation of the quality of the courses | 3.9 | 3.9 | 3.8 | The students see that the courses were delivered effectively, with full commitment and good interaction. Also, the students reflect that the overall assessments were fear and aid them to do well in the course. | 4 |
| 4 | Completion rate | 5% | Male: 1.7% Female:2% Total:1.8% | Male: 1.5% Female:2.9% Total:1.9% | In the common first year, there are some requirements to pass. The students should pass in STEP exam to continue in the program, because of that, the completion rate is low. | 5% |
| 5 | First-year students retention rate | 42% | Male: 37.3% Female:52.9% Total:42.9% | Male: 35.1% Female:49.3% Total:39.5% | There is a significant improvement in the number of First-year students. | 45% |
| 6 | Students' performance in the professional and/or national examinations | N.A | N.A | N.A | N.A | N.A |

| | | | | | | |
|---|---|---|---|---|---|---|
| **7** | Graduates' employability and enrolment in postgraduate programs | Number of graduates who are employed = 60% Number of graduates who are enrolled in postgraduate = 5% | Number of graduates who are employed = 59% Number of graduates who are enrolled in postgraduate = 0% | Number of graduates who are employed = 45% Number of graduates who are enrolled in postgraduate = 0% | There is significant increase in the percentage | who are employed = 60% Number of graduates who are enrolled in postgraduate = 5% |
| **8** | Average number of students in the class | Male: less than 25 student per class Female: less than 25 student per class | Male:16.7 Female: 19.4 | Male:14.8 Female:17.4 | The average number of student is acceptable | Male: less than 25 student per class Female: less than 25 student per class |
| **9** | Employers' evaluation of the program graduates proficiency | 4.25 | 4.68 | 4.07 | Achieved | 4.75 |
| **10** | Students' satisfaction with the offered services | 3.5 | 2.9 | 2.6 | There is an improvement in the students satisfaction | 3.5 |
| **11** | Ratio of students to teaching staff | Male: less than 25 Female: less than 25 | Male : 23.4:1 Female: 21.4:1 | Male :20.2:1 Female:17.5:1 | The new value satisfies the value set by the Ministry of Education | Male: less than 25 Female: less than 25 |
| **12** | Percentage of teaching staff distribution | Assoc. Pro. = 10% Assist. Pro. =70% Lecturer = 20% | Professor=0.87% Assoc. Pro. = 5.26% Assist. Pro. =69.29% Lecturer = 23.68% | Assoc. Pro. = 4.23% Assist. Pro. =74.03% Lecturer = 20.19% | The distribution of teaching staff is well distributed and is expected to increase with joining assistant professors. | Assoc. Pro. = 10% Assist. Pro. =70% Lecturer = 20% |
| **13** | Proportion of teaching staff leaving the program | 1% | 5.26% | 0.96% | There are some non-Saudi teaching staff who would like to go back to their countries. | 1% |
| **14** | Percentage of publications of faculty members | 70% | 47.8% | 59.4% | The result shows promising result about the publications for faculty members. | 70% |
| **15** | Rate of published research per faculty member | 2.1 | 1.82:1 | 1.5:1 | The rate is increasing and is expected to increase every year. The | 2:1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | university and the college research and publication strategies seems to encourage and motivate facility members in collaborating in research and publication. | |
| **16** | Citations rate in refereed journals per faculty member | 12:1 | 9.93:1 | 9.11:1 | The result shows promising result about the publications for faculty members. This is expected to increase further due the university support in aiding and encouraging research and publication. | 12:1 |
| **17** | Satisfaction of beneficiaries with the learning resources | 4.0 | 3.9 | 3.9 | There is not increased in the percentage | 4 |

**Comments on the Program KPIs and Benchmarks results :**

The result of the KPIs analysis seems to show satisfactory results across all KPIs; Not to forget the strong impact of COVID-19 epidemic, still the KPIs shows that CCI and their faculty members were committed in delivering quality teaching experience for the students, as well in proceeding in research and publications.

## 5. Analysis of Program Evaluation

(including strengths, Areas for Improvement:, and priorities for improvement)

**Strengths :**

- The CCI instructors use the Blackboard tools effectively in lectures including assessment tools such as assignments, quiz, and discussion board.
- The CCI instructors are fully committed to the course plan and to the curriculum.
- The CCI instructors encourage, motivate, and support students to be success in their studying.

**Areas for Improvement:**

- Develop and update the courses curriculum and adopt the latest versions in courses materials such as textbook, slides, and software.
- Regularly review the received feedbacks from students, instructors, and employers to improve the program outcomes

**Priorities for Improvement:**

- Regularly review the received feedbacks from students, instructors, and employers to improve the program outcomes.

## G. Difficulties and Challenges Faced Program Management

| Difficulties and Challenges | Implications on the Program | Actions Taken |
|---|---|---|
| The need to update the program curriculum to reflect the latest technologies. | More efforts were spent to keep the curriculum on the correct track. | IT program was upgraded with all courses of the new study plan are newly introduced. |
| The need to update some course syllabuses due to adopting new textbooks for some course. | More efforts were spent to keep the curriculum on the correct track. | 18 courses of the IT program plan were upgraded while all courses of the newly introduced plan are newly created from the scratch. |
| The need to recruit more faculty members as the number of students has increased. | More load were given to faculty members | 14 more faculty members were recruited. |
| | | |
| | | |

*Internal and external difficulties and challenges

## H. Program Improvement Plan

| No. | Priorities for Improvement | Actions | Action Responsibility | Date | | Achievement Indicators | Target Bench mark |
|---|---|---|---|---|---|---|---|
| | | | | Start | End | | |
| **1** | High | Continuing the lab support for all courses requiring practical training at all level program. | Department chair & courses coordinators & courses instructors. | June 2020 | Always | Number of courses with labs | 3 |
| **2** | High | Continuing the IT industry collaboration to be initiated with active participation of students and faculty members for current concepts and understanding. | Dean & Department chair | June 2020 | Always | Number of partnerships | 4 |
| **3** | High | Continuing the content development and feedback from faculty members should be carried out for each semester. | Department chair & courses instructors. | June 2020 | Always | Number of improved courses | 10 |
| **4** | Medium | Conducting more outreach to employers | Department chair | June 2020 | Always | Number of the employers | 15 |
| **5** | Medium | Offering extra tutorial classes for low achievers to improve their performance | Department chair & courses instructors. | June 2020 | Always | Number of courses that have tutorials | 20 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **6** | High | Aligning the program with Cyber-education framework. | Department chair & courses coordinators | June 2021 | Jun 2022 | Percentage of alignment with cyber security | 80% |
| **7** | High | Apply for program accreditations. | Department chair & Program coordinator | June 2021 | Jun 2022 | Number of accreditations | 1 |
| **8** | High | Offer the program in more PMAU branches. | Department chair & Program coordinator | June 2021 | June 2022 | Number of new branches | 1 |
| **9** | Medium | Increase students participation in local and international Competitions | Department chair & Program coordinator | June 2021 | June 2022 | Number of competitions | 7 |
| **10** | Medium | Offer training courses for faculty members. | Department chair | June 2021 | June 2022 | Number of training courses | 3 |

## I. Report Approving Authority

| | |
|---|---|
| **Council / Committee** | CCI Quality and Academic Accreditation Committee |
| **Reference No.** | 01/2021 |
| **Date** | 8-September-2021 |

## J. Attachments :

- **A separate cohort analysis report for male and female sections and for each branch**
- **A report on the program learning outcomes assessment results for male and female sections and for each branch (if any)**
- **A report on the students evaluation of program quality**
- **Independent reviewer's report and other survey reports (if any)**