

ABET
Preliminary Self-Study Report

for the

**Bachelor of Science in
Information Technology**

at

Batangas State University
College of Informatics and Computing Sciences
BatStateU Pablo Borbon Main II, Alangilan, Batangas City

October 1, 2017

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**Program Self-Study Report
for
CAC of ABET
Accreditation or Reaccreditation**

BACKGROUND INFORMATION

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B. Program History

The Information Technology program was first offered in 1998 under the College of Computer Studies. In the year 2000, the college was renamed to School of Informatics and Computing Sciences and was merged with the College of Engineering, Architecture and Fine Arts as a department in 2007 and it became College of Engineering, Architecture, Fine Arts and Computing Sciences (CEAFACS). After six (6) years the department is now called the College of Informatics and Computing Sciences.

The BSIT program has been granted Level II status by the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP) from July 16, 2014 until July 15, 2018. Figure 1 shows the BSIT enrollment trend while Figure 2 shows the graduates for the last five years.

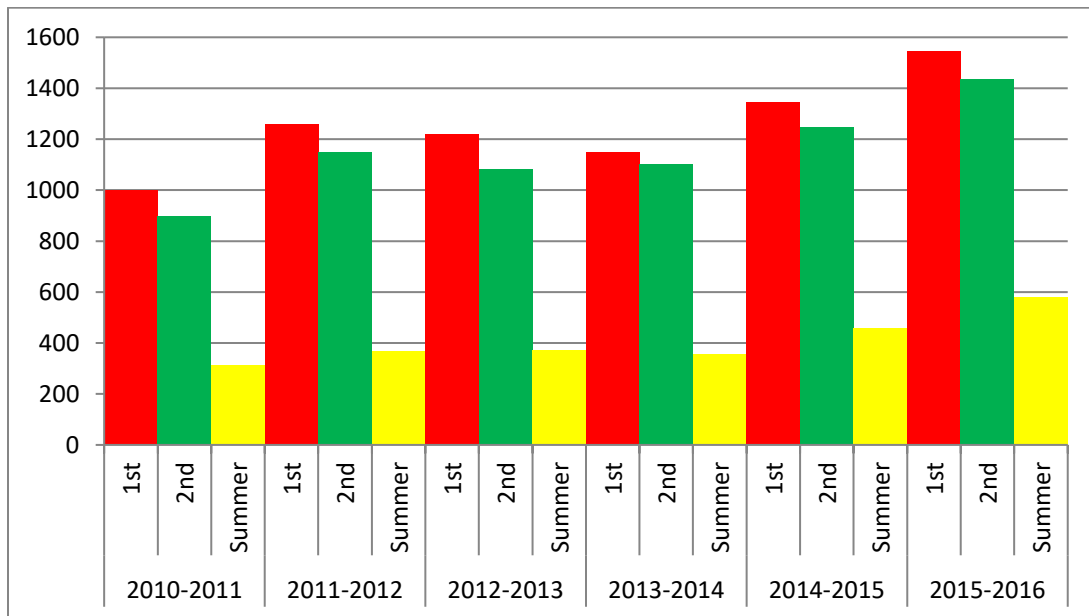


Figure 1. BSIT Enrollment Trend 2010 to 2016

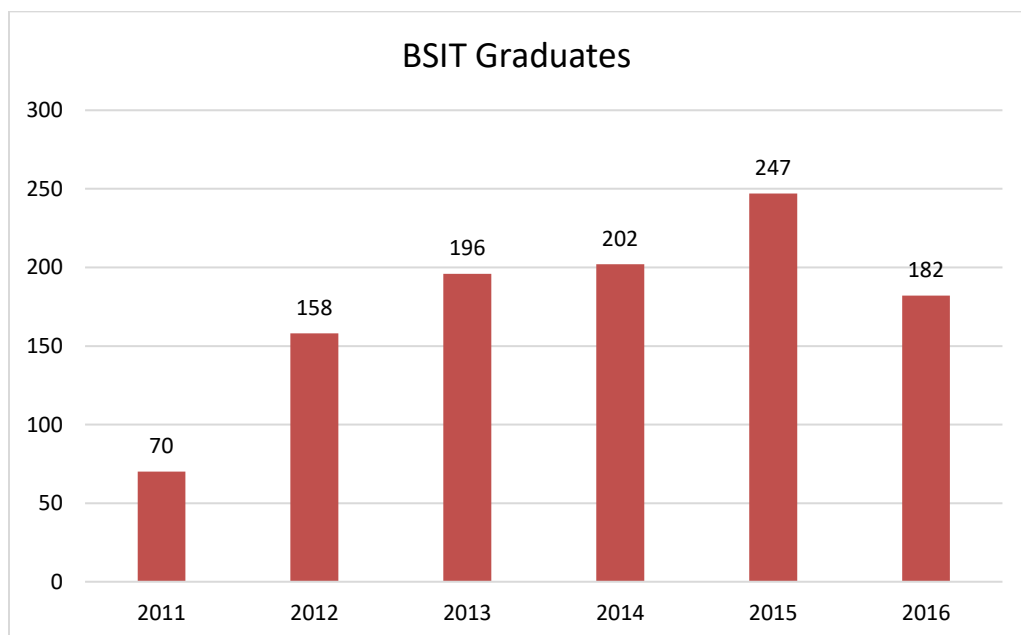


Figure 2. BSIT Graduates 2011- 2016

Figure 1 and Figure 2 show the enrolment trend for the Information Technology Program and its corresponding graduate rate. Based on records, there has been a continuous increase in the number of enrollees per academic year. However, there is a sudden decrease in enrolment during the academic year 2012-2013 and 2013-2014 due to some reasons like increase in drop rate and retention policy of the University. Hence, the Information Technology Program addressed this concern and as a result, the enrollees for the next academic years increased in number.

C. Options

As per the curriculum year 2016-2017, Information Technology program has included three specialization tracks in its program. These tracks include Network Technology, Business Analytics, and Service Management. During the third academic year first semester, IT Students are allowed to select which specialization track they want to take.

D. Program Delivery Modes

BatStateU operates on the standard two-semester system. One semester credit hour corresponds to one class hour or three laboratory hours per week for 18 weeks. Classes are taught in lecture, seminar and traditional laboratory mode depending on the course. There are no off-campus options for all courses. Virtual Learning Module is being incorporated in some courses like Network Fundamentals, Routing Protocols and WAN Technologies. The courses in the BS Information Technology Program are being conducted from 7:00AM to 7:00PM Mondays to Fridays., However, some courses are being taught on weekends from 7:00AM-6:00PM.

E. Program Locations

The program under evaluation by ABET is being offered at BatStateU Pablo Borbon Main II, Golden Country Homes Subd., Alangilan, Batangas City, Batangas.

F. Public Disclosure

Program Educational Objectives and Student Outcomes appear on the department bulletin board, on the department web page http://batstate-u.edu.ph/sites/colleges/cics/?page_id=158 in university catalogs, and in the departmental promotional literature.

G. Deficiencies, Weaknesses or Concerns from Previous Evaluation(s) and the Actions Taken to Address Them

The BS Information Technology program will be applying for initial accreditation under ABET – CAC.

GENERAL CRITERIA

CRITERION 1. STUDENTS

Students' performance is evaluated and students are advised regarding academic and career matters, and their progress are monitored to foster their success in achieving program outcomes, thereby enabling them as graduates attaining program objectives. The student progress monitoring starts from the day of his enrolment at Batangas State University in the BS Information Technology Program. Upon admission the student receives his plan of study (curriculum) which is also included in the students' portfolio. The plan of study contains the list of all courses that must be completed by the student to meet the graduation requirements. Policies are in force for the acceptance of transfer credits, substitution of courses when required, and to ensure that all students meet all program requirements.

An Academic Adviser is tasked to monitor a student's progress. The prerequisite(s) of each course is/are indicated on the curriculum. Evaluation is done by the adviser of the student and the enrolment software before the student enrolls. The student's portfolio is updated whenever there is a change of status regarding courses.

A. Student Admissions

A.1 University Admission

A student applicant for undergraduate courses must be a graduate of an accredited 4-year high school recognized by the Government and those who have completed an equivalent education as Certified by the Department of Education. They must satisfy the requirements for admission of the University.

1. Filled-up application form for BSU Admission Test.
2. Certified true copy of final grades in Math, Science, English and Filipino subjects from 1st-3rd year high school or Certified True Copy of Form 138 (Report Card) from high school.

3. Two (2) recent copies of 2" x 2" ID pictures with applicant's signature at the back.
4. Non-refundable testing fee of P250.00
5. English Proficiency Testing Fee of P100.00
6. Certified true copy of grades in all subjects having an average 80% and above from 1st year to 4th year high school signed by the principal/registrar or original and photocopy of report card if graduated from high school.

The Testing and Admission Office (TAO) of BatStateU provides testing services to students, teachers and non-academic personnel who need assistance. TAO interprets these examinations to screen and decide on unqualified students and applicants to give way in the admittance of the deserving and qualified applicants.

Entrance examinations are administered between the months of February and March. Applicants shall be informed of the scheduled time and date of examination upon their application in the Testing and Admission Office (TAO). The test includes admission, classification, qualifying and psychological test in every program the university offers. The results are mailed two weeks after the examination.

Foreign students aspiring to enroll in the University shall be required to meet substantially the entrance requirement prescribed for a course, provided that their prior training shall have been obtained in an institution of recognized standing and there is a place for them in the College. They shall first secure clearance from the Commission on Higher Education (CHED) and communicate with the Office of the Registrar regarding admission requirements. They shall send their transcript of records and credentials pertinent to their educational background for evaluation by the Registrar. Before starting to work on their travel papers to the Philippines, they must wait for the letter of admission from the Registrar.

B. Evaluating Student Performance

The College of Informatics and Computing Sciences has raised its standards of student evaluation to ensure uniformity in assessing the students' performance in different subject areas and to maintain the academic standard of the University. The BS

in Information Technology program which is under the college provides syllabus to each student which includes the Student Outcome provided in each course. The Student Outcome gives the student of the program the overview of what to apply and learn in a particular course to be taken.

Each course has corresponding learning objectives with the relevant student outcomes to ensure that the discussion and evaluation method would reflect the attainment of the student outcomes. The students are evaluated by the faculty using four major exams that are given periodically, which includes problem solving and multiple choice type of exam, and quizzes which are given at the end of every topic. Homework and problem sets are also required by the faculty after every topic.

Laboratory experiments are required to be accomplished in every course with parallel laboratory together with their practicum exam after each accomplished experiment of a given topic. Design projects and research projects are required to be accomplished and evaluated by a defense panel composed of BS in IT Program faculty members.

The students' performance are evaluated depending on the subject description such as pure lecture, and lecture with laboratory. They are evaluated by points from the results of their performances in the four major examinations and other activities like quizzes and projects. The procedure also include requiring the students to engage and participate in classroom discussions. The factors considered are attendance, recitation, examination and other activities to test the abilities of the students. The system of grading uses a scale of 1.0 to 3.0 as passing grade, and 5.0 as failed. Students are evaluated using this new grading system. Table 1-1 shows the corresponding grading system in each class.

Table 1-1 University Grading System used by the BS IT Program

Subject Type	Grading System
I. Pure Lecture	
a. Professional Subjects	80% A + 20% B
b. General Education	
1. Languages, Social Sciences, Literature	60% A + 40% B
2. Mathematics	80% A + 20% B
II. Subjects with Laboratory	60% A + 30% L + 10% B
III. Professional Subjects (with project design output)	60% A + 30% D + 10% B
IV. Research Methods	
a. Pure Lecture	80% A + 20% B
b. Lecture with Proposal Output	40% A + 50% P + 10% B

Legend

- A Exams Average Grade
 B Class Standing (Attendance, Assignments, Seat works)
 L Laboratory Average Grade
 P Presentation Grade

All scores are to be transmuted to 75% scale using the formula:

$$\% \text{ Exam} = (5/8) (\text{raw score}/\text{total no. of items}) + 75/2$$

The overall passing cut-off is 60% of the total transmuted (raw) grade. Students receive graded work one to two weeks prior to submission of all requirements. Final grades are reported to the students one week after the final exam via online system.

Table 1-2 Conversion of Percentage Grade to Numerical Grade

Numerical Grade	Percentage Grade	Description
1.00	98-100	Excellent
1.25	94-97	Superior
1.50	90-93	Very Good
1.75	88-89	Good
2.00	85-87	Meritorious
2.25	83-84	Very Satisfactory
2.50	80-82	Satisfactory
2.75	78-79	Fairly Satisfactory
3.00	75-77	Passing
5.00	Below 70	Failure
Inc.		Incomplete

A student is given a grade of “Incomplete” if his/her class standing is passing but fails to take examination or fails to submit the requirements of the course at a specified period due to illness or other valid reasons.

A grade of “Incomplete” must be completed within 150 days or one semester. A student who fails to complete the deficiency/ deficiencies at the end of one semester shall automatically obtain a grade of 5.0 in the subject. Transfer Students and Transfer Courses

The University credits subjects for transferee from other Departments, State Colleges and Universities based on the course description of the subjects taken and the corresponding number of units earned from the school of origin.

Transfer Student from another University

Subjects of transferees from private Colleges/Universities are accredited based on the following guidelines:

- a. Applicants should pass the entrance examination to be conducted by the Testing and Admission Office (TAO).
- b. A transfer student may be admitted only if it could be proven satisfactorily through the screening process that this student is an asset, and is not a liability to the University.

A transfer student may be admitted provided:

1. Student applicant has obtained an average of 2.50 or better for all collegiate academic units earned outside the University. This requirement must be strictly followed. Border cases may be referred by the Dean to the VPAA for proper action.
2. Student applicant shall complete in the University at least 50% of the unit requirements for his/her course;
3. The quota set by the Dean concerned has not yet been filled up;

4. Student applicant shall undergo screening by the Director of Student Service as to the conduct in the school where the student was previously enrolled;
5. Student applicant shall likewise undergo screening by the Dean of the College concerned who shall determine the fitness to undertake the course the student wishes to pursue and to find out if what the student learned in the previous school could suffice for this purpose. Validation is to be administered by the College and completed within a period set by the University rules and regulations.
6. Filled-out application and transferee evaluation forms for BSU Admission Test.
7. Certification of Good Moral Character from the school where this student was previously enrolled;
8. Two (recent) copies 2" x 2" ID picture with applicant's signature at the back.
9. Non-refundable testing fee of P250.00

Transfer Student from another Course, Same University

The Department Chairman evaluates the subjects and the students' proposed program study and calculates the year of residency of the student. Upon the approval of the Department Chairman and the Dean, the transfer student from another course must undergo an exit interview from the previous department, and an entrance interview from the accepting department. The student's records are then transferred to the IT Department for filing.

A student who cannot meet the academic requirements of the BSIT Program may be advised by the Dean to shift to another program in a different college.

C. Advising and Career Guidance

Student advising is a fundamental part of the BS in Information Technology program and all students must be advised before they are allowed to register every semester. At present, there is one academic adviser for every 45 students.

Certain activities to help the students are conducted to provide services among them. Career orientation seminar is provided for the graduating students to help them decide on the possible career paths in the fields of information technology which they may be interested in. On the other hand, the Office of the On-the-Job Training and Job Placement Office, through the College Coordinator, conducts an on-the job training seminar for students who will undergo training in different industries/companies. These offices provide students with the background, rules and regulations on the OJT implementation; and information regarding the company chosen. A job fair is also catered by the two offices for graduating students and alumni.

Moreover, the Guidance and Counseling Office (OGC) of the University seeks to respond to the developmental needs of the University students through organized program and services. The OGC facilitate students' holistic development, their intellectual, moral, and professional competence as prerequisites to live a fully human and Christian life. Advising and counseling involves the faculty members designated as faculty adviser who take care of the academic needs of the students enrolled in their respective program. They monitor the performance of the students by assisting them in choosing courses they need.

Career guidance is also provided to students by giving consultation and advice to the different degree programs that the university offers.

The students are assigned to one faculty adviser at the beginning of the school year. The faculty serves as a permanent academic adviser of the student up to graduation.

Faculty advisers declare their consultation hours for advising and career guidance every semester. During consultation meetings, the adviser and the student discuss progress, plans and difficulties, including class and internship experience. The adviser may refer the student with difficulties to professional counseling, and may also invite the parents to the advising / counseling sessions. The adviser also discusses possible internship, career opportunities, program specialization, help students applying for grants and scholarships, advise student professional organizations, and other department activities.

Advisers keep a folder for each student, which includes transcripts of records, advising forms, photos, and any other student specific documentation. During enrollment, advisers give appropriate courses for the upcoming semester. Advisers must ensure that course pre-requisites are enforced as specified in the course syllabi and curriculum. The course selection given to the student is documented in the Proposal Slip.

D. Work in Lieu of Courses

The university does not give credits for work in lieu of any courses.

E. Graduation Requirements

The student may apply for graduation after completing all the academic requirements prior to the last semester of the program of study. Ideally the preliminary evaluation of academic standing of the student shall be conducted at least one semester before the final semester when the students apply for graduation. On the other hand, a final evaluation shall be conducted in the final semester during the schedule given by the registrar's office (evaluating unit).

It is after this final assessment that the evaluator will determine the student's eligibility to apply for graduation. The final requirement for application to graduation includes completion of all courses prior to the present semester, after which an "Application for Graduation Form" is issued to the student together with the checklist of other required documents for graduation, such as NSO birth certificate, Form 137, thesis approval sheet, and honorable dismissal (for transferees).

The application for graduation shall be duly accomplished by the students, noted by the instructors of the courses where students are currently enrolled recommended by the college dean and approved by the university registrar. A grace period for submission of the completed application form is set by the registrar.

The registrar will then prepare the list of applicants for graduation to be given to the department chairperson for verification. A series of deliberation is conducted from the department level, college level and the university level (academic council) to determine

the final candidates for graduation based on the completion of all the course requirements of the program and other necessary obligations.

The approved candidates for graduation shall be consolidated by the Registrar's office and submitted to the President's office for endorsement to the Board of Regents who will officially grant a resolution approving the graduation of the students.

Moreover, the student must also be cleared from all money, property and school accountabilities. This is ensured by accomplishing the student's clearance form to be checked and signed by the student organization treasurer and president, faculty adviser, University cashier, University accountant, and University guidance counselor. A student who is enrolled in the Information Technology program which is a four year program should finish within four to five (4 to 5) years period as specified in the university registrar residency requirement.

F. Transcripts of Recent Graduates

Transcripts of records of recent graduates will be provided to ABET, in accordance with ABET's specifications as to how transcripts of records will be selected.

CRITERION 2. PROGRAM EDUCATIONAL OBJECTIVES

A. Mission Statement

Batangas State University is committed to the holistic development of productive citizens by providing a conducive learning environment for the generation, dissemination, and utilization of knowledge through innovative education, multidisciplinary research collaborations, and community partnerships that would nurture the spirit of nationhood and help fuel national economy for sustainable development.

B. Program Educational Objectives

The alumni of BS Information Technology program, about three to five years after graduation shall:

1. Help create innovations to ensure the competitive edge of the Philippines computing industry.
2. Adhere to ethical standards in the practice of the computing profession.

These program educational objectives appear on the department bulletin board, on the department web page http://batstate-u.edu.ph/sites/colleges/cics/?page_id=158 in university catalogs, and in the department promotional literature.

C. Consistency of the Program Educational Objectives with the Mission of the Institution

Table 2-1 shows the relationship between Program Educational Objectives of BS in Information Technology Program to the Mission of the university. It clearly illustrates that the two program educational objectives of the program are consistent with the mission of Batangas State University.

The first objective, “Help create innovations to ensure the competitive edge of the Philippine computing industry” responds to the mission which is to develop a

productive citizens and generate, disseminate, and utilize knowledge through innovative education, multidisciplinary research collaborations, and community partnerships for the economy to have a sustainable development. Hence, PEO1 is consistent with the mission of the university.

Table 2-1
Relationship of PEO to Mission

Program Educational Objectives	University Mission	
	development of productive citizens by providing a conducive learning environment for the generation, dissemination, and utilization of knowledge through innovative education, multidisciplinary research collaborations and community partnerships	nurture the spirit of nationhood and help fuel national economy for sustainable development.
Help create innovations to ensure the competitive edge of the Philippines computing industry.	X	X
Adhere to ethical standards in the practice of the computing profession.		X

The second program educational objective “Adhere to ethical standards in the practice of the computing profession” supports the university mission that mandates in its function to instill moral values, nurture the spirit of nationhood and help fuel national economy for sustainable development through adhering to ethical standards in the practice of the computing profession.

Thus the two program educational objectives of the BS in Information Technology program are aligned with the mission of Batangas State University. The program educational objectives serve to help the realization of the mission of the University.

D. Program Constituencies

D1. List of Constituencies

1. Industry Employers
2. Alumni
3. Professional Organization
4. Faculty Members
5. Students

D2. Industrial Advisory Committee

To ensure that the constituents listed in D1 are properly consulted, the College created a representative body designated as the Industrial Advisory Committee (IAC) for the program.

The Computer Science and Information Technology Programs have a common Industry Advisory Committee. The Industrial Advisory Committee (IAC) consists of the following members:

- a. Two members from various industries where Computer Science and Information Technology graduates are being employed;
- b. One representative from the national professional organizations;
- c. One CS and one IT distinguished alumni who holds at least a supervisory or managerial position in their current employment;
- d. One CS and one IT Faculty member; and
- e. One CS and one IT student.

The two programs have agreed to have a common IAC because the IT industry is a mixture of IT and CS professionals. Having a common IAC can give the two programs the broadest possible representation of the IT industry.

The BSIT Program Educational Objectives (PEOs) depict the graduates' capability to practice their profession and help create innovations for the development of the computing industry of the Philippines. The alumni are equipped with the knowledge and skills necessary to handle and be part of projects leading to innovations that involve information technology.

Program educational objectives are responsive to the needs of stakeholders particularly the industry employers because PEOs were developed in full consultation with the IAC. As described above, there are three representatives of employers, two alumni, and one representative from a professional organization. These six members ensure that the needs of the employers are reflected in the PEOs. A more detailed description of the processes utilized is given in section E.

E. Process for Review of the Program Educational Objectives

The process for the formulation of the PEO starts with a draft discussed to the IT program faculty members by the PEO Committee for the Information Technology program based on the industry needs, University vision and mission, CHED Memorandum Order No. 25, Series of 2015 and other factors that have significant impacts on program improvement. The PEO statements are then presented to the IAC for review and recommendations. Then, the PEO statements are presented again to the program faculty members, as facilitated by the PEO Committee, for their final review and recommendations. Then, the final approval by the College Dean, Vice President for Academic Affairs and University President is sought. This process is summarized in figure 2.1

Process for Periodic Review and Revision of Program Educational Objectives

Revision of the PEOs may be necessary when there are modifications in the University Mission or in the policies or guidelines of the accrediting units, including the ABET and of the Commission on Higher Education, and the changing needs of the industry. A periodic review and revision every three years is conducted by the IT Faculty PEO committee members.

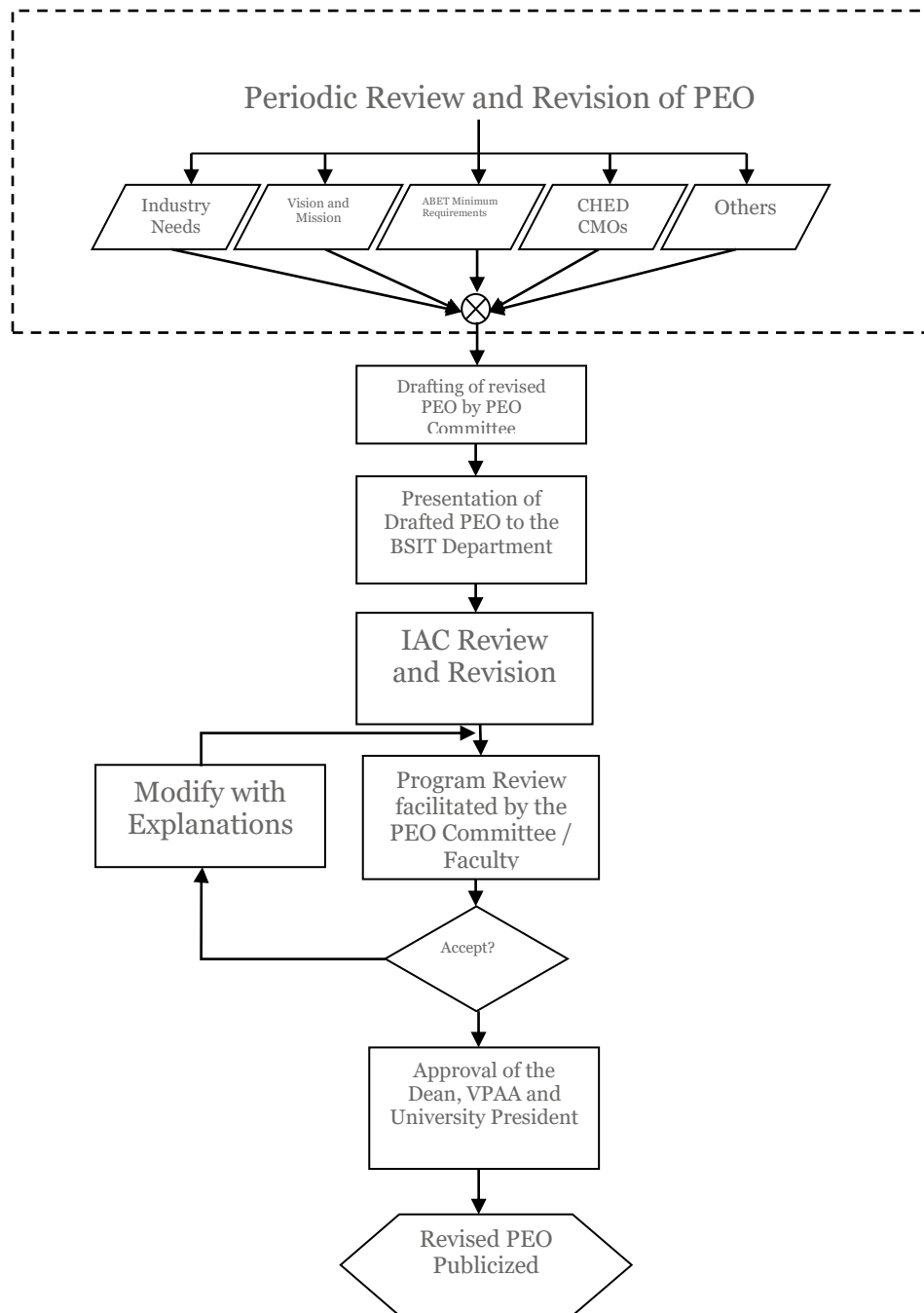


Figure 2-1. Process for Periodic Review and Revision of Program Educational Objectives

In the periodic review and revision of the PEOs, the revised PEO statements are drafted by the PEO Committee based on the needs of the constituents: industry, university vision and mission, ABET requirements, CHED CMO and other factors

that may have significant impact on the program improvements. These revised PEOs are presented to the IAC for review and further revision for recommendation to the program. Then, the PEO statements are presented again to the IT program faculty members, as facilitated by the PEO Committee, for their final review and recommendations. Then, the final approval by the College Dean, Vice President for Academic Affairs and University President is sought. This process is summarized in Figure 1 – 2.

CRITERION 3. STUDENT OUTCOMES

A. Student Outcomes

The program must enable students to attain, by the time of graduation the following characteristics:

- A. Ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- B. Ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution
- C. Ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.
- D. Ability to function effectively on teams to accomplish common goal
- E. Ability to understand professional, ethical, legal, security and social issues and responsibilities.
- F. Ability to communicate effectively in speech and in writing with a range of audiences.
- G. Ability to analyze the local and global impact of computing on individuals, organizations and society.
- H. Ability to recognize the need for and ability to engage in continuing professional development
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.

A1. Additional Student Outcomes under the Program Criteria

- J. Ability to use and apply current technical concepts and practices in the core information technologies; human computer interaction, information management, programming, networking, and web systems and technologies.
- K. Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems
- L. Ability to effectively integrate IT-based solutions into the user environment.
- M. Ability to understand best practices and standards and their application.
- N. Ability to assist in the creation of an effective project plan.

Student Outcomes for the Information Technology program have been published at http://batstate-u.edu.ph/sites/colleges/cics/?page_id=158

B. Relationship of Student Outcomes to Program Educational Objectives

The attainment of student outcomes by the time of graduation lays foundation for further acquisition of knowledge needed for the subsequent realization of the

program educational objectives from 3 to 5 years. The graduates are expected to build on this foundation as they progress with their practice of information technology.

Program Educational Objectives

The alumni of BS Information Technology program, about three to five years after graduation shall:

1. Help create innovations to ensure the competitive edge of the Philippines computing industry.
2. Adhere to ethical standards in the practice of the computing profession.

Table 3-1
Relationship of Student Outcomes
to Program Educational Objectives

Student Outcomes	Program Educational Objectives	
	PEO 1	PEO 2
a. Ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.	X	
b. Ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution	X	
c. Ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired need	X	X
d. Ability to function effectively on teams to accomplish common goal	X	X
e. Ability to understand professional, ethical, legal, security and social issues and responsibilities.		X
f. Ability to communicate effectively in speech and in writing with a range of audiences.	X	
g. Ability to analyze the local and global impact of computing on individuals, organizations and society.	X	X
h. Ability to recognize the need for and ability to engage in continuing professional development	X	X
i. Ability to use the techniques, skills, and modern tools necessary for computing practice.	X	X
j. Ability to use and apply current technical concepts and practices in the core information technologies;	X	X

human computer interaction, information management, programming, networking, and web systems and technologies.		
k. Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	X	
l. Ability to understand best practices and standards and their application.	X	
m. Ability to understand best practices and standards and their application.	X	X
n. Ability to assist in the creation of an effective project plan.	X	

The graduates are expected to achieve the program educational objectives can be realized after several years of professional experience. However, the student outcomes must produce graduating students endowed with the education, skills, and tools they need to achieve the program educational objectives as they pursue the professional career. Table 3-1 shows the relationship of the student outcomes to the educational objectives for the BSIT program.

As shown in Table 3-1, Student outcomes **(a)** with the ability to apply knowledge of computing, basic science and mathematics, depicts the graduates' capability to practice their profession and help create innovations for the development of the computing industry of the Philippines.

Student outcome **(b)** having an ability to analyze a problem and identify and define the computing requirements is necessary to ensure the competitive edge of the Philippines computing industry;

Student outcome **(c)** able to design, implement and evaluate the capability of a computer-based system, process, component or program, help create innovations in computing industry, and to meet the desired needs one should adhere to ethical standards in the practice of the computing profession.

Student outcome **(d)** ability to function effectively on teams to accomplish common goal, prepares graduates in the real world environment, thus help them to achieve the PEO 1 and 2.

Student outcome **(e)** Ability to understand professional, ethical, legal, security and social issues and responsibilities, supports PEO 2 in adhering to ethical standards in the practice of the computing profession.

Student outcome **(f)** An ability to communicate effectively in speech and in writing with a range of audiences helps create innovations by expressing one's idea to others that would ensure the competitive edge of the Philippines computing industry. Student Outcomes (e) and (f) enable them to express themselves in a more professional way.

Student outcome **(g)** Ability to analyze the local and global impact of computing on individuals, organizations and society helps create innovations in computing industry, and to analyze impacts one should adhere to ethical standards in the practice of the computing profession.

Student outcome **(h)** Ability to recognize the need for and ability to engage in continuing professional development, help create innovations in computing industry, and to meet the desired needs one should adhere to ethical standards in the practice of the computing profession.

Student outcome **(i)** An ability to use the techniques, skills, and modern tools necessary for computing practice, help create innovations in computing industry, and to meet the desired needs one should adhere to ethical standards in the practice of the computing profession.

Student outcome **(j)** Ability to use and apply current technical concepts and practices in the core information technologies; human computer interaction, information management, programming, networking, and web systems and technologies, help create innovations in computing industry, and to meet the desired needs one should adhere to ethical standards in the practice of the computing profession.

Student outcome **(k)** Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems will help create innovations to ensure the competitive edge of the Philippines computing industry.

Student outcome **(l)** Ability to understand best practices and standards and their application will help create innovations to ensure the competitive edge of the Philippines computing industry.

Student outcome **(m)** Ability to understand best practices and standards and their application, help create innovations in computing industry, and to meet the desired needs one should adhere to ethical standards in the practice of the computing profession.

Student outcome **(n)** Ability to assist in the creation of an effective project plan will help create innovations to ensure the competitive edge of the Philippines computing industry.

With the attainment of the SOs, private and government agencies and companies will be more satisfied with the job performance of the graduates because of the entry level skills and competencies that will be demonstrated by the graduates of the University.

C. Process for the Establishment and Revision of the Student Outcomes

The process for the formulation of the SO starts with a draft created by the IT SO committee and discussed in the department meeting based on the industry needs, University vision and mission, ABET requirements, CHED Memorandum Order and other factors that have significant impacts on program improvement.

D. Enabled Student Characteristics

Each of the student characteristics as expressed in the Student Outcomes (a) through (n), is addressed in at least one course. Each course has a set of Intended Learning Outcomes (ILOs) which are stated in the course specifications, and each ILO is mapped to a particular student outcome. Attaining the ILOs enables the student to attain the

corresponding student outcome. Thus, taking all the courses in the BSIT curriculum enables the students to attain all the SOs.

The IAC consultation is also one of the strategies utilized. The program stakeholders (i.e. industry representatives, professional organization members, alumni, faculty members and students) give their own insights that lead to the improvement of existing courses in the curriculum. Although the IAC recommendations were not considered in the revision of the SOs, their suggestions however, were implemented in the improvement of the curriculum.

CRITERION 4. CONTINUOUS IMPROVEMENT

The Information Technology program uses appropriate, documented process for assessing and evaluating the level of attainment both for the Program Educational Objectives (PEO) and Student Outcomes (SO). The results, decisions and actions from the assessment processes are used to determine areas where changes should be implemented to further improve the quality of PEO and SO. The collection, recordings, assessment, and evaluation of information for program educational objectives and student outcomes are described below.

A. Student Outcomes

The assessment process of each student outcomes is conducted annually and participated by the faculty members, students and training supervisors of the companies where the students have their on-the-job training. There are two courses to be assessed according to the level of attainment for each student outcome whereas the needed information comes from the assessment given by the faculty members who teach the course and students who take the course.

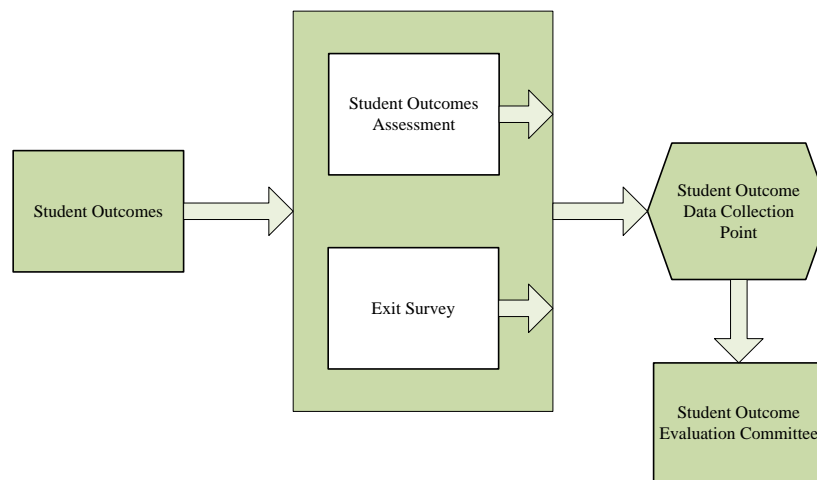


Figure 4-1. Assessment Procedures for Student Outcomes

Training supervisors rate all the student outcomes attained by the on-the-job training of BSIT students according to their experiences during the training in a

particular company. There is also an assessment of all the student outcomes conducted for the graduating students.

Figure 4-1 shows the assessment procedure for student outcomes and is discussed further below.

The faculty members through the SO Committee determined the appropriate course to assess and evaluate the achievement of each SO and the methods of assessment for each course. Faculty members handling the selected courses used in the SO assessment and evaluation provide the results to the SO committee. The faculty members through the SO committee determined the extent to which the SOs were achieved.

To evaluate the progress of level of attainment for each student outcome, these are mapped in the curriculum wherein two courses are assigned each year for each student outcomes. Student outcomes are to be assessed annually. The selected courses will be reviewed and modified every three (3) years or whenever the curriculum is modified. The courses that have been completed on the previous semester will be selected to assure the affectivity of the assessment process. A maximum of 20 students per course will be assessed.

Table 4-1 shows the selected Information Technology courses used in the student outcome assessment in AY 2016 -2017. This calendar year involve all courses that are based from the BSIT curriculum (2012 – 2013).

Table 4 – 1
List of Courses evaluated for AY 2016 – 2017

Student Outcomes	Course 1	Course 2
a. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.	<i>CpE 330 Logic Circuit</i>	<i>IT 307 Routing Protocol and Concept</i>
b. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution	<i>CpE 516 Systems Analysis and Design</i>	<i>IT 312 IT Capstone I</i>

c. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.	<i>IT 423 IT Capstone Project 2</i>	<i>Web Development</i>
d. An ability to function effectively on teams to accomplish common goal	<i>IT 423 IT Capstone Project 2</i>	<i>IT 306 Web Development</i>
e. Ability to understand professional, ethical, legal, security and social issues and responsibilities.	<i>IT 418 Professional Ethics and Computer Laws</i>	<i>OJT 500 Internship Training</i>
f. An ability to communicate effectively in speech and in writing with a range of audiences.	<i>IT 423 IT Capstone Project 2</i>	<i>IT 312 IT Capstone I</i>
g. Ability to analyze the local and global impact of computing on individuals, organizations and society.	<i>IT 418 Professional Ethics and Computer Laws</i>	<i>IT 308 Computer Systems and Data Security</i>
h. Ability to recognize the need for and ability to engage in continuing professional development	<i>IT 418 Professional Ethics and Computer Laws</i>	<i>OJT 500 Internship Training</i>
i. An ability to use the techniques, skills, and modern tools necessary for computing practice.	<i>IT 307 Routing Protocol and Concepts</i>	<i>IT 314 LAN Switching and Wireless Communications</i>
j. Ability to use and apply current technical concepts and practices in the core information technologies; human computer interaction, information management, programming, networking, and web systems and technologies.	<i>IT 306 Web Development</i>	<i>IT 311 Software Engineering</i>
k. Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	<i>CpE 516 System Analysis and Design</i>	<i>IT 311 Software Engineering</i>
l. Ability to effectively integrate IT-based solutions into the user environment.	<i>OJT 500 Internship Training</i>	<i>IT 432 IT Capstone Project II</i>

m. Ability to understand best practices and standards and their application.	<i>IT 308 Computer Systems and Data Security</i>	<i>IT 307 Routing Protocol and Concepts</i>
n. Ability to assist in the creation of an effective project plan.	<i>CpE 516 System Analysis and Design</i>	<i>IT 313 IT Project Management</i>

Faculty Report

An annual assessment of every student outcome is done by the faculty members and graduating students. The student outcomes level of attainment is assessed at the end of each semester using either the direct assessment tool or Computerized Assessment Tool (CAT). In direct assessment, assessment of level of attainment of student outcomes are based on a 3 point scale wherein 1 is the lowest, 2 is the satisfactory level of attainment and 3 is the highest. There is a corresponding description defining the assignment of each point scale, for each respective performance indicator, for each student outcome.

Direct Assessment

Student Outcomes Assessment Instrument with corresponding performance indicators and rubrics is distributed to the faculty members who handle the course mapped for SO assessment. Instructions on how to complete the survey form are given to each of the faculty for better understanding and ease of accomplishing the form. The results of evaluation are forwarded to the SO committee, who will prepare the summary. Shown in Table 4 – 2 is the list of the student outcomes with corresponding performance indicators and rubrics used by faculty members. There is a corresponding bearing (%) assigned for each performance criteria affecting the level of attainment of each student outcome. A narrative report of the faculty on the level of attainment of the student outcomes assessed is reported to the Student Outcomes Committee for consolidation.

The level of attainment of each SO is measured utilizing several assessment methods by the faculty in the respective courses. The usual assessment methods being

employed are specific exam questions; laboratory exams; laboratory reports; oral reports and presentation; project based reports; project-based activities; Capstone Project; assignments; quizzes; comprehensive exam; oral exams; case study reports; and focus group evaluation.

Table 4 – 2
Student Outcome with Corresponding Performance Indicators and Rubrics

Student Outcome		Level of Attainment
a. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.		
PI1: Knowledge of computing, basic science & mathematics appropriate to Information Technology and the program educational objectives (40%)	Doesn't know most of computing, basic science & mathematical concepts relevant to the computing problem at hand, some misconception is evident	1
	Knows most of the relevant computing, basic science & mathematical concepts to enable the student to solve computing problems	2
	Knows all of the relevant computing, basic science & mathematical concepts to enable the student to solve computing problems	3
PI2: Use of computing, basic science & mathematics appropriate to the discipline and the program educational objectives (60%)	Unable to apply most of the computing, basic science & mathematical concepts to enable the student to solve computing problems	1
	Able to apply computing, basic science & mathematical concepts and solve the computing problem but the final answer is not correct	2
	Able to apply all computing, basic science & mathematical concepts and solve the computing problem correctly	3
b. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution		

PI1: Ability to analyze a problem (60%)	Unable to analyze most of the problem	1
	Able to analyze most of the problem	2
	Able to analyze a complete problem	3
PI2: Ability to identify and define the computing requirements appropriate to the problem's solution (40%)	Unable to identify and define the computing requirements	1
	Able to identify and define most of the computing requirements	2
	Able to Identify and define the computing requirements completely appropriate to the problem's solution	3
c. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs		
PI1: Ability to design a computer-based system, process, component or program to meet the desired needs (50%)	Unable to design a computer-based system, process, component or program	1
	Able to design most of a computer-based system, process, component or program	2
	Able to design a computer-based system, process, component or program completely	3
PI2: Ability to implement and evaluate the capability of a computer-based system, process, component or program (50%)	Unable to implement and evaluate most of the capability of a computer-based system, process, component or program	1
	Able to implement and evaluate most of the capability of a computer-based system, process, component or program	2
	Able to implement and evaluate capability of a computer-based system, process, component or program completely	3
d. An ability to function effectively on teams to accomplish common goal		
PI1: Ability to identify roles and tasks on teams to accomplish a common goal (40%)	Unable to identify most of the roles and tasks on teams to accomplish a common goal.	1
	Ability to identify most of the roles and tasks on teams to accomplish a common goal.	2
	Ability to identify all roles and tasks on teams to accomplish a common goal	3
PI2: Ability to perform	Unable to perform most of the assigned	1

assigned tasks in a team (60%)	tasks in a team	
	Able to perform most of the assigned tasks in a team	2
	Able to perform all the assigned tasks in a team	3
e. Ability to understand professional, ethical, legal, security and social issues and responsibilities.		
PI1: Ability to understand professional, ethical and legal standards in computing (50%)	Unable to understand professional, ethical and legal standards in computing.	1
	Able to understand most of the professional, ethical and legal standards in computing	2
	Able to understand all professional, ethical and legal standards in computing	3
PI2: Ability to understand security and social issues and responsibilities. (50%)	Unable to understand most of the security and social issues and responsibilities.	1
	Able to understand most of the security and social issues and responsibilities.	2
	Able to understand all security and social issues and responsibilities.	3
f. An ability to communicate effectively in speech and in writing with a range of audiences.		
PI1: Ability to communicate in speech with a range of audiences. (50%)	Unable to communicate in speech with a range of audiences most of the time.	1
	Able to communicate effectively in speech with a range of audiences most of the time.	2
	Able to communicate effectively in speech with a range of audiences all the time.	3
PI2: Ability to communicate in writing with a range of audiences. (50%)	Unable to communicate in writing with a range of audiences most of the time.	1
	Able to communicate effectively in writing with a range of audiences most of the time.	2
	Able to communicate effectively in writing with a range of audiences all the time.	3
g. Ability to analyze the local and global impact of computing on individuals,		

organizations and society.		
PI1: Ability to analyze the local and global impact of computing on individuals and organization. (50%)	Unable to analyze most of the local and global impact of computing on individuals and organizations.	1
	Able to analyze most of the local and global impact of computing on individuals and organizations.	2
	Able to analyze most of the local and global impact of computing on individuals and organizations.	3
PI2: Ability to analyze the local and global impact of computing on the society. (50%)	Unable to analyze most of the local and global impact of computing on society.	1
	Able to analyze most of the local and global impact of computing on society.	2
	Able to analyze all local and global impact of computing on society.	3
h. Ability to recognize the need for and ability to engage in continuing professional development		
PI1: Ability to recognize the need for continuing professional development (60%)	Unable to recognize the need for continuing professional development most of the time.	1
	Able to recognize the need for continuing professional development most of the time.	2
	Able to recognize the need for continuing professional development all the time.	3
PI2: Ability to engage in continuing professional development (40%)	Unable to engage in continuing professional development most of the time	1
	Able to engage in continuing professional development most of the time	2
	Able to engage in continuing professional development all the time	3
i. An ability to use the techniques, skills, and modern tools necessary for computing practice.		
PI1: Ability to identify techniques, skills, and modern tools necessary for	Unable to identify most of the necessary techniques, skills and modern tools for computing practice.	1

computing practice consisting of: (a) Utilization of computer, including software. (b) Accessing databases through the internet (c) Conducting computer simulations (40%)	Able to identify most of the necessary techniques, skills and modern tools for computing practice.	2
	Able to identify all necessary techniques, skills and modern tools for computing practice.	3
PI2: Ability to use skills, techniques, and modern tools necessary for computing practice (60%)	Unable to use most of the techniques, skills, or modern tools necessary for computing practice.	1
	Able to use most of the skills, techniques, and modern tools necessary for computing practice	2
	Able to use all of the skills, techniques, and modern tools necessary for computing practice	3
j. Ability to use and apply current technical concepts and practices in the core information technologies: human computer interaction, information management, programming, networking, and web systems and technologies.		
PI1: Knowledge of current technical concepts and practices in the core information technologies (40%)	Does not know most of the current technical concepts and practices in the core information technologies	1
	Knows most of the current technical concepts and practices in the core information technologies	2
	Knows all the current technical concepts and practices in the core information technologies	3
P12: Ability to apply current technical concepts and practices in the core information technologies (60%)	Unable to apply most of the current technical concepts and practices in the core information technologies	1
	Able to apply most of the current technical concepts and practices in the core information technologies	2
	Able to apply all current technical concepts and practices in the core information technologies	3
k. Ability to identify and analyze user needs and take them into account in the		

selection, creation, evaluation and administration of computer-based systems.		
PI1: Ability to identify user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems (60%)	Unable to identify most of the user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	1
	Able to identify most of the user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	2
	Able to identify all user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	3
PI2: Ability to analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems (40%)	Unable to analyze most of the user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	1
	Able to analyze most of the user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	2
	Able to analyze all user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	3
1. Ability to effectively integrate IT-based solutions into the user environment.		
PI1: Ability to know IT-based solutions (50%)	Unable to know IT-based solutions most of the time.	1
	Able to know IT-based solutions most of the time.	2
	Able to know IT-based solutions all the time.	3
PI2: Ability to effectively integrate IT-based solutions into the user environment (50%)	Unable to effectively integrate IT-based solutions most of the time.	1
	Able to effectively integrate IT-based solutions into the user environment most	2

	of the time.	
	Able to effectively integrate IT-based solutions into the user environment all the time.	3
m. Ability to understand best practices and standards and their application.		
PI1: Knowledge of the list of the best practices and standards and their application. (50%)	Does not Know most of the items in the list of the best practices and standards and their application.	1
	Knows most of the items in the list of the best practices and standards and their application.	2
	Knows the complete list of the best practices and standards and their application.	3
PI2: Understand and apply best practices and standards. (50%)	Unable to understand most of the items in the list of best practices and standards and their application.	1
	Able to understand most of the items in the list of best practices and standards and their application.	2
	Able to understand all items in the list of best practices and standards and their application.	3
n. Ability to assist in the creation of an effective project plan.		
PI1: Knowledge of the elements of an effective project plan. (40%)	Does not know the elements of an effective project plan.	1
	Knows most of the elements of an effective project plan.	2
	Knows all of the elements of an effective project plan.	3
PI2: Ability to assist in the creation an effective project plan (50%)	Unable to assist in the creation of an effective project plan most of the time.	1
	Able to assist in the creation of an effective project plan most of the time.	2
	Able to assist in the creation of an effective project plan all the time.	3

Computerized Assessment Tool (CAT)

Computerized Assessment tool uses the student grade to assess the Student Outcomes. Using this assessment tool, an Assessment Task is mapped to the Intended

Learning Outcomes (ILOs) and ILO is mapped to Student Outcomes. SO is considered attained if the SO percentile target of the student obtained the assessment target mark related to the student outcomes.

Exit Survey of Graduating Students

In addition to the assessment methods for student outcomes mentioned above, an exit interview survey is also given to all graduating students every second semester. The exit survey is distributed among the graduating students. The graduating students complete the survey during the last months before the completion of the program.

A sample form is shown in Figure 4-2. Information Technology graduates of March 2015 were asked to rate the student outcomes which reflects the attributes generally expected of a BS IT student by the time of graduation. Furthermore, a 3-point scale is used to rate their assessment. The reasonable/acceptable rating is 2.



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Exit Survey

Year of Graduation: _____ Semester: _____ Degree: _____

Please rate the following skills, abilities, and attributes generally expected of an Information Technology graduate by using a 3-point scale indicating low to high and marking (x) at the space provided. Rate each topic or skill in terms of the importance you expect it will have in your post-graduate career. Next, please rate the effectiveness of the preparation you received from the program.

Please feel free to use the space after the list to briefly explain any of your responses, especially if you feel your preparation was less than adequate.

Scale: (1) Very Low, (2) Reasonable, (3) High

Outcome	1	2	3	Remarks
A. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D. An ability to function effectively on teams to accomplish common goal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E. Ability to understand professional, ethical, legal, security and social issues and responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F. An ability to communicate effectively in speech and in writing with a range of audiences.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
G. Ability to analyze the local and global impact of computing on individuals, organizations and society.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
H. Ability to recognize the need for and ability to engage in continuing professional development.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
I. An ability to use the techniques, skills, and modern tools necessary for computing practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
K. Ability to use and apply current technical concepts and practices in the core information technologies; human computer interaction, information management, programming, networking, and web systems and technologies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
L. Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
M. Ability to effectively integrate IT-based solutions into the user environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
N. Ability to understand best practices and standards and their application.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
O. Ability to assist in the creation of an effective project plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Additional Comments:

Figure 4–2 Exit Survey Form for Graduating Students

Evaluation of Student Outcomes

Assessment data is evaluated by the faculty to ensure that students reached the program learning outcomes at the time of graduation. Improvements are made when needed to the program curriculum, classroom instruction, advising, senior projects, laboratory exercises, and undergraduate research activities.

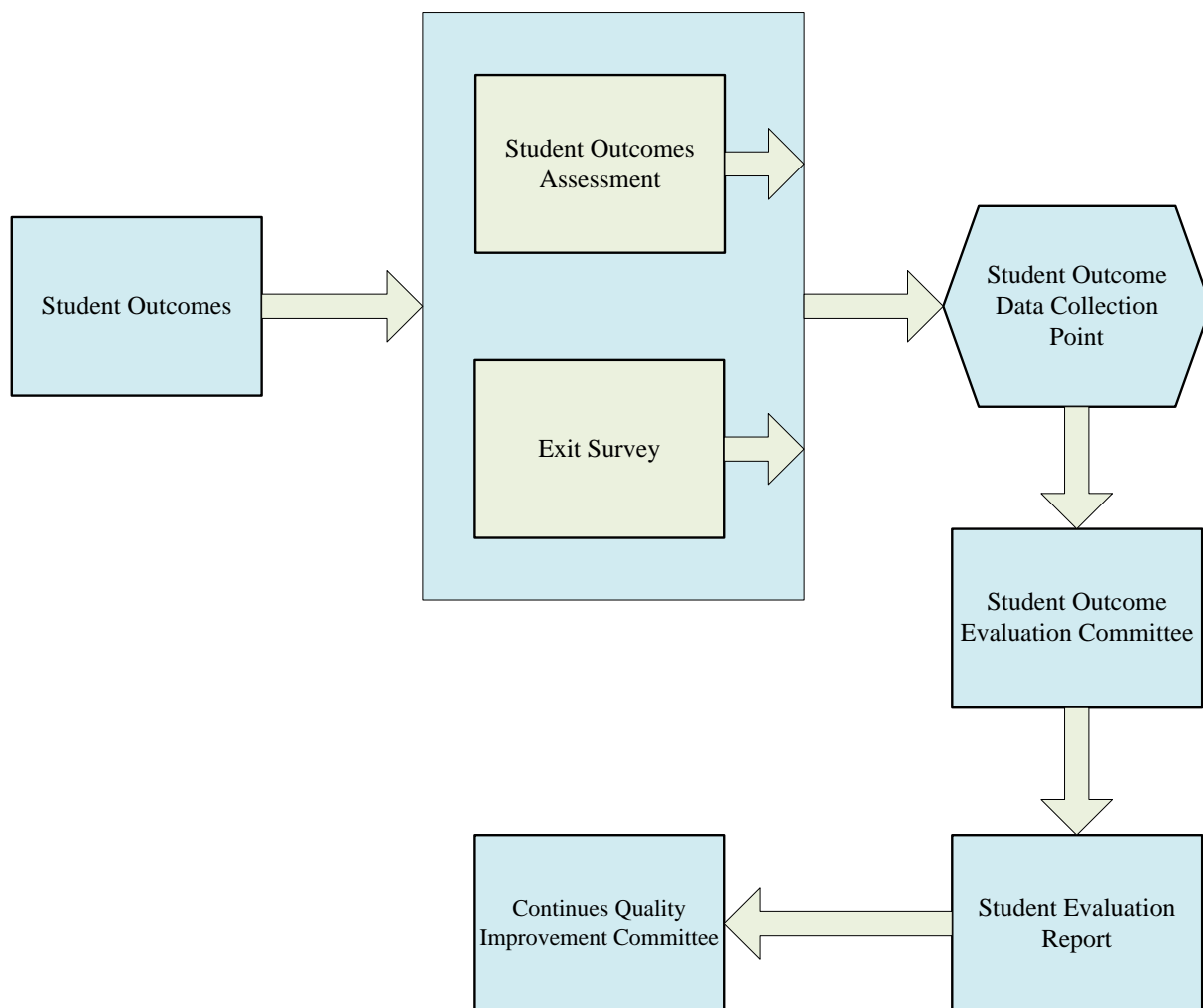


Figure 4–3 Evaluation Process for Student Outcomes

Evaluation Committee. The Student Outcomes Evaluation Committee is a three-member committee composed of the department chairman and two full-time IT faculty members with at least one year residency. They annually evaluate the assessment data taken from the sources described above. The committee also set the goal of achieving at least 50% of the SO results.

Exit Interview Surveys. The surveys administered to company representatives in charge of student trainees as well as exit interview surveys for graduating students also serves as sources of student outcome evaluation. The committee summarizes the results of evaluation and performs an analysis to show the extent to which each student outcome was achieved.

Mode of Evaluation. Computation for getting the weight percentage is described below. Virtual class is created to show the student outcome overall percentage for both courses, using weights for the classes as shown in the formulas below.

$$\text{VCS} = (\text{C1W} \times \text{cs1}) + (\text{C2W} \times \text{cs2})$$

where:

VCS = Virtual Class size cs = class size

C1W = course 1 weight C2W = course 2 weight

$$\text{WSO}_R = \frac{(\%AC1 \times \text{cs1} \times \text{C1W}) + (\%AC2 \times \text{cs2} \times \text{C2W})}{\text{VCS}}$$

where:

WSO_R = Weighted SO Assessment Result

%AC1 = % of SO attainment of course 1

%AC2 = % of SO attainment of course 2

The number of students who got 2 or better for each performance indicator were added and then multiplied by their respective weights. The results are then added to obtain the weighted number of those with a grade of 2 or better is then divided by the actual class size, and then multiplied by 100 to get the grade for the SO. The grade means that it is the percentage in that group who received a rating of 2 or better, weighted for the two performance indicators. This grade is the data used in constructing the bar chart which in turn is used by the CQI Committee for their improvement plans.

Furthermore, the committee also follows the scheme whereby the faculty report is given more weight than student report and exit interview survey. The SO committee in discussion with the department chairman decided a weight of: Faculty Report (80%) and Exit Survey (20%) to determine the baseline target for the SO evaluation for AY 2015-2016. The student outcomes are computed and are ranked from the lowest up to

the highest. The actions and plans based upon the recommendations and observations are ranked based on the level of attainment, the lowest being the high priority and the highest, the least priority and based on immediate needs as per present demands.

Documentation and maintenance of the results. All evidentiary documentation is kept at the CICS accreditation office. Each of the criteria is properly labeled for easy access and record keeping. These will be made available during the actual visit.

Summaries of the results of the evaluation process

The faculty measured all the Student Outcomes through different assessment methodologies. The student outcomes' were measured through progress report and oral project defense, laboratory experiments, oral discussion on case study, student survey, narrative learning experience, examination results, graded recitations, submitted reports and practical essay questions.

The Table 4–3 shows the summary of the student outcomes attainment based on the results of assessment made by faculty and graduating students.

Table 4 -3
Student Outcomes Assessment Result

STUDENT OUTCOMES	SO %		
	Faculty	Exit Survey	Final Rate
a. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.	89.76%	98%	91.55%
b. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution	98.02%	100%	98.41%
c. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.	97.06%	98%	97.14%
d. An ability to function effectively on teams to	95.10%	100%	96.06%

accomplish common goal			
e. Ability to understand professional, ethical, legal, security and social issues and responsibilities.	100.00%	98%	99.40%
f. An ability to communicate effectively in speech and in writing with a range of audiences.	100.00%	95%	99.00%
g. Ability to analyze the local and global impact of computing on individuals, organizations and society.	98.02%	100%	98.41%
h. Ability to recognize the need for and ability to engage in continuing professional development	100.00%	100%	100.00%
i. An ability to use the techniques, skills, and modern tools necessary for computing practice.	95.16%	100%	96.18%
j. Ability to use and apply current technical concepts and practices in the core information technologies; human computer interaction, information management, programming, networking, and web systems and technologies.	82.28%	98%	85.35%
k. Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	87.82%	100%	90.28%
l. Ability to effectively integrate IT-based solutions into the user environment.	100.00%	100%	100.00%
m. Ability to understand best practices and standards and their application.	93.75%	100%	94.96%
n. Ability to assist in the creation of an effective project plan.	72.84%	98%	77.72%

Table 4-1 and Figure 4-4 shows the level of achievement of student outcomes from different survey forms used as assessment instruments. The highest attainment were achieved by SO (H) “*Ability to recognize the need for and ability to engage in continuing professional development*” and SO (L) “*Ability to effectively integrate IT-based solutions into the user environment*” with the rate of 100%. It was measured by the faculty member who handled the courses using CAT and direct assessment. The

lowest attainment was SO (N) “Ability to assist in the creation of an effective project plan” with the rate of 77.72%.

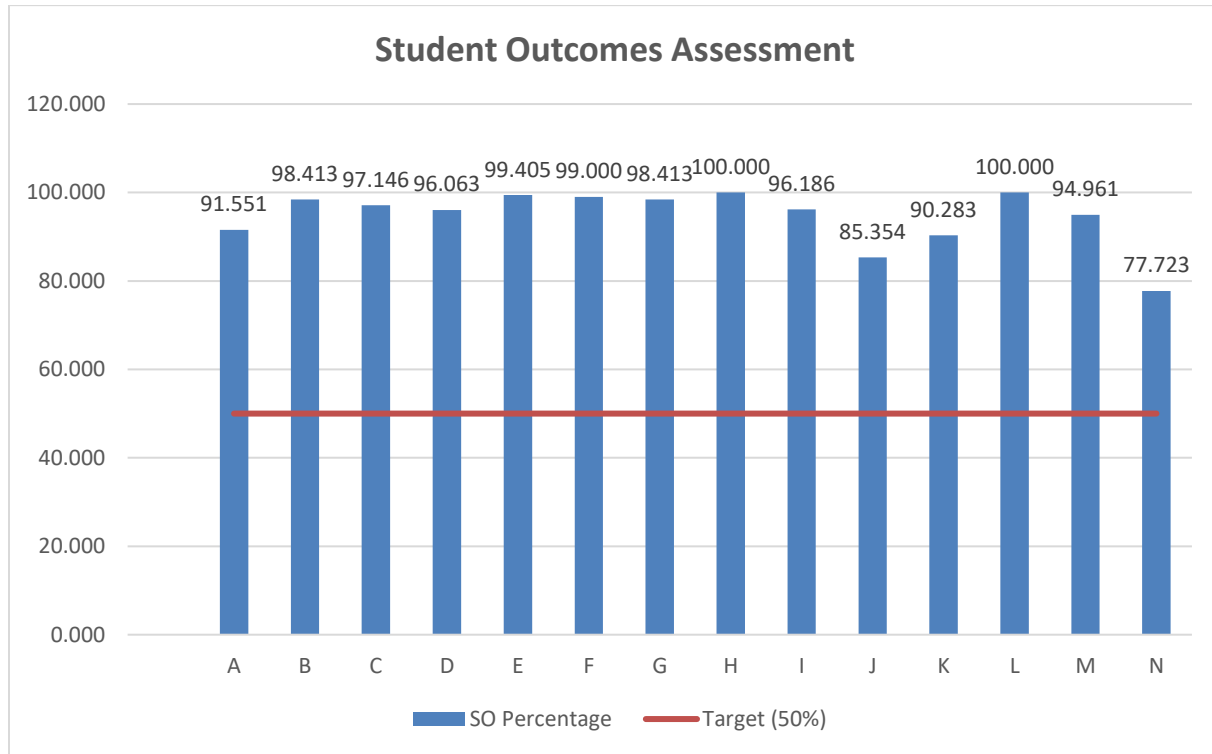


Figure 4–4. Result of the Student Outcomes Assessment 2016 -2017

Student Outcome Survey of Faculty Members

Every course in the Information Technology curriculum are mapped with different SOs mandated by the ABET and CHED. Depending on the course to be assessed, the assessment method can be either the SO assessment instrument or Computerized Assessment Tool. Using the SO assessment instrument the students were given a question which directly assess the attainment of the SO. The question is guided by the rubrics formulated to correctly assess the answer to the question.

B. Continuous Improvement

As part of the accreditation procedure, the BSIT program undertakes a process of continuous improvement. This includes creation of the CQI Committee composed of faculty members.

The CQI diagram, illustrated at Figure 9.5 shows how the results of evaluation processes of the program educational objectives and student outcomes and any other available information are used as inputs in the continuous improvement of the program.

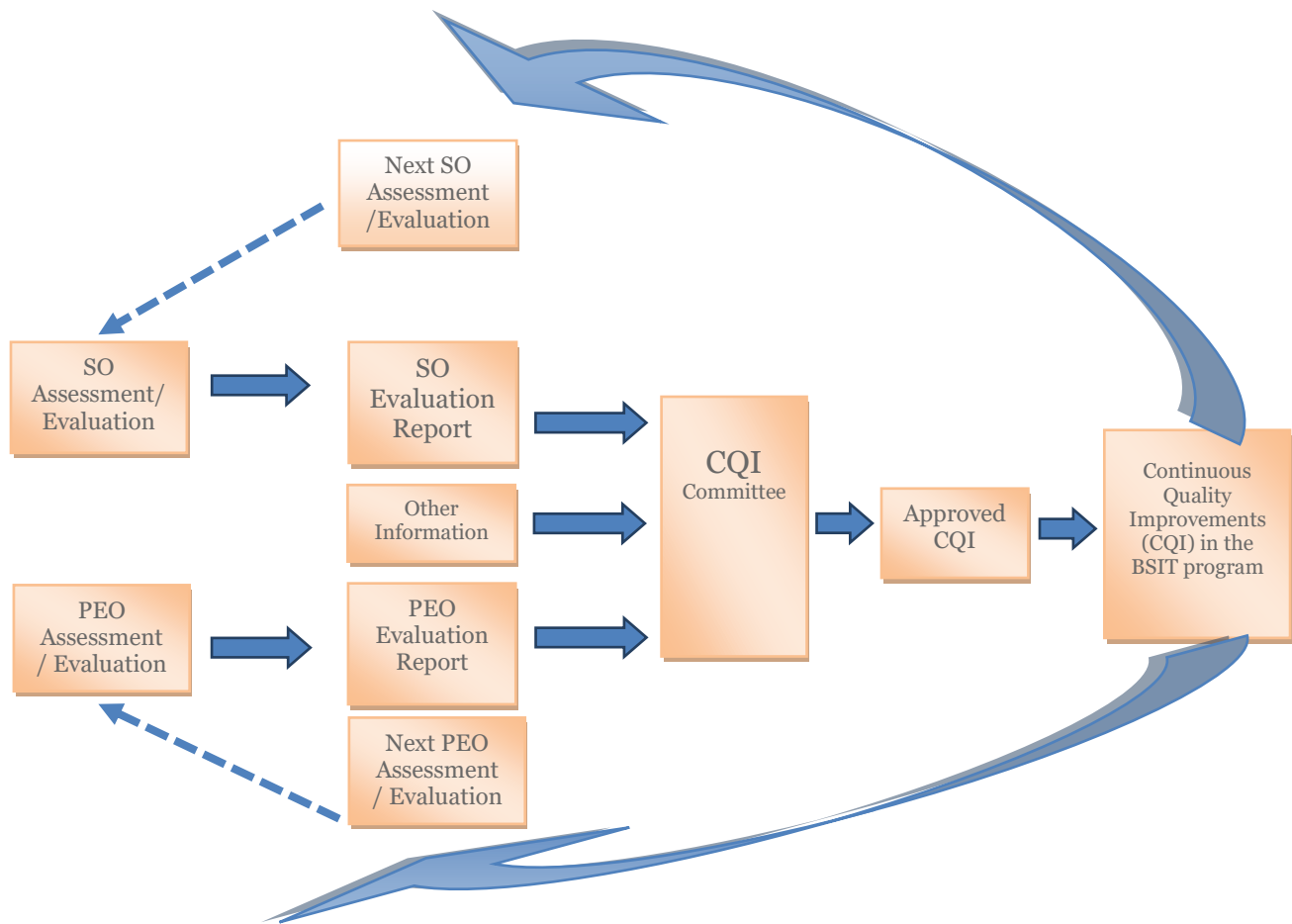


Figure 4-5 Continuous Improvement Process for the Information Technology Program

Actions to Improve the Program

Student Outcomes Evaluation Process Revision

For the first cycle the SO committee evaluates the Student Outcomes using the final grade of the student. The faculty members submit their Report of Grades to the SO Committee then the assigned SO Committee counts the number of students who passed the course. The committee uses the 3 point scale; wherein 1.00 – 1.75 is equivalent to the rate of 3 or Very satisfactory; 2.00 – 3.00 is equivalent to 2 or satisfactory and 5 and Inc. is equal to 1. SO A “Ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives” were proposed to have improvements. To implement such improvements, the CQI Committee together with SO Committee recommend changing the mapped course for assessing the SOs in the next cycle which was implemented during the second cycle. During the second cycle same method for assessment and evaluation was used. But the SO and CQI Committees found out that the final grade of the student is not enough to measure the Student Outcomes. Thus, the SO Committee recommended creating Student Outcome Instrument that will directly assess the student outcomes using a different performance indicator. Also, the SO committee recommended adopting the Computerized Assessment Tool (CAT) developed by the College of Engineering. Since direct assessment and CAT provide more relevant result, the CQI committee recommended to use it in succeeding cycles.

The results of the 2016 – 2017 student outcomes assessment were administered by faculty and submitted to the SO committee. The committee prepared the summary of report and evaluated the results. Based on the evaluation and analysis of every SO assessed for a certain course, the CQI committee gave inputs as to areas and concerns that need improvement.

- SO (N) – “*An ability to assist in the creation of an effective project plan*” was proposed to have improvements. To implement such improvements, the CQI Committee recommends the use of SO Direct Assessment for assessing the SO in the next cycle. Also the committee recommends a project management case study to measure the said SO.

- The SO Assessment and Evaluation for 2017 cycle resulted into 100% passing rate. SO (H) *“Ability to recognize the need for and ability to engage in continuing professional development”* and SO (L) *“Ability to effectively integrate IT-based solutions into the user environment”* were given close attention because their scores were on the critical level. The CQI Committee recommended review of the test questions, ILOs mapping to SO and activities for the two SOs.

Program Educational Objective Revision

To ensure that the PEOs are measurable and updated with the needs of the industries, the information technology faculty members together with computer science and computer engineering faculty members headed by the PEO committee decided to revise the current PEO. The PEO was already presented and accepted by the IAC committee and was submitted by the Dean to the university President for approval.

For Alumni and Employer data the committee will be using graduate tracer to increase the number of respondents to gather information. Also, the committee will be reviewing the PEO instruments specifically the PEO 2 letter A.

Courses and Program Curriculum

One of the most recent improvements by the department was the modification of the curriculum 2012 – 2013. Most changes in the curriculum were brought by the new CHED Memorandum Order (CMO). The BSIT program of BatStateU has undergone several curriculum revisions adopting this CMO with additional inputs from other evaluation sources. One notable addition is the Technopreneurship course-offering in the Information Technology program. This course prepares the students to be future entrepreneurs and thus presents adequate knowledge in terms of business impacts of technological designs and innovation.

For the next program curriculum revision the department is planning to add more courses such as Data Science and Artificial Intelligence to meet the industry

demands. Data science will prepare the students in analyzing the big data to provide meaningful information for the purpose of decision making.

Another plan of the department is to include cooperative learning for the students in their programming and software testing courses. This cooperative learning is more in-depth than the usual fieldtrips and seminars. The program implemented the cooperative learning program last August 2016 for BSIT program and included it in the syllabus of the said course. The plan was implemented in partnership with Point West a partner industry of the program. The company provides the resource persons or experts who facilitates the training to the students either in the industry or at the university premises. The partner industry recommends the methods, strategies and activities for the cooperative learning to the university faculty coordinator in order to achieve students' maximum learning opportunities. Also the company allowed the students to use industry facilities, technologies, equipment, tools and other resources, as considered appropriate.

Faculty development plans

The administration has plans to allot more support to faculty scholarships with the recent announcement from the government through CHED regarding vertical articulation. In this set up, faculty members can pursue post graduate education vertically aligned with his/her bachelor degree or aligned with what his specialization. In this regard the faculty members who already finished their Masters degrees are encouraged to avail either the CHED scholarship or the DOST scholarship to pursue their Doctorate Degree.

The University also provided every faculty a P10,000 budget for faculty development. The budget includes support for faculty in the attendance to seminars, trainings and conferences locally and abroad. Every faculty who finished and presented a research will get additional honorarium/incentive from the university.

The department recommended some faculty members to have relevant industry experience thru faculty immersion program. This program allows the faculty member to work with the local industry partners to strengthen their skills in professional subjects.

Syllabi or Course Delivery

The university has embarked on a mission to adopt the Outcomes-Based Teaching and Learning paradigm, initially implemented in the engineering programs. This resulted to modifications in the way course topics are delivered as well as how students are monitored and evaluated.

Course evaluation done by students suggested the need for more “hands-on” or “real world” experiences in the classroom particularly in courses like Computer Hardware and Programming. Students believe that if practical knowledge is conveyed in the classroom then students are more successful in the coursework and in their future employment.

Relative to this, the course syllabi for the mentioned courses followed an experiential learning style.

Upgrading of facilities/equipment, Procurement plans

Additional computers (software and hardware) were requested. These are to be installed in CISCO Laboratory where CCNA courses are conducted. Also the college requested Mac Book for multimedia course. The department is planning to install data mining software such as MATLAB and Octave.

Library

Faculty members recommend and request books and other library resources every term. The department chair collates and submits the list to the Faculty Library Committee for evaluation. The request for these resources are approved by the university librarian.

Revision/review of administrative processes

Class advising in which a faculty member is assigned for a certain class every year was changed to student advising scheme. A 1st year student upon enrollment is assigned to a faculty adviser. The assigned adviser monitors the progress of the student until graduation.

Maintenance of Continuous Quality Improvement Program

Maintenance of the CQI Program is highly achieved through the Continuous Quality Improvement Office (CQIO), which in BatStateU, its equivalent office is the Internal Assessment Unit (IAU) headed by Engr. Mario Bukas. This office is located at Main Campus I.

The IAU is committed to the continual implementation and maintenance of the systems and processes that satisfy the goals of the university and its academic programs for continuous improvement. IAU is also responsible for the record keeping of all the resources needed in the maintenance of the program.

CQI Program of the IT program is highly maintained by the following:

1. Obtaining regular input from students, faculty, industry, and professional organizations gathered to improve the IT curriculum.
2. Continuous accreditation for the Information Technology program.
3. Provide up-to-date laboratory software and equipment to support the IT program learning outcomes.
4. Provide up-to-date curriculum to support the IT program learning outcomes.
5. Promote faculty creative and scholarly activities and integration of those activities with curriculum development.

C. Additional Information

Copies of the assessment instruments for program educational objectives and student outcomes will be available during the visit. Likewise, other pertinent documents are prepared for verification. All records are well sorted, placed in individual folders with corresponding labels for identification. These are kept temporarily by the department in the accreditation room of the college.

CRITERION 5. CURRICULUM

A. Program Curriculum

The BS Information technology program includes the study of the utilization of both hardware and software technologies involving planning, installing, customizing, operating, managing and administering, and maintaining information technology infrastructure that provide computing solution to address the needs of an organization.

The Information Technology curriculum includes basic and advanced courses on planning, development, integration and management of information technology.

A.1 BS Information Technology Curriculum 2016 – 2017

The program curriculum requires a total 174 credit hours for graduation to be completed in 8 semesters or an equivalent of four years which is higher than the minimum requirements of 146 credit hours as per CMO No. 25 series 2015 Policies, Standards and Guidelines for the Degree of Bachelor of Science in Information Technology (BSIT). Each course has an average class size of 40 students per class per semester. One credit unit is earned for each lecture class that meets one hour a week for the entire semester, which is approximately 18 weeks in duration. One credit hour is granted for each three hours of laboratory work per week for the entire semester.

Students of different programs under the College of Informatics and Computing Sciences are allowed to be together in classes common to all programs except in the professional course classes.

Table 5–1 shows the BSIT program plan of study (2016-2017). This program includes information on course offerings in the form of a recommended schedule by year and term along with average section enrollments for all courses in the program.

Table 5-1 Curriculum 2016 - 2017
Bachelor of Science in Information Technology

Description		Indicate Whether Course is Required, Elective or a Selected Elective by an "R" or "E" or an "SE"	Subject Area (Credit Hours)				Last Two Terms the Course was Offered: Year and, Semester, or term	Average Section Enrollment for the Last Two Terms the Course was Offered
Code	Title		Math and Science	Computing Topics Mark with an F or A for Fundamental or Advanced	General Education	Others		
FIRST YEAR - FIRST SEMESTER								
IT 111	Introduction to Computing	R		3			1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
Math 103	College Algebra	R				3	1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
Eng 100	English Plus	R				0	1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
Eng 101	Advanced Grammar and Composition	R				3	1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
Fil 101	Komunikasyon sa Akademikong Filipino	R				3	1 st sem AY 2014-2015 1 st sem AY 2015-2016	40

HUM101	Introduction to Humanities: Art Appreciation	R			3		1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
SS 101	General Psychology	R			3		1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
PE 101	Physical Fitness, Gymnastics and Aerobics	R				2	1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
NSTP 101	National Service Training Program 1	R				3	1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
FIRST YEAR - SECOND SEMESTER								
CS 111	Computer Programming	R		3 (F)			2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
Math 107	Plane Trigonometry	R				3	2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
Eng 102	Study and Thinking Skills	R				3	2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
Fil 102	Pagbasa at Pagsulat Tungo sa Pananaliksik	R				3	2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
HUM 102	Introduction to Philosophy	R			3		2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
SS 102	Philippine History	R			3		2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
HUM 104	Logic	R			3		2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
PE 102	Rhythmic Activities	R				2	2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
NSTP 102	National Service Training Program 2	R				3	2 nd sem AY 2016-2017	40

							2 nd sem AY 2015-2016	
SECOND YEAR - FIRST SEMESTER								
IT 211	Database Management Systems	R		3 (F)			2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
CS 121	Advanced Computer Programming	R		3(A)				
CS 122	Data Structures and Algorithms	R		3				
CS 131	Object-Oriented Programming	R		3			2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
BIO 101	Introduction to Biology	R	3					
Eng 106	Technical Communication	R				3	1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
Fil103	Masining na Pagpapahayag	R				3		
SS 103	Society and Culture with Responsible Parenthood	R			3		2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
PE 103	Individual and Dual Sports	R				2	1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
SECOND YEAR - SECOND SEMESTER								
IT 221	Fundamentals of Networking	R		3 (F)			2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
IT 222	Advanced Database Management Systems	R		3 (A)			1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
IT 223	Fundamentals of Information Management	R		3 (F)				
IT 224	Platform Technologies	R		3				
IT 225	Introduction to Human Computer Interaction	R		3				

ENG107	Speech and Oral Communication	R				3		
BIO 102	Computational Biology	R	3					
CpE 350	Discrete Mathematics	R	3					
PE 104	Team Sports	R				2		
THIRD YEAR - FIRST SEMESTER								
IT 311	Systems Administration and Maintenance	R		3				
IT 312	Systems Integration and Architecture	R		3 (F)				
	<i>IT Elective 1</i>	SE		3				
	<i>IT Elective 2</i>	SE		3				
IT 315	Information Assurance and Security	R		3 (F)				
CS 321	Web Programming	R		3				
SS 104	Life and Works of Rizal	R			3		2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
THIRD YEAR - SECOND SEMESTER								
IT 321	Advanced Information Assurance and Security	R		3 (A)				
IT 322	Advanced Systems Integration and Architecture	R		3 (A)				
	<i>IT Elective 3</i>	SE		3				
	<i>IT Elective 4</i>	SE		3				
IT 325	Applications Development and Emerging Technologies	R		3				
IT 326	IT Capstone Project 1	R		3			2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40

Math 121	Probability and Statistics	R	3				1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
FOURTH YEAR - FIRST SEMESTER								
IT 411	Professional Ethics and Computer Laws	R		3			2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
IT 412	Integrative Programming and Technologies	R		3				
	<i>IT Elective 5</i>	SE		3				
IT 414	IT Capstone Project 2	R		3			1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
IE532	Technopreneurship	R				3	1 st sem AY 2014-2015 1 st sem AY 2015-2016	40
MATH 116	Symbolic Logic	R	3					
SS 106	Politics and Governance with Philippine Constitution	R			3		2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
FOURTH YEAR - SECOND SEMESTER								
OJT 500	Internship Training	R		10			2 nd sem AY 2014-2015 2 nd sem AY 2015-2016	40
TOTAL CREDIT HOURS				15	91	24	44	
TOTAL ABET REQUIREMENTS				15	45		0	
OVERALL TOTAL CREDIT HOURS FOR COMPLETION OF PROGRAM		174						

1. **Required** courses are required of all students in the program
2. **Selected elective** courses are those for which students must take all courses in a chosen track.

BS Information Technology program requires 15 credits units for professional electives namely, Business Analytics (BA), Service Management (SM) and Network Technology. Third year IT students are allowed to select any of the following tracks and take all courses in that track. Table 3-2 shows the professional elective of BSIT program.

Table 5-2
BS IT Professional Elective

Course Code	Course Description	Credit/s	Hours		Credit Units	Pre – requisite/s	Co – requisite/s
			Lec	Lab			
NETWORK TECHNOLOGY TRACK							
IT 313	Routing and Switching	3	2	3	3	IT 221	
IT 314	Scaling Networks	3	2	3	3	IT 221	IT 313
IT 323	Connecting Networks	3	2	3	3	IT 314	
IT 324	Networks Security	3	2	3	3	IT 314	IT 323
IT 413	CCNA preparation: Exam Review	3	2	3	3	IT 324	
BUSINESS ANALYTICS TRACK							
BAFBAN1	Fundamentals of Business Analytics	3	2	3	3	IT 222	
BAFANAM	Fundamentals of Analytics Modeling	3	2	3	3	IT 222	BAFBAN1
BAFEBN2	Fundamentals of Enterprise Data Management	3	2	3	3	BAFANAM	
BAANTEC	Analytics Techniques & Tools	3	2	3	3	BAFANAM	BAFEBN2
BAANAP1	Analytics Application	3	2	3	3	BAANTEC	
SERVICE MANAGEMENT TRACK							

SMFBPO1	Fundamentals of Business Process Outsourcing 101	3	2	3	3	IT 223	
SMFBPO2	Fundamentals of Business Process Outsourcing 102	3	2	3	3	IT 223	SMFBPO1
SMBUSCO	Business Communication	3	2	3	3	SMFBPO2	
SMVCCU	Service Culture	3	2	3	3	SMFBPO2	SMBUSCO
SMSYTH	Principles of System Thinking	3	2	3	3	SMVCCU	

A.2 Description of how the curriculum and its associated prerequisite structure support the attainment of the student outcomes.

Student outcomes A: “An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.”

This student outcome defines the essential knowledge of computing in courses such as Computer Programming and Object-Oriented Programming. When it comes to a course like Internship Training when the students reach their final year, all the things that they have learned even basic science and mathematics will be applied.

Student outcomes B: “An ability to analyze a problem and identify and define the computing requirements appropriate to the problem’s solution”

Analyzing, identifying and defining computer requirements were some of the needed skills that students from Information Technology program need to develop under the courses of Database Management Systems, Fundamentals of Networking and especially to IT Capstone Project 1 the last requirement to finish the program. Giving proper solutions to computing issues using the knowledge of the said courses is provided.

Student outcomes C: “An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.”

Upon application of the student outcome that focuses on the design, implementing and evaluation of a program, courses such as Platform Technologies, Introduction to Human Computer Interaction and Systems Integration and Architecture tackle and practice the hardware and software technology which involve processes that meet the needs of a computer program and its components.

Student outcomes D: “An ability to function effectively on teams to accomplish common goal.”

One of the aspects that the school needs to develop for the students is indicated with in this student outcome. The courses IT Capstone Project 1, 2 and Internship are the best courses to practice to develop the ability to give the students to work hand-in-hand with co-students and colleagues to accomplish a common goal.

Student outcomes E: “Ability to understand professional, ethical, legal, security and social issues and responsibilities.”

Courses such as System Administration and Maintenance, Information Assurance and Security and Advanced Information Assurance and Security answer and provide the student outcomes when it comes to professional, ethical, legal, security, social issues and social responsibilities.

Student outcomes F: “An ability to communicate effectively in speech and in writing with a range of audiences.”

Another student outcome that is also part of the IT Program is to equip students with good communication, speech and writing skills in most of the courses like Fundamentals of Information Management, IT Capstone Project 2 and Internship Training.

Student outcomes G: “Ability to analyze the local and global impact of computing on individuals, organizations and society.”

Introduction to Computing, Advanced Systems Integration and Architecture, and IT Capstone 1 provide the needs in analyzing the local and global impact of computing individuals, organizations and society for these provide knowledge on the components of information technology. The impact of technology in business organizations and company were very evident in the said student outcome. Thus, the said courses answer directly the impact of computing to the individuals, organizations and society.

Student outcomes H: “Ability to recognize the need for and ability to engage in continuing professional development.”

Knowledge of fundamentals in basic IT course such as Introduction to Computing, is aligned to the goal of this student outcome which is professional

development specifically in Information Technology. Hence, courses like IT Capstone 2 and Internship Training let the students to be professionals in all aspects including technical and personal development.

Student outcomes I: “An ability to use the techniques, skills, and modern tools necessary for computing practice.”

This student outcome is described in courses like Fundamentals of Networking, Systems Administration and Maintenance, and System Integration and Architecture. Student skills and techniques were paralleled to the tools used in such courses. Students were introduced to the latest trends in networking, maintenance and designing the systems and its architecture.

Student outcomes J: “Ability to use and apply current technical concepts and practices in the core information technologies; human computer interaction, information management, programming, networking, and web systems and technologies.”

Courses like Advanced Databases Management Systems and Web Programming, applies the current technical concepts and practice when it comes to programming, networking and web designing. The course Introduction to Human Computer Interaction discuss the use of information in the core technologies and how the users interact with it in society.

Student outcomes K: Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems

In this student outcome, courses like Fundamentals of Information Management, Fundamentals of Information Management, Platform Technologies and Applications Development and Emerging Technologies let the student enhance their ability in the development of computer-based systems. The students perform activities that enable them to select, create, evaluate and administer responsibility in the creation of different computer-based applications.

Student outcomes L: “Ability to effectively integrate IT-based solutions into the user environment.”

Object-Oriented Programming with the combination of the courses Applications Development and Emerging Technologies, and Integrative Programming and Technologies give effective knowledge for integration of IT-based solutions reflecting the needs of a customer or user. The courses provide interaction with the technologies that the IT industry provides to its user.

Student outcomes M: “Ability to understand best practices and standards and their application.”

This student outcome provides the ability of the student on how will they interact with the IT world upon providing the needs of the user. Courses such as Object-Oriented Programming, Integrative Programming and Technologies, and IT Capstone Project 2 help the students to understand those needs and provide the best practices and standards then apply them.

Student outcomes N: Ability to assist in the creation of an effective project plan.

In this student outcome, students were provided with the knowledge and skills they need in the creation of an effective project plan. Activities were incorporated in the courses such as Computer Programming, Systems Administration and Maintenance and IT Capstone Project 2.

Table 5–3 shows how the curriculum support the attainment of the student outcomes.

Relationship of Curriculum to Student Outcomes

Table 5-3
Relationship of Curriculum to Student Outcomes AY 2016- 2017

Courses		Student Outcomes													
Code	Description	A	B	C	D	E	F	G	H	I	J	K	L	M	N
FIRST YEAR – FIRST SEMESTER															
IT 111	Introduction to Computing		X			X	X	X	X						
Math 103	College Algebra														
Eng 100	English Plus														
Eng 101	Advanced Grammar and Composition														
Fil 101	Komunikasyon sa Akademikong Filipino														
HUM101	Introduction to Humanities: Art Appreciation														
SS 101	General Psychology														
PE 101	Physical Fitness, Gymnastics and Aerobics														
NSTP 101	National Service Training Program 1														
FIRST YEAR - SECOND SEMESTER															
CS 111	Computer Programming	X								X					X
Math 107	Plane Trigonometry														
Eng 102	Study and Thinking Skills														
Fil 102	Pagbasa at Pagsulat Tungo sa Pananaliksik														
HUM 102	Introduction to Philosophy														
SS 102	Philippine History														
HUM 104	Logic														
PE 102	Rhythmic Activities														
NSTP 102	National Service Training Program 2														
SECOND YEAR - FIRST SEMESTER															
IT 211	Database Management Systems		X	X								X			
CS 121	Advanced Computer Programming	X		X			X			X				X	X
CS 122	Data Structures and Algorithms	X								X					X

CS 131	Object-Oriented Programming	X		X			X			X			X	X	X
BIO 101	Introduction to Biology														
Eng 106	Technical Communication														
Fil103	Masining na Pagpapahayag														
SS 103	Society and Culture with Responsible Parenthood														
PE 103	Individual and Dual Sports														
SECOND YEAR - SECOND SEMESTER															
IT 221	Fundamentals of Networking	X	X							X				X	
IT 222	Advanced Database Management Systems	X	X							X	X	X		X	
IT 223	Fundamentals of Information Management	X	X	X	X		X			X		X	X	X	
IT 224	Platform Technologies		X	X								X	X	X	
IT 225	Introduction to Human Computer Interaction		X	X						X	X	X	X	X	
ENG107	Speech and Oral Communication														
BIO 102	Computational Biology														
CpE 350	Discrete Mathematics														
PE 104	Team Sports														
THIRD YEAR - FIRST SEMESTER															
IT 311	Systems Administration and Maintenance	X	X		X	X		X		X		X	X	X	X
IT 312	Systems Integration and Architecture	X		X						X		X	X	X	
	IT Elective 1														
	IT Elective 2														
IT 315	Information Assurance and Security		X		X	X			X			X			
CS 321	Web Programming	X	X	X					X	X	X	X		X	
SS 104	Life and Works of Rizal														
THIRD YEAR - SECOND SEMESTER															
IT 321	Advanced Information Assurance and Security		X			X		X		X			X	X	
IT 322	Advanced Systems Integration and Architecture	X	X		X	X		X		X		X	X	X	X
	IT Elective 3														
	IT Elective 4														
IT 325	Applications Development and Emerging Technologies	X	X	X								X	X	X	

IT 326	IT Capstone Project 1	X	X			X	X	X	X	X	X		X		X	X
Math 121	Probability and Statistics															
FOURTH YEAR - FIRST SEMESTER																
IT 411	Professional Ethics and Computer Laws															
IT 412	Integrative Programming and Technologies	X								X				X	X	
	IT Elective 5															
IT 414	IT Capstone Project 2	X		X	X	X	X	X	X	X				X	X	X
IE532	Technoprenuership															
MATH 116	Symbolic Logic															
SS 106	Politics and Governance with Philippine Constitution															
FOURTH YEAR - SECOND SEMESTER																
OJT 500	Internship Training	X	X	X	X	X	X	X	X	X			X	X	X	X

Courses in the curriculum are included to support the attainment of the desired student outcomes detailed in Criterion 2.

A.3 Relationship of Curriculum to Program Educational Objective

The relationship of the student outcomes to program educational objectives is mapped in Criterion 2 and is shown in Table 2-1 whereas the relationship of curriculum to PEOs is shown in Table 5-4.

Table 5-4
Relationship of Curriculum to Program Educational Objectives

Description		Program Educational Objectives	
Code	Title	PEO1	PEO2
FIRST YEAR - FIRST SEMESTER			
IT 111	Introduction to Computing	X	X
Math 103	College Algebra		
Eng 100	English Plus		
Eng 101	Advanced Grammar and Composition		
Fil 101	Komunikasyon sa Akademikong Filipino		

HUM101	Introduction to Humanities:Art Appreciation		
SS 101	General Psychology		
PE 101	Physical Fitness, Gymnastics and Aerobics		
NSTP 101	National Service Training Program 1		
FIRST YEAR - SECOND SEMESTER			
CS 111	Computer Programming	X	X
Math 107	Plane Trigonometry		
Eng 102	Study and Thinking Skills		
Fil 102	Pagbasa at Pagsulat Tungo sa Pananaliksik		
HUM 102	Introduction to Philosophy		
SS 102	Philippine History		
HUM 104	Logic		
PE 102	Rhythmic Activities		
NSTP 102	National Service Training Program 2		
SECOND YEAR - FIRST SEMESTER			
IT 211	Database Management Systems	X	X
CS 121	Advanced Computer Programming	X	X
CS 122	Data Structures and Algorithms	X	X
CS 131	Object-Oriented Programming	X	X
BIO 101	Introduction to Biology		
Eng 106	Technical Communication		
Fil103	Masining na Pagpapahayag		
SS 103	Society and Culture with Responsible Parenthood		
PE 103	Individual and Dual Sports		
SECOND YEAR - SECOND SEMESTER			
IT 221	Fundamentals of Networking	X	X
IT 222	Advanced Database Management Systems	X	X
IT 223	Fundamentals of Information Management	X	X
IT 224	Platform Technologies	X	X
IT 225	Introduction to Human Computer	X	X

	Interaction		
ENG107	Speech and Oral Communication		
BIO 102	Computational Biology		
CpE 350	Discrete Mathematics		
PE 104	Team Sports		
THIRD YEAR - FIRST SEMESTER			
IT 311	Systems Administration and Maintenance	X	X
IT 312	Systems Integration and Architecture	X	X
	IT Elective 1		
	IT Elective 2		
IT 315	Information Assurance and Security	X	X
CS 321	Web Programming	X	X
SS 104	Life and Works of Rizal	X	X
IT 311	Systems Administration and Maintenance	X	X
IT 312	Systems Integration and Architecture	X	X
THIRD YEAR - SECOND SEMESTER			
IT 321	Advanced Information Assurance and Security	X	X
IT 322	Advanced Systems Integration and Architecture	X	X
	IT Elective 3		
	IT Elective 4		
IT 325	Applications Development and Emerging Technologies	X	X
IT 326	IT Capstone Project 1	X	X
Math 121	Probability and Statistics	X	X
IT 321	Advanced Information Assurance and Security	X	X
IT 322	Advanced Systems Integration and Architecture	X	X
FOURTH YEAR - FIRST SEMESTER			
IT 411	Professional Ethics and Computer Laws	X	X
IT 412	Integrative Programming and Technologies	X	X

	IT Elective 5		
IT 414	IT Capstone Project 2	X	X
IE532	Technopreneurship	X	X
MATH 116	Symbolic Logic	X	X
SS 106	Politics and Governance with Philippine Constitution		
FOURTH YEAR - SECOND SEMESTER			
OJT 500	Internship Training	X	X

A.4 Prerequisite Structure

A flowchart is shown in Figure 3-1 showing the prerequisite structure of the IT program's courses from first year up to fourth year. The course English Plus is a required subject only for those students who failed in the English competency requirement of the entrance examination for incoming first year students. In the figures, arrows indicate the pre-requisite course/s while arrow heads with dashed line indicate co-requisite course/s.

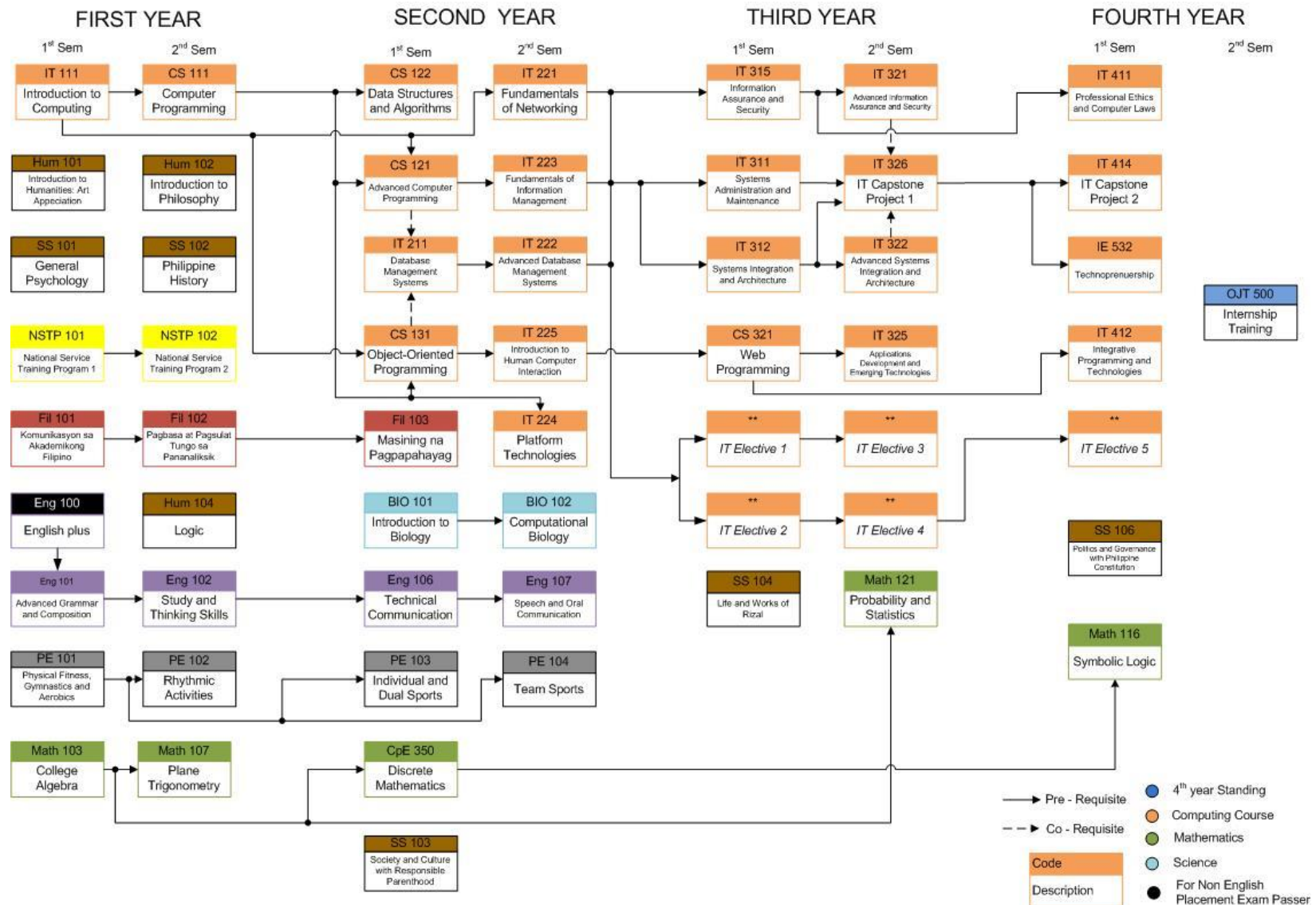


Figure 5 -1 Prerequisite Structure

A.5 Meeting the Specific Requirements of the Program Area

The program curriculum requires a total of 174 credit units to be completed in 8 regular semesters or an equivalent of four years. ABET requires 45 credit hours of technical and professional requirements up-to-date coverage of fundamental and advanced topic in computing discipline associated with the program.

Out of the 91 semester credit hours for the IT program, 51 credit hours are enumerated below to satisfy the ABET requirements. Also, there are 39 credit hours of fundamental course work and 12 credit hours for advanced course work for a total of 51 credit hours course work which exceeds the requirements of 45 credit hours. These include the following:

A. Fundamentals of:(51 credit hours)

Human computer interaction (3 credit units)

3 credit hours IT 225 – Introduction to Human Computer Interaction

Information management (6 credit units)

3 credit hours IT 223 – Fundamentals of Information Management

3 credit hours IT 211 – Database Management Systems

Programming (6 credit units)

3 credit hours CS 111 – Computer Programming (C++)

3 credit hours CS 131 – Object Oriented Programming (Java)

Networking (3 credit units)

3 credit hours IT – 221 Introduction to Networks

Web systems and technologies (12 credit units)

3 credit hours CS 321 – Web Programming

3 credit hours IT 224 – Platform Technologies

3 credit hours IT 412 – Integrative Programming and Technologies

3 credit hours IT 325 – Applications Development and Emerging Technologies

Information assurance and security (3 credit units)

3 credit hours IT 315 – Information Assurance and Security

System administration and maintenance (3 credit units)

3 credit hours IT 311 – Systems Administration and Maintenance

System integration and architecture (3 credit units)

3 credit hours IT 312 – Systems Integration and Architecture

B. Advanced Coursework(12 credit hours)

3 credit hours IT 222 – Advanced Database Management Systems

3 credit hours CS 121 – Advanced Computer Programming (VB.Net)

3 credit hours IT 321 – Advanced Information Assurance and Security

3 credit hours IT 322 – Advanced Systems Integration and Architecture

The curriculum requires to complete 6 credit hours of Science and 9 credit hours of mathematics.

C. Basic Science(6 credit hours)

3 credit hours BIO 101 – Introduction to Biology

3 credit hours BIO 102 – Computational Biology

D. Math(9 credit hours)

3 credit hours CpE 350 – Discrete Mathematics

3 credit hours Math 121 – Probability and Statistics

3 credit hours Math 116 – Symbolic Logic

ABET requires 15 semester credit hours (or equivalent) in humanities, the arts, and social sciences, not counting courses in communication skills. IT Curriculum requires 24 credit hours of humanities, the arts, and social sciences which is higher than the 15 credit hours of ABET requirements broken down as follows:

E. Humanities and the arts(9 credit hours)

3 credit hours Hum 101 – Introduction to Humanities: Art Appreciation

3 credit hours Hum 102 – Introduction to Philosophy

3 credit hours Hum 104 – Logic

F. Social Sciences(15 credit hours)

3 credit hours SS 101 – General Psychology

3 credit hours SS 102 – Philippine History

3 credit hours SS 103 – Society and Culture with Responsible
Parenthood

3 credit hours SS 104 – Life and Works of Rizal

3 credit hours SS 106 – Politics and Governance with Philippine
Constitution

Furthermore, this curriculum meets all the requirements of CHED Circular Memorandum Order 25 Series of 2015.

A.6 Materials Available for Review

The syllabus in IT program courses follows the outcomes-based approach and it is divided into different areas. It contains the course title, course number and credit hours and the instructor's Name. Moreover there is a list of textbooks and suggested readings to help the student to easily find a certain lesson. The course information, a paragraph describing the general content of the course is brief and concise. The goals of the course are also included. The course calendar or schedule, a daily or weekly schedule of topics to be covered, is tentative and subject to change depending on the progress of the class. Also, the syllabus contains the relationship of goals to the program educational objectives.

B. Course Syllabi

Appendix A provides a syllabus for each course used to satisfy the mathematics, science, and discipline-specific requirements required by Criterion 3 and any applicable program criteria.

The following materials will be available for review during the ABET visit.

1. Student portfolios including records of exit interviews
2. Course notes, assignments, and examinations
3. Capstone Project reports
4. List of seminars
5. Student publications and awards
6. Alumni, employer, and exit survey results
7. Alumni employment data

Other materials will be available upon request.

CRITERION 6. FACULTY

The Information Technology faculty is sufficient number; and has the competencies to cover all of the curricular areas of the program. There is also sufficient faculty to accommodate adequate levels of student-faculty interaction, student advising and counseling, university service activities and interactions with industrial and professional practitioners. The program faculty has appropriate qualifications and sufficient authority, under the direction of the department chair, to ensure the proper guidance of the program and to develop and implement processes for the evaluation, assessment, and continuing improvement of the program, its educational objectives and outcomes.

A. Faculty Qualifications

Faculty members in the Information Technology program are qualified IT professionals practicing service and instruction. As presented in Table 5-1, the program is facilitated by sixteen (16) full-time faculty members in which three (3) have permanent appointment and the other nine (9) are in contractual status. The program is in compliance with the requirements as prescribed in CHED CMO No. 25 series of 2015 – Revised Policies, Standards and Guidelines for Bachelor of Science in Information Technology which states that “At least 60% of the faculty handling professional courses is on full-time basis.” Four (4) faculty members are master’s degree holders, while the other twelve (12) are still pursuing master’s degree.

Dr. Luisa P. Macatangay holds a Master’s degree in Computer Science and is currently the Chairman of the Information Technology Department. With her knowledge, skills, and trainings she is a highly-qualified instructor in the department.

Ms. Maricel Grace Z. Fernando, with her 15 years in the academe as instructor, is qualified in providing students with the knowledge they need. She finished Master of

Science in Information Technology and currently pursuing her Doctorate degree in Information Technology (DIT).

Ms. Ailine D. Balcera, is pursuing her studies and taking up Master of Science in Information Technology at Batangas State University. She has 1 year industry experience as Junior Staff of ERP system in Marketing Department, at AIKAWA Philippines Inc., Sto. Tomas Batangas. With her knowledge, skills, and experience she is a highly-qualified instructor to teach Management Information System specialization track.

Mr. Melnar C. Arquillo, previously worked as an Onsite Support Engineer for 1 year and 3 months at First Gas Power Corporation. He is currently an Instructor 1 in the college and is pursuing his masters program in MS Information Technology.

Mr. Jefferson I. Cañada, worked as an Education Program Specialist for 2 years at Batangas State University Vice President for Academic Affairs office before working as a Full-Time IT faculty member. He earned 36 units in MS Information Technology program.

Ms. Erika A. Cañete, worked at PyroTech Solutions Integrated Services Corp. as Marketing and Operation Secretary for 1 year before serving the university. She is also currently taking her Master of Science in Information Technology at BatStateU. With her experience she is a highly-qualified instructor in the department

Mr. Rowell M. Hernandez, had been in the university for 4 years. He finished his Master of Science in Information Technology degree last July 2016.

Mr. Lloyd H. Macatangay, worked at Informatics and had served BatStateU for 10 years. He finished his Master in Development Management at Pangasinan State University and currently pursuing his Master of Science in Computer Science degree in Batangas State University and currently working on his thesis.

Ms. Xyza Gay Lyzyl C. Mazo, had been in the university for 2 years, and currently working on her thesis for MS IT. She formerly worked as Customer Sales Representative at Clear and NetLink for a year.

Mr. Francis Jesmar P. Montalbo, is currently working on his thesis in MS IT degree and a passer of TESDA NC II certification, which makes him a qualified educator in the line of hardware and software servicing and development as well as in information technology.

Table 6 -1
Faculty Qualifications
AY 2015 -2016

Faculty Name	Highest Degree Earned- Field and Year	Rank	Type of Academic Appointment	FT or PT3	Years of Experience			Professional Registration/ Certification	Level of Activity		
			T, TT, NTT		Govt./Ind. Practice	Teaching	This Institution		H, M, or L		
									Professional Organizations	Professional Development Consulting/summer work in	
Macatangay, Luisa P.	MS Computer Science BS Computer Science	I	T	FT	0	4	4	NC II	M	M	L
Arquillo, Melnar C.	MS Information Technology (18 units) BS Information Technology (2014)	I	TT	FT	1	1	1	PhilNITS IP Certified	L	M	L

Atienza, John Robert D.	MS Information Technology (9 units) BS Information Technology (2016)	I	TT	FT	0	<1	<1	PhilNITS IP Certified	L	M	L
Balcera, Ailine D.	MS Information Technology (18 units) BS Information Technology (2014)	I	TT	FT	1	1	1	1. NCII 2. PhilNITS IP Certified	L	M	M
Castillo, Ria L.	MS in Computer Science (Completed Academic Requirements – enrolled in Thesis Writing 1) BS Computer Science (2001)	I	TT	FT	0	5	5		M	H	L
Cañada, Jefferson I.	MS Information Technology (36 units) BS Information Technology (2012)	I	TT	FT	2	2	4		L	H	L
Cañete, Erika A.	MS Information Technology (18 units) BS Information Technology (2014)	I	TT	FT	1	1	1	PhilNITS IP Certified	L	H	L

<i>Fernando, Maricel Grace Z.</i>	<p>Doctor of Information Technology (<i>Completed Academic Requirements</i>)</p> <p>Doctor of Technology (9 units)</p> <p>MS Information Technology (2012)</p> <p>Bachelor of Industrial Technology CpET (2000)</p>	I	T	FT	1	14	14	<p>1. Career Service Professional</p> <p>2. PhilNITS IP Certified</p>	H	H	M
<i>Hernandez, Rowell M.</i>	<p>MS Information Technology (2016)</p> <p>BS Information Technology (2012)</p>	I	T	FT		4	4	<p>1. NCII</p> <p>2. PhilNITS IP Certified</p>	M	H	L
Macatangay, Lloyd H.	<p>MS in Computer Science (<i>Completed Academic Requirements – enrolled</i>)</p> <p>Master in Development Management (2011)</p> <p>BS Computer Science (2001)</p>	I	T	FT		10	10	<p>1. Career Service Professional</p> <p>2. PhilNITS IP Certified</p> <p>3. ICDL</p>	H	H	L

Magboo, Alex I.	Master of Engineering- Electronics Engineering(2005) BS Computer Engineering (1993)	ASC	T	FT		17	17	NCII, ICDL	H	H	M
Manalo, Mary Ann	MS Information Technology (<i>18 units - enrolled</i>) BS Information Technology (2010)	I	TT	FT	5	1	1		L	M	L
Marasigan, Kimberly	MS Information Technology (<i>18 units - enrolled</i>) BS Information Technology (2015)	I	TT	FT		<1	<1		L	M	L
Mangubat, Jeleen	MS Information Technology (<i>9 units – enrolled</i>) BS Information Technology (2014)	I	TT	FT	1	<1	<1	NCII	L	M	L

Mazo, Xyza Gay Lyzyl C.	MS Information Technology (<i>Completed Academics Requirements - enrolled</i>) BS Information Technology (2013)	I	TT	FT		2	1	1. Microsoft Certified Technology Specialist 2. PhilNITS IP Certified	L	M	L
Melo, Princess Marie B.	Doctor of Information Technology (<i>Completed Academic Requirements</i>) Master of Engineering-Electronics Engineering(2005) BS Computer Engineering (1997)	AST	T	FT		14	13	PhilNITS IP Certified	H	H	M
Montalbo, Francis Jesmar P.	MS Information Technology (<i>enrolled- Thesis Writing 2</i>) BS Information Technology (2012)	I	T	FT	1	3	3	1. NCII 2. PhilNITS IP Certified	L	H	M
Ramos, Dean Charliemagne	MS Information Technology (enrolled - 9 units) BS Information Technology (2016)	I	TT	FT		1	1		L	M	L

Legend:

ASC	–	Associate Professor
AST	–	Assistant Professor
FT	–	Full-time
I	–	Instructor
NTT	–	Non-tenure Track (Contractual and not pursuing graduate degree)
PT	–	Part-time
T	–	Tenured (Permanent)
TT	–	Tenure Track (Contractual and actively pursuing graduate degree)

Table 6–1 shows the IT faculty members’ qualifications. In terms of qualification of faculty, it can be seen that the department has three faculty members who are holders of masters degree. This is above the minimum requirements of CHED as prescribed in the CMO No. 25 series of 2015 – Revised Policies, Standards and Guidelines for Bachelor of Science in Information Technology wherein it is stated that “At least sixty (60%) of IT professional courses should be taught by the degree holder in either IS or IT. At least thirty (30%) of all full time IS and IT faculty members should have a graduate degree in either CS, IT and IS”.

Table 6–2 shows the professional courses handled by each faculty. Each professional course can be taught by two to four faculty members. The program is seen not critically dependent on a single faculty. Faculty members are specialized to teach two to four courses. Hence, the number of faculty is adequate to support the program.

Table 6–2
Professional Courses Handled by Faculty

PROFESSIONAL COURSES		FACULTY MEMBERS																	
CODE	DESCRIPTION	Amorado, Ryndel V.	Arquillo, Melnar C.	Atienza, John Robert D.	Balcera, Ailine D.	Castillo, Ria L.	Cañada, Jefferson I.	Cañete, Erika A.	Fernando, Maricel Grace	Hernandez, Rowell M.	Macatangay, Lloyd H.	Magboo, Alex I.	Manalo, Mary Ann	Marasigan, Kimberly I.	Mangubat, Jeleene	Mazo, Xyza Gay Lyzyl C.	Montalbo, Francis Jesmar	Melo, Princess Marie B.	Ramos, Dean
IT 211	Database Management Systems	✓					✓		✓								✓		
CS 131	Object-Oriented Programming		✓	✓		✓				✓							✓		
IT 221	Fundamentals of Networking	✓									✓								
IT 222	Advanced Database Management Systems	✓					✓		✓										
IT 224	Platform Technologies								✓				✓					✓	
IT 225	Introduction to Human Computer Interaction											✓						✓	
IT 311	Systems Administration and Maintenance		✓	✓		✓				✓					✓		✓		
IT 312	Systems Integration and Architecture							✓			✓					✓			
IT 313	IT Elective 1	✓			✓		✓			✓				✓		✓			✓
IT 314	IT Elective 2	✓			✓		✓			✓						✓			✓

PROFESSIONAL COURSES		FACULTY MEMBERS																	
CODE	DESCRIPTION	Amorado, Ryndel V.	Arquillo, Melnar C.	Atienza, John Robert D.	Balcera, Ailine D.	Castillo, Ria L.	Cañada, Jefferson I.	Cañete, Erika A.	Fernando, Maricel Grace	Hernandez, Rowell M.	Macatangay, Lloyd H.	Magboo, Alex I.	Manalo, Mary Ann	Marasigan, Kimberly I.	Mangubat, Jeleeene	Mazo, Xyza Gay Lyzyl C.	Montalbo, Francis	Melo, Princess Marie B.	Ramos, Dean
IT 315	Information Assurance and Security		✓					✓		✓					✓			✓	
CS 321	Web Programming	✓	✓	✓				✓					✓		✓				
IT 321	Advanced Information Assurance and Security								✓								✓	✓	
IT 322	Advanced Systems Integration and Architecture								✓								✓	✓	
IT 323	IT Elective 3	✓			✓		✓			✓				✓		✓			✓
IT 324	IT Elective 4	✓			✓		✓			✓				✓		✓			✓
IT 326	IT Capstone Project 1	✓							✓	✓		✓							
IT 411	Professional Ethics and Computer Laws		✓			✓	✓					✓				✓			
IT 412	Integrative Programming and Technologies																		
IT 413	IT Elective 5	✓			✓		✓			✓				✓		✓			✓
IT 414	IT Capstone Project 2	✓							✓	✓									✓
IE532	Technopreneurship																✓	✓	
OJT500	Internship Training							✓		✓	✓					✓			

B. Faculty Workload

Faculty members, shall render not less than eight (8) hours of work a day for five (5) days a week or a total of forty hours, exclusive of time for lunch break. The forty hours per week include time for teaching, student consultation, research and extension work, and other activities relevant to teaching such as preparation of lessons, checking of papers, etc. However, the university may allow a change in official time of faculty members so they can perform their four fold functions of instruction, consultation, research and extension service provided that the prescribed forty hours of work per week shall strictly be implemented.

A full time faculty member occupying permanent plantilla position has eighteen (18) hours of teaching, two (2) hours of research, and two (2) hours consultation. While contractual faculty members should render twenty-four hours (24) teaching work, two (2) hours of research, and two (2) hours of consultation. The part time teaching staff is allowed to render an accumulated twelve (12) hours of teaching per week and has no research and consultation hours. However, all full time faculty members are allowed to have six (6) hours teaching overload.

Table 6-3 shows that the faculty workload summary for IT program. It can be observed that all faculty members have overload teaching units. This is due to enrollment increase for BSIT program and lack of qualified faculty members. Also, some of the faculty members have administrative functions. To resolve this issue, the university continuously posts announcement of vacancies for qualified IT faculty.

Table 6–3
Faculty Workload Summary, 2nd Semester, AY 2016 – 2017

Faculty Member	PT or FT	Classes Taught (Course No./Credit Hrs.) Term and Year	Program Activity Distribution ³			% of Time Devoted to the Program
			Teaching	Research or Scholarship	Other	
Macatangay, Luisa P.	FT	IT 205 / 3 units (5 sections) w/ lab	62.5%	5.0%	42.5%	100%
Balcera, Ailine D.	FT	IT 315 / 3 units (2 section) w/ lab	70.0%	5.0%	25.0%	100%
		CpE 330 / 3 units (3 sections) w/ lab				
		BAFANAM / 3 units (1 sections)				
Basco, Mijea M.	FT	IT 331 / 3 units (3 sections) w/ lab	52.5%	5.0%	42.5%	100%
		IT 418 / 3 units (1 sections)				
		CpE 330 / 3 units (2 sections) w/ lab				

Faculty Member	PT or FT	Classes Taught (Course No./Credit Hrs.) Term and Year	Program Activity Distribution ³			% of Time Devoted to the Program
			Teaching	Research or Scholarship	Other	
Belegal, Edna R.	PT	IT 422 / 3 units (1 section) w/ lab	100%	0%	0%	100%
Cañada, Jefferson I.	FT	IT 204 / 3 units (3 sections) w/ lab	37.5%	5.0%	57.5%	22.5%
Cañete, Erika A.	FT	IT 101 / 3 units (4 sections) w/ lab	70.0%	5.0%	25.0%	100%
		IT 202 / 3 units (1 section) w/ lab				
		IT 203 / 3 units (1 section) w/ lab				
Fernando, Maricel Grace Z.		IT 204 / 3 units (3 sections) w/ lab	37.5%	5.0%	57.5%	100%
Mazo, Xyza Gay Lyzyll C.	FT	IT 313 / 3 units (2 sections)	67.50%	5.00%	27.50%	100%
		IT CpE410 / 3 units (2 sections) w/ lab				
		SMFBP02 / 3 unit (2 section)				
		IT 101 / 3 units (1 section) w/ lab				
Montalbo, Francis Jesmar P.	FT	IT 204 / 3 units (2 sections) w/ lab	55%	5%	40%	100%
		IT 313 / 3 units (4 sections)				

Table 6 – 4
Faculty Workload Summary, 1stSemester, AY 2016 – 2017

Faculty Member	PT or FT	Classes Taught (Course No./Credit Hrs.) Term and Year	Program Activity Distribution ³			% of Time Devoted to the Program
			Teaching	Research or Scholarship	Other	
Amorado, Ryndel V.	FT	IT 306 / 3 units (3 sections) w/ lab	48%	6%	45%	100%
Arquillo, Melnar	FT	IT 203 / 3 units (6 sections) w/ lab	75.00%	5.00%	5.00%	100%
Balcera, Ailine D.	FT	IT 202 / 3 units (2 section) w/ lab	62.5%	5.0%	32.5%	100%
		IT 310 / 3 units (3 sections)				
		IT 417 / 3 units (2 sections)				
Castillo, Ria L.	FT	IT 202 / 3 units (4 sections) w/ lab	57.5%	5.0%	37.5%	100.0%
		IT 310 / 3 units (1 section)				
Cañada, Jefferson I.	FT	IT 500 / 3 units (1 section) w/ lab	66.7%	6.7%	26.7%	75.0%
		BAFBAN / 3 units (2 sections)				
		IT 418 / 3 units (3 sections)				

Faculty Member	PT or FT	Classes Taught (Course No./Credit Hrs.) Term and Year	Program Activity Distribution ³			% of Time Devoted to the Program
			Teaching	Research or Scholarship	Other	
Cañete, Erika A.	FT	IT 306 / 3 units (5 sections) w/ lab	73.5%	5.9%	20.6%	100%
Marasigan, Kimberly I.	FT	BAANTEC / 3 units (1 section)	72.5%	5.0%	22.5%	100.0%
		BAANAP 1 / 3 units (1 section)				
		IT 309 / 3 units (4 sections) w/ lab				
		BAFBAN 1 / 3 units (1 section)				
Mangubat, Jeleen M.	FT	IT 203 / 3 units (2 sections) w/ lab	75.0%	5.0%	20.0%	100.0%
		IT 308 / 3 units (5 sections)				
		IT 101 / 3 units (1 section) w/ lab				
Mazo, Xyza Gay Lyzyll C.	FT	IT 410 / 3 units (4 sections)	75.00%	5.00%	20.00%	100%
		IT 419 / 1 unit (1 section) Lab				
		SMFBP01 / 3 unit (2 sections)				
		SMSVCC / 3 units (2 sections)				

Faculty Member	PT or FT	Classes Taught (Course No./Credit Hrs.) Term and Year	Program Activity Distribution ³			% of Time Devoted to the Program
			Teaching	Research or Scholarship	Other	
Macatangay, Lloyd H.	FT	IT 307 / 3 units (3 section) w/ lab	58.8%	5.9%	35.3%	100.0%
		IT 422 / 3 units (1 section) w/ lab				
Montalbo, Francis Jesmar P.	FT	IT 202 / 3 units (4 sections) w/ lab	59%	6%	35%	100%
Ramos, Charliemagne Dean F.	FT	CpE 516 / 3 units (2 sections) w/ lab	70%	5%	25%	100%
		IT 308 / 3 units (1 sections)				
		CS 204 / 3 units (1 section) w/ lab				
		IT 309 / 3 units (2 sections) w/ lab				
Atienza, John Robert D.	FT	CS 204 / 3 units (3 sections) w/ lab	78%	5%	18%	100%
		IT 420 / 1 unit (1 section)				
		IT 417 / 3 units (1 section)				
		IT 101 / 3 units (2 sections) w/ lab				

Faculty Member	PT or FT	Classes Taught (Course No./Credit Hrs.) Term and Year	Program Activity Distribution ³			% of Time Devoted to the Program
			Teaching	Research or Scholarship	Other	
Aclan, Amy U.	PT	IT 516 / 3 units (2 sections) w/ lab	100%	0%	0%	0%
Belegal, Edna R.	PT	IT 422 / 3 units (1 sections) w/ lab	100%	0%	0%	0%
		IT 309 / 3 units (1 section) w/ lab	100%	0%	0%	0%
Leonor, Nicole G.	PT	IE 532 / 3 units (2 sections)	100%	0%	0%	0%
Mayo, Carlito	PT	CS 204 / 3 units (2 sections) w/ lab	100%	0%	0%	0%
Viana, Kimberly	PT	IT 416 / 3 units (2 sections) w/ lab	100%	0%	0%	0%

C. Faculty Size

The faculty size is adequate to handle all IT courses and monitor scholastic performance of the IT Students. There are at least 2 faculty members who can handle one course. Each student in the department is assigned to an academic adviser, who monitors the academic progress of the student until his/her graduation. The adviser keeps the academic records of the student aside from being available during consultation period where a student may ask for advise.

Faculty advisers declare their consultation hours for advising and career guidance every semester. The faculty must meet their student advisees at least two (2) times per semester. During consultation meetings, the adviser and the student discuss progress, plans and difficulties, including class and internship experience. The adviser may refer the student with difficulties to professional counseling, and may also invite the parents to the advising/counseling sessions. The adviser also discusses possible internship, career opportunities, program specialization, helping students applying for grants and scholarships, advising student professional organizations, and other departmental activities.

Faculty Advisers keep a folder for each student, which includes transcripts of records, advising forms, photos, and any other student specific documents. During enrollment, advisers give appropriate courses for the upcoming semester. Faculty Advisers ensure that course pre-requisites are enforced as specified in the course syllabi and curriculum. The course selection given to the student is documented in the Proposal Slip.

Faculty members are required to attend university activities from time to time. Among these activities are: commencement exercise, charter/foundation week celebration, Christmas party, university-wide faculty development seminar and general assembly of faculty union.

In terms of professional development, all faculty members are actively pursuing graduate degrees. Others have expressed their intentions to also pursue doctorate degrees.

Faculty members are also active in attending conventions, seminars and trainings. By attending seminars/conferences, faculty members are updated on

recent trends on a specific course and can exchange ideas during exhibits, meals and other events with peers and other practitioners. Refer to Appendix B – Faculty Vitae for the complete list of the faculty seminars/trainings/ conferences attended.

D. Professional Development

The University recognizes faculty and staff development as one of the major priority endeavors as shown in its Strategic Initiatives and Actions Plan for 2012 – 2017. The plan outlines the timeline and sets of activities to further enhance the competencies of all University personnel. The ultimate goal of the institution's professional development program is to acquire competent faculty workforce holding at least a masters degree in line with their field of specialization. For this reason, only faculty who has a masters degree can be appointed with permanent status.

The university is conducting faculty development seminar twice a year. Invited guest speakers who are well-known in their field deliver lecture to all faculty members of BatStateU. Topics for the seminar are those related to recent trends in education. Also, the university has funds allotted for faculty seminars and training conducted outside the vicinity of the institution. The Dean in collaboration with the Department Chairman prioritizes the need for trainings/seminars of the department subject to approval by the University President.

Furthermore, the University also adopts an objective system of selecting deserving faculty to be granted scholarships, fellowships and training grants under its University guidelines on Faculty Scholarship Grants which took effect in AY 2007-2008. It outlines the institution's procedures of granting scholarship endowment. The details of this initiative plan are shown in Table 5 -5.

Table 6-5
Strategic Plans for 2014 – 2017

Strategic Initiative	Program/Activity/Project	Performance Indicator
Develop a comprehensive and pragmatic faculty development program	Sending faculty members to international universities to pursue postgraduate studies in their respective fields of specialization.	Number of faculty members enrolled in International Universities for post graduate studies in their respective fields of specialization Number of trainings and seminar attended by faculty
	Training a critical number of biologist, chemists, physicists, IT experts, engineers, educators, entrepreneurs and social scientists who will play a lead role in technological advancement in developing new products, and in providing solutions to the problems of the industry and the society as a whole	
Develop and implement relevant policies that would entice valued faculty members to continue the practice of their profession in the University	Offering of graduate programs to encourage the faculty to continue their professional practice cognizant of the University's thrusts and practices	Number of new graduate programs offered
Formulate and execute plans of action and mechanisms for the objective assessment of faculty performance and provide scholarships or incentives to outstanding faculty	Implement Strategic Performance Management system	Number of promotions, scholarships and incentives provided to the faculty

E. Authority and Responsibility of Faculty

Each faculty member has respective assignments acting on specific administrative functions and department's committee function, aside from other designations they may have been given by the University. The organized committees in the department are: Student Outcomes (SO), Program Educational Objectives (PEO), Continuous Quality Improvement (CQI), Research and Extension, and Instructional Materials Review. The details of the committee membership regarding PICAB accreditation is as follows:

AREA	MEMBERS
I. Program Educational Objectives	Lloyd H. Macatangay
	Melnar C. Arquillo
	Francis Jesmar P. Montalbo
II. Student Outcomes	Jefferson I. Cañada
	Erika A. Cañete
	Ailine D. Balcera
III. Continuous Quality Improvement	Luisa P. Macatangay
	Lloyd H. Macatangay
	Jefferson I. Cañada
IV. Curriculum	Luisa P. Macatangay
	Lloyd H. Macatangay
V. Students	Jefferson I. Cañada
	Ailine D. Balcera
VI. Faculty	Xyza Gay Lyzyl C. Mazo
	Kimberly I. Marasigan
VII. Facilities	Erwin L. Enriquez
	Zoilo G. Viaña
	Dean Charliemagne F. Ramos
VIII. Institutional Support	Joel B. Bacay
	Israel P. Peñero
IX. Industry-Academe Linkage and Community-Oriented Programs	Lovely Rose C. Tipan
	Ria L. Castillo

E.1 Course creation, modification, and evaluation

Faculty members have functions as well in the curriculum revision. Revisions in the curriculum are being reviewed first by IT faculty members. Consultations among the students, stakeholders are conducted before presenting the revised curriculum to the Academic Council. The council is comprised of faculty members that are at least assistant professors and headed by the University President. The Academic Council makes recommendations for final approval of the Commission on Higher Education. Furthermore, the faculty is in-charge of revising the course syllabus prior to the implementation of the new curriculum.

In terms of course evaluation, the faculty has the full responsibility in assessing the course or performance of student in the particular course. The faculty members have the privilege of making its own grading system provided that it is not against or it is guided by the general rule for grading prescribed by the department or college.

E.2 Definition and revision of program educational objectives and student outcomes

Faculty members assigned to the SO and PEO committees are tasked to evaluate and analyze the result of the surveys conducted. Table 6-5 shows the PEO, SO and CQI committees.

The revised PEO statements are drafted by the faculty members through PEO committee based on the needs of the constituents: industry, university vision and mission, ABET requirements, CHED CMO and other factors that may have significant impact on the program improvements. The draft PEO statements are then presented to the IAC for review and recommendations.

The faculty members through the SO committee determined the appropriate course to assess and evaluate the achievement of each SO and the methods of assessment for each course. Faculty members handling the selected courses used in the SO assessment and evaluation provide the result to the SO committee. The faculty members, through the SO committee determined the extent to which the SOs were

achieved. These show that the faculty members have an important role in assessment and evaluation of SOs

Table 6-5
Faculty Committee

Program Educational Objectives	Lloyd H. Macatangay
	Melnar C. Arquillo
	Francis Jesmar P. Montalbo
Student Outcomes	Jefferson I. Cañada
	Erika A. Cañete
	Ailine D. Balcera
Continuous Quality Improvement	Luisa P. Macatangay
	Lloyd H. Macatangay
	Jefferson I. Cañada

**Names in bold will serve as the Chairperson*

E.3 Attainment of the student outcomes

The student outcome assessment for each course is derived from the evaluation made by the faculty with respect to the attainment of the performance indicators based from the rating of assessment tasks related to the respective student outcomes.

At the end of every semester, the instructor in charge for each class conducts student outcomes assessment to check the level of achievement of the student outcomes proper for the specific class or course. The results from this assessment serve as the basis for the development of the teaching and learning strategies, the manner of adapting the teaching and learning strategies for the next course related to the subject at hand, and the proper evaluation techniques that is effective in gauging the student outcomes for the improvement of the students' performance.

E.4. Roles of others faculty in the campus

To ensure the efficient delivery of the IT Program, the Dean, and the IT Program Chairperson take active role in the course creation, modification and

evaluation, in the definition and revision of program educational objectives and student outcomes, and in the attainment of student outcomes and in ensuring continuous quality improvement.

The faculty members work closely with the chairperson along these aspects. They check and verify all the recommendations of the faculty members before the Dean finally approves everything.

The Dean oversees the entire program and ensures that all courses are appropriately delivered to ensure the attainment of the SOs, which lay the foundation to the attainment of the PEOs. The Dean also seeks approval from the VP of Academic Affairs and from the Curriculum Committee for the implementation of PEOs, SOs, and whatever changes or revisions made for the improvement of the BSIT program.

CRITERION 7. FACILITIES

A. Offices, Classrooms and Laboratories

Classrooms, laboratories, and associated equipment are adequate to accomplish the program objectives and provide an atmosphere conducive to learning. Appropriate facilities are available to foster faculty-student interaction and to create a climate that encourages professional development and professional activities.

A.1 Offices

Dean's Office

The Dean's office is located at the second floor of the CICS building where the Dean conducts administrative functions. Adjacent to the Dean's office is the conference room with an oval table and chairs for meetings and other faculty gathering. On both sides of the room are shelves which hold important documents (accreditation, permits, etc.) of the college.

Local Designee's Office

The Office is located at the ground floor of the building next to the faculty room. This office is dedicated to provide easy access to the students in terms of the services that they want to avail. Faculty members who have designations are utilizing this office such as Student Organizations and Activities, Sports/Cultural Affairs, Research, Extension Services, Linkages/ Planning/Alumni Affairs, On-the-Job Training, Student Discipline, and Graduate Programs.

Student Consultation Room

The student Consultation Room is located at the second floor of the building. This office is used for the consultation of students with their faculty

advisers. The office has a partition to provide ample private space for faculty members and students during consultation hours.

Guidance Office

The Office is located at the ground floor of the Information and Communication Technology Center (ICTC) Building. There are two guidance counselors and peer counselor to facilitate students' needs.

The Office of Guidance and Counseling is directly under the jurisdiction of the Office of the Student Services. It is supervised by an Assistant Director whose extent of control is University wide in terms of the unit offices of guidance and counseling in all campuses.

The Guidance Program of the Batangas State University seeks to respond to the development needs of the University students. These activities assist in furthering the avowed aims of Batangas State University in the formation of young men and women for intellectual, moral, professional competence as prerequisite to living a fully human and Christian life with a responsible involvement in the development of people, especially the poor.

Research Office

The University Research Office is located at the ground floor of the Engineering Building. This is one of the core services of the University under the direct supervision of the Vice President for Research and Extension. It fosters / promotes research endeavor in the university and is expected to contribute significantly to the data bank of the University's research portfolio.

With this premise, emphasis is placed on initiating and carrying out research projects relevant to the thrusts and priorities of the University. These include all scholarly, creative and service activities that add to the knowledge base in the academic and scientific fields. It is also directed to disseminate the research findings to generate productive use to the targeted clientele / beneficiary of the research project.

The research endeavors are driven through strong partnership with both government and non-government sectors to enhance the Unit's capability to function

efficiently. The Unit is engaged in collaborative research in areas that benefit communities, local government units, private sectors and other stakeholders. Through basic research, collaborative applied research with industry, technology transfer, and education, the Unit serves as catalyst for development.

Extension Office

The Batangas State University, as an institution of higher learning is committed to carry out its extension service function with the creation of the Office for Extension Services, Office for Community Services, Office for Institutional and Industry Linkages and Gender and Development Center with the primary goal of achieving partnership with the government in poverty alleviation. The University can now respond more adequately to the training needs of communities, industry, public and private agencies / organizations and to the members of the academe.

Through the effective implementation of the University's Extension Service Program, it is envisioned that the people of the community, the main concern of the extension service, can be uplifted from helplessness to self-reliance, from aimlessness to commitment. This office is located at the ground floor of the Engineering Building.

Registrar Office

The office of the registrar is located at the second floor of the Student Center building. The office seeks to provide effective, efficient, systematic and quality services to students in all levels of discipline through prompt action to their needs by serving them through willingness to work constructively, innovatively and diligently with commitment in the achievement of the university's goals and national aspirations.

A.2 Classrooms and associated equipment that are typically available where the program courses are taught.

The Information Technology students attend their classes in the Information and Communication Technology Center (ICTC) Building opposite the Engineering Building. The center holds 12 classrooms, 6 laboratories, 4 offices and a faculty room.

Sufficient numbers of plastic chairs are provided in each room, 4 feet by 16 feet whiteboards are also available, proper lightings are well installed and it is also fully air-conditioned to assure that every room has conducive atmosphere for learning. All classrooms are identical in size at 65.24 square meters with two doors on each side of the room with enough windows. The department maintains 11 LCD projectors that are used by its faculty in most of their classes.

A.3 Laboratory facilities including those containing computers

The Information and Communication Technology Center (ICTC) Building maintains six laboratories:

a. Software Laboratory 1

The laboratory is used for Computer Fundamentals, Open Source Application, and Java Programming courses. This room is designed to accommodate 36 units of computer. Each of the System Unit has AMD Athlon 64 x2 Dual Core Processor 5000+ HT, EMX-ANF7025-icafe Motherboard, Seagate 160 GB HDD, 1GB Kingston DDR2 Memory, AOC 16" LCD Monitor and a Liteon Sata Multi DVD Recorder. All are enclosed in an AMD Athlon 64 x2 black PC case. Ubuntu Operating System and Windows XP Professional edition are both installed on all systems including application such as Microsoft Office 2010, Open Office in Linux based Operating System, Visual Studio Premium with MSDN, Firefox as web browser and Java Software. The system units' specifications would be essential for students in doing programming in different languages. The size of the laboratory is 65.24 square meters with two exit doors, enough windows and sufficient lighting. It has two window type air-conditioning units necessary to create a conducive atmosphere for student learning. LCD projector is also kept on the laboratory for lecture presentations. The laboratory is located at the third floor of the Information and Communication Technology Center (ICTC) Building.

b. Software Laboratory 2

The laboratory is used for high level programming languages like Java, Visual Basic, Object Oriented Programming and Microsoft.Net. Two types of system units are used in this laboratory 12 units having Pentium 4 3.04 GHz Processor, ECS ELITE G4IT-R3 Motherboard, 40GB Samsung HDD, 256MB Memory, Likom 16" LED Monitor and enclosed in a Risc 600w psu PC case. The rest of the units have AMD Sepron 2.2GHz Processor, ECS ELITE G4IT-R3 Motherboard, 20GB Samsung HDD, 128MB Memory, Likom 16" LED Monitor and enclose in a Risc 600w psu PC CASE. This software laboratory is equipped with hardware specification that can comply with the requirements needed of every programming language. Similar to the other software laboratories the actual size of SL2 is 65.24 square meters having two doors and sufficient windows. Proper lighting are installed in the laboratory and two window type air-conditioning units. LCD projector is installed at Software Laboratory 2 for lecture presentations. The laboratory is located at the third floor of the Information and Communication Technology Center (ICTC) building.

c. Software Laboratory 3

The laboratory is located at the third floor of Information and Communication Technology Center (ICTC) Building. It accommodates hands-on activities for courses such as Object Oriented Programming, Java, C++ Programming, Visual Basic, Computer System and Assembly Language. There are two types of system units in this laboratory 20 of them having Intel Pentium Dual Core E6600 @3.06GHz, ECS ELITE G4IT-R3 Motherboard, Western Digital 320GB Serial ATA HDD, Elixer 2GB DDR3-1066 Memory, Likom 16" LED Monitor and enclose in a Risc 600w psu PC case. There is also 17 system units with Intel Core i3-2100 Processor, Asus P8H61-M LX, 2GB PC 1333 Kingston (2 x 1GB) Memory, 500GB Hitachi Sata HDD, LG/Liteon DVD Writer, 15.6" AOC e1620Sw LED, TP-Link Wireless-N150 PCIe card wireless LAN Card and enclosed in a K1 PC case. All of these system units are distributed in the 65.24 square meter room with two exit doors and windows at the opposite side of the room.

d. Multimedia Laboratory

The laboratory is located at the third floor of the ICTC Building. Software application such as Web Development Software, Multimedia Applications, Adobe Photoshop, Autodesk Autocad 2010 and Acrobat Reader. Windows 7 is also installed to cope up with the trend in technology requirement of multimedia software. There are two types of system units in this laboratory 18 of them have Intel Pentium Intel Quad Core 2.33 GHz Processor, ECS G31T-M7 Rev. 1.0 Motherboard, Western Digital 320GB Serial ATA HDD, AOC 19" LCD Monitor, Elixer 2GB DDR3-1066 Memory, AOC 19" LCD Monitor, Lightscribe ATAPI ATA DVD Recorder and enclose in a Risc 600w psu PC case. There are also 17 system units with Intel Core i3-2100 Processor, Asus P8H61-M LX, 2GB PC 1333 Kingston (2 x 1GB) Memory, 500GB Hitachi Sata HDD, LG/Liteon DVD Writer, 15.6" AOC e1620Sw LED, TP-Link Wireless-N150 PCIe card wireless LAN Card and enclose in a K1 PC case. Digital HP Photosmart printer is also available in the laboratory for the student to have their work printed when needed. All of these system units are distributed in the 65.24 square meter room with two exit doors and windows at the opposite side of the room. The room is properly lighted and has two air-conditioning units suitable for student learning. The system units' specification meet the requirements of the installed software for the student to perform efficiently in doing their activities either on web development or multimedia courses.

e. CISCO Laboratory

The laboratory is dedicated for networking and is located at the third floor of the ICTC Building. It is home for courses that deal with networking such as Networking Fundamentals, Basic Switching and Routing, Intermediate Switch and Routing and WAN Technology. System units are also available in this laboratory. It has 20 sets of Pentium 4 3.04 GHz Processor, ECS ELITE G4IT-R3 Motherboard, 40GB Samsung HDD, 256MB Memory, Likom 16" LED Monitor and enclosed in a Risc 600w psu PC case. The system has Windows 7 operating

system with basic application software to be used in configuring network devices. Cisco routers and switches are maintained in this laboratory for network simulation. The size of the laboratory is 65.24 square meters having two doors and sufficient windows that add more light in the laboratory. Split type air-conditioning units are also available.

f. Hardware Laboratory

Electronic courses such as Basic and Advanced Logic Design and microprocessors are held here. System units are also maintained in the laboratory that are installed with software for circuit simulation together with other simulation device like Zlog emulator, and Microcontroller Z8 Modules. The laboratory has an actual size of 65.24 square meter. Other laboratory materials are also available as the CpE programs compliance to CHED requirements. Proper lighting are installed with wide windows that add enough lighting on the laboratory with split type air-conditioning units. This is located on the third floor of ICTC Building.

B. Computing Resources

a. Internet Laboratory

This laboratory is open to all students from Monday to Friday from 8:00 am to 5:00pm. Students must log and present their registration form or school identification card to the assigned laboratory assistant to gain access to the facility.

b. Library - Electronic Library

The Electronic Library became operational to library users on April 2007. Housing several computer units, the library offers free internet connection to the users. With internet access, students are provided with a faster and easier way of securing the very much needed information for their research and study work.

C. Guidance

Appropriate instructions and guidance regarding the use of tools, equipment, computing resources and laboratories are given to the students to avoid untoward incidents. Students are oriented by their instructor regarding safety before the actual use of a certain tool/equipment,. There are also guidelines and safety precaution posted on walls inside the laboratory rooms which remind students from time to time.

During laboratory hours wherein students are using tools and equipment needed for the course, the faculty closely supervise the students. Faculty interacts from time to time regarding the correct usage of the equipment. Students are encouraged to ask questions when confused pertaining to the use of equipment. The assigned technician inside the laboratory room is ready to assist the students and faculty.

D. Maintenance and Upgrading of Facilities

The computer laboratory is being managed by a laboratory technician. Laboratory rules and regulations were implemented. The technician is also responsible for the repair and maintenance of the equipment under his custody. The following are actions to sustain the serviceability of the equipment:

- a. The equipment in the six laboratories undergo inspection by the computer technician to check whether there is a need to troubleshoot, reformat, update, register, replace or repair the existing software and/or hardware. Mr. Christopher P. Sagad is in- charge in software laboratory one and two, Mr. Christian A. Perez is in-charge of software laboratory three and multimedia laboratory, Mr. Joel Maranan is in-charge of the CISCO laboratory and hardware laboratory and Mr. Paulo S. Navarro is in-charge in the engineering computer laboratory and Internet laboratory.
- b. The electrical system of the laboratories is constantly inspected to prevent accidents due to short circuits or loose wirings.

- c. Utility personnel are assigned to clean the laboratory premises on a daily basis and to physically maintain orderliness.
- d. Safety rules for laboratory use are posted in a strategic place and are explained to the students.

Computer Laboratory Rules and Regulations

1. Food and drinks are not allowed inside the computer laboratory.
2. Only students with their laboratory class are allowed to use the laboratory unless allowed by faculty concerned.
3. Students are not allowed to install or save software/games/files that are not related to subject matter.
4. Illegal copying of software/file is strictly prohibited.
5. Browsing of banned sites, such as pornographic sites, file sharing & social network using proxy server is not allowed.
6. No littering inside the computer laboratory.
7. Things must be placed in the designated area.
8. Sleeping inside the laboratory is strictly prohibited.
9. Safely shutdown all the computers before leaving the laboratory.
10. Turn off the air-con unit and unplug the main switch, re-arrange the chairs before leaving the computer laboratory.

The need to upgrade the existing tools/equipment is initially assessed by the faculty. Once required, the faculty and the Department Chairman request the upgrade or purchase of the equipment to the Dean. The Dean who prepares the annual procurement plan of the College includes the said upgrade or purchase of equipment in the plan and is forwarded to the President for approval. Upon approval, the Property and Supply Office starts procuring the equipment subject to government accounting rules and regulations. These include canvassing, bidding, etc.

E. Library Services

The Information Technology program is supported by the Foster-Wheeler Library. Responsibility for the Foster-Wheeler Library lies in the Librarian-in-charge who reports to the University Librarian who then reports to the Vice President for Academic Affairs. Although the library's holdings are somewhat limited, the availability of documents and research materials are adequate for undergraduate students. The library staffs are very helpful in promptly locating and obtaining interlibrary loans when needed. Faculty and students are increasingly using the Internet and on-line journals for much of their information needs. Program funding for new purchases is adequate, however, the program could always use more.

The Undergraduate Library offers a vast collection of library materials for the utilization of the undergraduate students, the faculty members and the administrative staff of the University and other library users from other schools.

The **Information and Control Desk** is located at the entrance of the library.

The staff on duty answers questions regarding location of the library materials.

The **Circulation Section** is where the users' borrowing and returning of books and the signing of clearances are done.

The **Technical Section** is where the acquisition, organization and technical processing of books and other library materials are done.

The **General Reference Section** is a collection of library materials which includes dictionaries, encyclopedias, atlases, almanacs, etc.

The **Periodical Section** is the part of the library which contains a collection of journals and dailies. The vertical file materials are also found here.

The **Filipiniana Section** offers a vast collection of materials about the Philippines which is either written by Filipino or foreign authors. This also includes all books written by Filipino authors.

In the **General Collection Section** of the library, users find a variety of printed materials written by foreign authors.

The **Study Area** is for students who want to have a peaceful and quiet venue for studying inside the campus. Students can also make their home works and

assignments in this area, they just have to make sure that they maintain peace, order and silence in the said place.

The Electronic Library

In early 2006, the old library was rehabilitated. The building was renovated and improved through a generous philanthropist, Don Emilio Yap, an established businessman and the owner of The Manila Bulletin Publications. With the rehabilitation of the former library was the addition of a new library division, the *Electronic Library*.

The Electronic Library became operational to library users on April 2007. Housing several computer units, this library offers free internet connection to the users. With internet access, students are provided with a faster and easier way of securing the very much needed information for their research and study work.

Other Services Offered by the Library

Book Display

A book display is one of the regular features of the library. New books are displayed over a period of time before they are finally placed into circulation. Books that are on display can be browsed by library users.

Automated Circulation

Computerized checking in and checking out of books is now being prepared in this library. With automated circulation, the library's daily performance can be monitored and recorded. It also provides bibliographic information. This library computerization features the Online Public Access Catalog (OPAC), Online Circulation and Bar Coding.

On-Line Public Access Catalog (OPAC)

This provides faster search for research materials on specific topics using the computer instead of the traditional card catalog.

Library Tour

The Library Department conducts a library tour for students who want to explore and know more about the different sections and services offered by the library.

Vertical File Materials

Materials of this type include newspaper clippings, pamphlets, brochures and booklets. The library personnel compile these materials according to topics and arrange them alphabetically.

Customer Service

The library staff in the Information and Control Desk provides personal assistance to library users to help them in their information needs.

Current Issues Awareness Bulletin Board

Located at the Graduate School Library, this bulletin board contains postings of the current issues in and out of the country. This aims to update the library users' awareness on the latest happenings around them.

New Acquisitions Bulletin Board

This bulletin board which can be found at the main entrance of the library contains a listing of the newest material acquisitions of the library.

Issuance of Referral Letter

Students who wish to conduct their research in other school libraries that are members of the Network of CALABARZON Educational Institutions (NOCEI) and other libraries in Manila may request for a referral letter from the University Librarian. All they have to do is follow the three easy steps below:

1. Secure a *request letter* from their adviser.
2. Present the *request letter* to the library staff designated to make the *referral letter* at least three days before conducting a research in the library of their choice.

3. Report to the library a day before conducting the research to get the *referral letter* from the library staff who process the request.

Certification of Graduate Theses and Dissertations and Undergraduate Theses

Upon the request of the undergraduate/graduate thesis'/dissertation's author, the University Librarian may issue a certification stating that the student had submitted a copy of the thesis/dissertation to the library.

Library Hours

First and Second Semesters	Monday – Friday	8:00am - 6:00pm
	Saturday	8:00am - 5:00pm
	Sunday	8:00am - 12:00pm
Semestral Break	Monday – Friday	8:00am-5:00pm
Summer Term	Monday -Saturday	8:00am-5:00pm

F. Overall Comments on Facilities

Safety is the prime importance on the use of facilities, tools and equipment. Laboratory rooms are Secured and well-ventilated. Fire extinguishers in each room with proper specifications required by Fire Code are commercially inspected and recharged. Specific warning signs are posted in laboratories where chemical, electrical or radiation experiments are performed or where machinery with moving parts is used. Safety rules, regulations and evacuation procedure are posted in conspicuous places. There is a separate storage for gas cylinders, radioactive materials, chemicals and flammables for chemistry laboratory. All materials are in closed container, labeled as hazardous and properly shelved with restraining bars. Annual training/orientation on fire and earthquake evacuation procedures including evacuation drills for students and staff are provided. Hence, the program ensures that the facilities, tools, and equipment used in the program are safe for their intended purposes.

CRITERION 8. INSTITUTIONAL SUPPORT

Constructive leadership, institutional support and financial resources are adequate to assure the quality and continuity of the Information Technology program. Resources are sufficient to attract, retain, and provide for the continued professional development of a well-qualified faculty. Resources are also sufficient to acquire, maintain, and operate facilities and equipment appropriate for the program.

A. Leadership

The governing body of the University is the Board of Regents and composed of a.) The Chairman of the Commission on Higher Education (CHED), Chairman; b.)The President of the University, vice chairman; c.)Chairman of the Committee on Education, Arts and Culture of the Senate, member; d.)Chairman of the Committee on Higher and Technical Education of the House of Representatives, member; e.)The Regional Director of the National Economic and Development Authority (NEDA) where the main campus of the University is located, member; g.)The President of the Federation of Faculty Association of the University, member; h.)The President of the Federation of Student Councils or the students' representative elected by the Federation of the Student Council of the University, member; i.)The President of the Federation of Alumni Association of the University, member.

The foundation of all academic and administration functions of the University, represent the whole academe in fulfilling its vision and mission towards quality service to the public under the administration of Dr. Tirso A. Ronquillo, the University President. Appointed as Secretary for both the Board and the University is Engr. Enrico M. Dalangin, he is responsible in keeping all records and proceedings of the Board.

Also, the university has an Administrative Council which consists of the University President as the Chairman, and the following designated officials as Members: 1) Vice President for Academic Affairs – Dr. Erma B. Quinay, 2) Vice President for Administration and Finance – Atty. Luzviminda C. Rosales, 3) Vice President for Research Development and Extension Services – Engr. Albertson D.

Amante and 4) Vice President for Administration and ICT – Prof. Rogelio Antenor, Director for Planning and Development – Mrs. Myrna A. Coliat, Asst. Prof. Vanessah V. Castillo as the Executive Assistant, Asst. Prof. Mykl Adamas as the Director for Public Relations, Director of Internal Assessment Unit – Engr. Mario G. Bukas, Executive Director of Main Campus II and Dean of the College of Informatics and Computing Sciences – Dr. Jessie A. Montalbo, Prof. Enrico M. Dalangin is the Executive Director of Nasugbu, Balayan and Lemery Campuses, Dr. Expedito V. Acorda – Executive Director of Malvar and Lipa Campuses and Executive Director of Rosario and San Juan Campuses.

The leadership at the College of Informatics and Computing Sciences is structured with the Dean – Dr. Jessie A. Montalbo, the Associate Dean and Coordinator of the Graduate Programs, and the Department chairs, representing their respective programs in the College.

The Department Chair is the primary spokesperson for department faculty, staff and students, assists the Dean in implementing and carrying out university policy and mission of the institution, is responsible for the general conduct of departmental affairs and assumes authority in all matters concerning program scheduling, activities of student organization and all other matters relative to the successful implementation of the department's educational and scholarly objectives.

These aforementioned leaders are adequate and work together as a team to promote and carry out best practices of academic institution, administration and management within the college. They ensure the quality of the program by providing budgets for accreditation purposes, faculty professional development, and student activities. They ensure the continuity of the program by allowing the conduct of program promotions and by supporting program needs.

Figure 8-1 shows the organizational structure of Batangas State University.

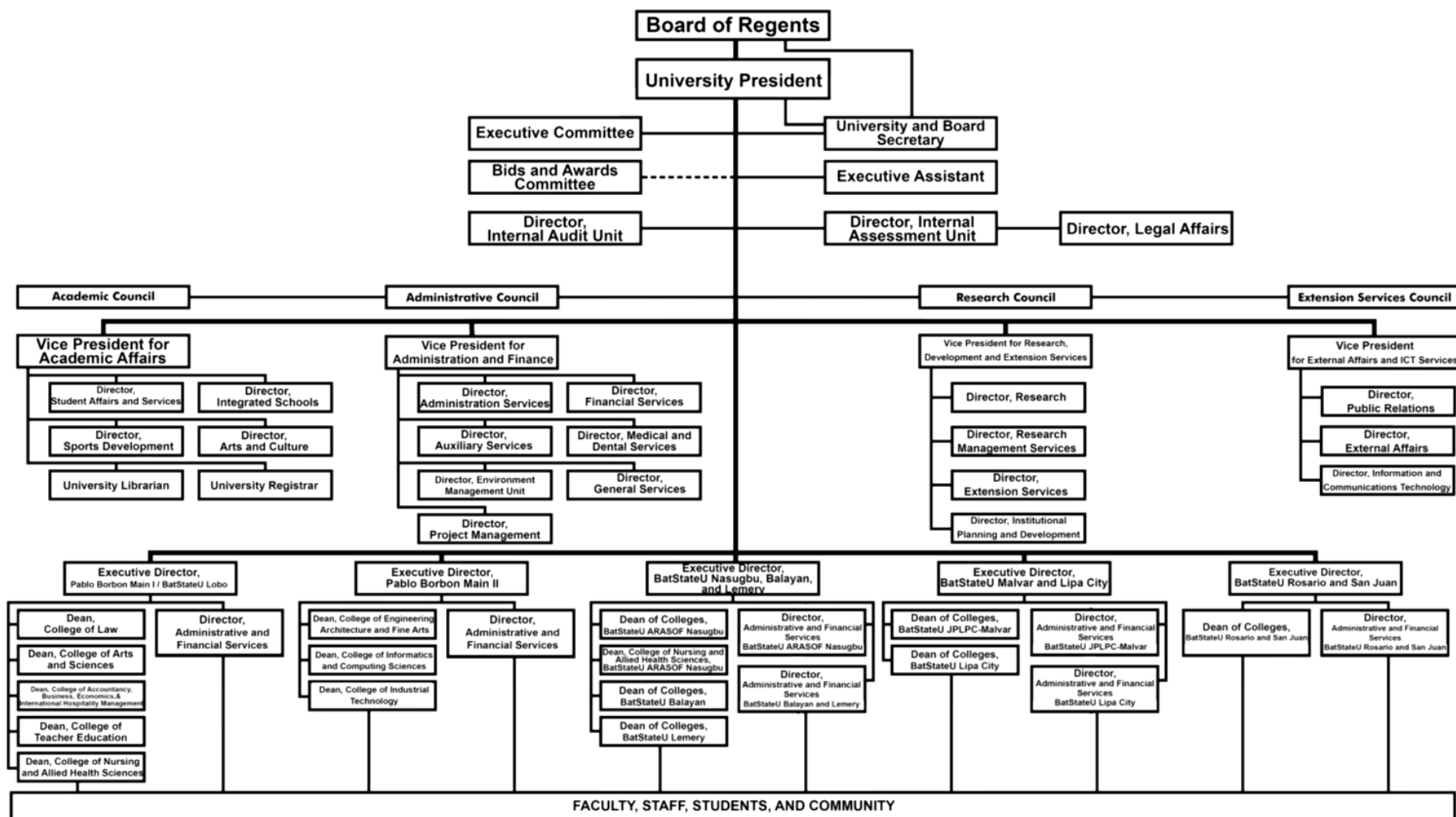


Figure 8-1. Batangas State University Organizational Structure

B. Program Budget and Financial Support

The sources of financial support of the University come from tuition fees and income generation - Special Trust Fund (STF), from the government through the Department of Budget Management (DBM) – Maintenance Daily Subsistence (MDS), and the external sources (research funding, donations, etc.) – Regular Trust Fund (RTF). The main support of the financial operation of the University comes from the STF and MDS.

For infrastructure, salary of permanent faculty and employees, and other benefits provided by the government as per mandate, the budget is provided by DBM which goes to the MDS fund of the University.

The operation and maintenance of the University services to be provided to the students, research budget allocation, and other expenses are not included in the items requested to the DBM; the budget provided goes to the STF fund of the University. External sources of budget with the intention of supporting research endeavors and extension activities, donations for infrastructures, providing additional student services and scholarships, and other budget allocation for a specific purpose are included under the RTF fund.

Once the Philippine Senate approves the year's allocation for public higher education, DBM allocates funds to the institution which takes into consideration the State University and Colleges (SUC) leveling, programs accredited, vertical alignment of regular faculty, the number of course offerings, the number of enrollees, the research outputs, the infrastructure, the savings, and the performance based on the preceding year's accomplishments.

Financial policy and decisions are the responsibility of the President who seeks the advice of the Vice President for Finance and Resource Generation and other Vice Presidents (Administration and External Affairs, Academic Affairs, Research Development & Extension) of the University. The Office of the Vice President for Finance and Resource Generation projects the budget to be allocated for the next year and is to be requested from the Department of Budget Management (DBM). The

VPFRG gives advice to the Executive Director and Dean on the projected total budget allocation for the next year for the campus and the college.

This amount will then be distributed among the different programs of the College based on the number of enrollees, the number of faculty members, the specific needs of the program, and the performance of the program.

Starting last March, 2011, the Department Heads for the respective programs were required to submit their annual procurement plan (APP). The bases for the items included in the APP are the APP of the preceding year, the expenditures, and the needs anticipated for the next year's implementation. The Dean discusses with the Department Heads revisions of the same, consolidates all APP, and submits the APP to the Budget Office which checks and verifies the materials and requests for budget allocation for the next year. The Dean will be informed of the changes made.

Budget meetings are held where information on different academic program thru the Dean who presents the APP to the Executive Committee Meeting composed of all Executive Directors, Deans, Vice Presidents, Board of Regents (depending on the need), and the University President. Specific budget needs and priorities are evaluated by the Committee. As evidence of continued support, written in the Appendix is the APP for each program and budget allocation for the College.

For the procurement of the materials and requests, a letter of request is given to the University President through the Vice President of Finance and Resource Generation; with recommending approval by the respective Vice Presidents to which area the request is categorized (Administration and External Affairs, Academic Affairs and Research Development and Extension), and the Dean. This is supported with the accomplished photocopies of the APP. Should there be any emergency procurement to be requested, this can also be requested even without the support document – APP by including a proposal and/or justification for such request. At the campus level, program funding from the University sources is controlled by the Office of the Executive Director and the Dean with the approval of the Vice President for Finance and Resource Generation and the University President.

Aside from the salary provided to the permanent, temporary, contractual and part-time faculty, other support to teaching assistants and teaching workshops are provided by the University. For the teaching assistants, includes providing salary for

the staff needed for laboratory operation and instructor who substitutes for a faculty on leave of absence due to maternity, taking advanced education and exchange program in other university, and who is on exchange program for industry immersion.

The University also provides Faculty Development Seminar and Staff Development Seminar for the advancement of the faculty, teaching and non-teaching staff, and employees every year. Aside from the seminar provided by the University, should there be any invitation for trainings and seminars provided by the external sponsors, with the approval and or instruction of the University President, the faculty and staffs are sent to attend to such activities. These activities include meetings of certain organizations, conventions of professional organizations, and seminars, trainings and workshops provided by private and public institutions. As representation to such activities, the faculty or staff concerned can avail of financial assistance in terms of registration fee, transportation allowances or vehicles to be provided, per diem, representation allowance and others subjected to the regular accounting and auditing procedures allowed by the Commission on Audit (COA).

Carrying the vision to be a globally recognized institution, in content and in appearance, funds for the construction of infrastructures and facilities were gathered from the University's sources of fund. The five-storey Science and Technology, Engineering and Architecture and Mathematics (STEAM) Library Building in Main Campus I which will include a souvenir shop, exhibit rooms, cyberspace, reading area for graduate and law schools, multimedia room, conference room, ICT room, a quiet room, discussion rooms, periodical section and faculty reading area. The facility costs Php 68,817,338.33 from the continuing investment of 2011-2013 library fee, savings from FY 2014 on library fee and from DBM/GAA Fund 101. It is expected to accommodate around 1,200 people. Retrofitting & Construction of Five Storey Student Services Center Building – Main Campus I (Phase I) from continuing investments savings from HEMF Fee and Registration and Other Fees. The building is estimated to be finished in 600 calendar days. In a year the completion of seven (7) storey IRTC Building is expected to be through and ready for occupancy. The funds are from continuing investments of instruction services and HEMF Fees. The five (5) storey University Wellness Center Building which

costs Php 49, 940, 748.11 will be composed of two floors for medical services and one floor each for culture development, sports development and disaster training. Funds for the construction of the center were gathered from the combined capitals of the National Service Training Program and the 2014 supplemental budgets of Medical and Dental sector and the Sports and Cultural' sector. The proposed four (4) storey Science and Technology Centrum budget came from the savings on Instructional Services FY 2015 and from the continuing investments savings from 2013 and 2015 Research Fees and Services, MDS Fund from DBM/GAA FY 2016. The construction of five (5) storey Research Center BatStateU Science and Technology, and Environmental Research Hub Phase II at Main Campus II is estimated to be completed by the first quarter of 2017.

To support the acquisition, maintenance and upgrade of infrastructure, facilities and equipment utilized by students, collected from the students aside from the tuition fees, under the Miscellaneous Fees, the Higher Education Modernization Fund (HEMF). The fund collected is part of the STF which is utilized for the upgrade of the infrastructure, laboratories, facilities and equipment needed for instruction support, research and development, and extension services.

The laboratory fee, internet fee and other miscellaneous fees are collected for the continuous operation of the student services of the University. Aside from these, donations from the government, non-government organizations and industries are utilized as per required by the donor for the specific upgrade demand.

Other improvements and upgrades necessary for request of budget to the DBM are provided with proposals to justify the necessity of providing such budget allocation in the improvement of the operation of the University. In addition, savings from the previous year can also be allocated for infrastructure and facilities development upon approval by the DBM and the Board of Regents.

The financial resources for the operation of the program are adequate on the basis of maintaining its regular activities. Due to stream lining of expenditures as per mandate by the government, stringent evaluation on the expenditures and budget allocations makes it difficult to include the respective procurement request and proposal budget request needed for the upgrade of the services provided by the program based on the available infrastructure, facilities, laboratories and equipment.

A good proposal and justification are necessary to get an affirmation for the concerned approving offices of such budget or expenditure request.

Funds are allocated for the implementation of Laboratory Development Plan and Program Development Plan proposed by the Department Head to the College Dean, VPAA and University President. The proposal is based on the feedback and evaluation from the students, the student outcomes assessment recommendations, PEO assessment recommendations, suggestions raised by the industries, OJT feedback, IAC comments and suggestions, and mandate by the Commission on Higher Education (CHED) as per the CMO. Based on the needs and the urgency, the funds requested may not be included in the APP but should contain a good proposal and justification report aside from the request letter for such procurement or request. But, as much as possible, should be included in the APP for the next year's implementation of recommendations.

C. Staffing

In order to address individual program needs in the program, personnel support groups and other institutional services are provided by the University. Personnel support groups consist of administrative, instructional and technical staff of the College whose services are offered to meet specific needs of the program. Institutional support services include computing, library and counseling.

Personnel Support Groups (administrative, instructional, technical)

Administrative staff of the college includes two job order personnel who provide secretarial support to the college. Mr. Jerome Fabregar and Mr. Emmanuel Bandelray assist the college programs in their reports, schedules, and other secretarial works.

Direct Program Support Services

Many of the technical needs of the individual programs are met through personnel support group. This group is the Information and Communication Technology Services, which maintains and improves the computing backbone for the

institution, as well as providing computing technical assistance. The college has 3 ICT Technicians assigned in the computer laboratories in the department.

On the other hand, Mrs. Narcisa C. Asilo, is a support staff assigned to the college. She performs clerical functions specifically in the Dean's Office to address the needs of the college including the Information Technology Department.

Institutional Support Services

Institutional support services on campus are provided by specific offices, each of which has means of making services available and tracking user needs on a day-to-day basis. Key campus service entities are detailed below.

Table 8 – 1
Campus Service Entities

Academic Support Entities	
Office of the Registrar	Registrar office is staffed all regular work hours. Online services are offered through Web Advisor which give students to access their records, adding/dropping classes, and applying for certifications, transcripts of records and Diplomas.
Foster Wheeler Library	Library is open and staffed during weekdays. The reference desk is staffed Monday through Saturday and assistance is available in person or by phone. The students have fast access to information through e-lib and Library Integrated System (featuring OPAC, Online Cataloging, Online Circulation and Bar coding)
Testing and Admission Office	Information is provided via web.

	Consultations with admissions counselor are by appointment or in a drop-in basis. Counselors are available through phone and by email.
Information and Communication Technology Services	The ICT is staffed from Monday to Saturday. Assistance is available by person, phone or email.
Student Support Entities	
Guidance Counseling	Free counseling and disability services are offered during weekday business hours and upon request. Counseling office is located at the Ground Floor of the ICT Building Services can be made by phone, email or personal visits. A yearly summary of services activity is compiled.
Job Placement	Personalized assistance is given in the office during business hours, by appointment. Sidewalk chalk and posters provide information on job posting, campus interviews, career fairs, and career development workshops. Feedback from students is solicited through individual conversations and emails.
Administrative Support Entities	
Finance Office	Finance office is staffed all regular work hours. The financial services are composed of 4 units/sections. These sections are: Budget, Accounting, Cashier and Procurement. The office is

	located at the Student Service Center.
Human Resources	Information and services pertaining to compensation, recruitment, benefits, performance management, employee relations and interpretation and enforcement of policies and procedures are offered through HR personal consultation. Recruitment, time card and leave reporting are handled manually. Hard copy of time card and leave form are submitted by each college.
Cashier/Students Accounts	Office is located in Student Service Center and open every regular work hours.
Research and Related Support Entities	
Research Office	The office is available every Wednesday. The office is located at the Local Designees Office, ground floor of the ICTC Bldg. The services offered by the research office can be made by email, phone or personal visits.
Extension Office	The office is manned every Friday. The office is located at the Local Designees Office, ground floor of ICTC Bldg. The services offered by the extension office can be made by email, phone or personal visits.
Facilities and Infrastructure Support Entities	
Book Store/ Resource Generation	Located at the Ground Floor of CEAFAB Building, the bookstore is open on week

	days during normal business hours.
Facilities Services (safety, parking, grounds, maintenance, building projects)	The offices is staffed during business hours and the campus security is staffed 24/7. Campus standing committees for Campus and Facilities Planning, Parking, Environmental Health, and Safety provide input to the vice president for oversight responsibilities for facilities and related services.

D. Faculty Hiring and Retention

The procedure for hiring a new faculty is as follows. First, the Department Chairperson identify and assess the need for faculty in their specific program. A request for hiring is then prepared and provided to the College Dean who summarizes all the requests for additional faculty and seeks President's approval through the recommendation of the Vice President for Academic Affairs.

The VPAA office in coordination with the Human Resource and Management Office conducts a university-wide assessment and evaluation on the needs and available specialization. The VPAA finalizes the list of existing vacancies in various departments and campuses and submits this to the Office of the President for recruitment and hiring. Once approved by the President, the HRMO publishes the hiring on the vacant position indicating the status of employment and place of assignment, while the VPAA informs the College Dean of the action taken on his request.

The HRMO instructs the applicant to address his/her application letter to the Office of the President which after receiving the application letter conducts a preliminary evaluation. In the preliminary evaluation, the applicant is required to submit pertinent documents such as transcript of records, diploma, and certificates of employment, seminars and trainings. After collection of documents the HRMO together with the Testing and Admission Office conducts initial tests to the applicant

such as English proficiency, linguistics, and verbal reasoning. The HRMO sets schedule for panel interview with the Faculty Selection Board (FSB) after the tests.

The Faculty Selection Board is composed of the VPAA, faculty chosen by the President, president of Accredited Federated Faculty Association, Dean, program chairman and faculty expert in the field of specialization. Regardless of the VPAA, they also sit together for a teaching demonstration.

Strategies to Retain Current Qualified Faculty

Batangas State University seeks to retain all qualified faculty through professional development, transparent tenure and promotion process, administrative support staff and attractive facilities and competitive benefits.

The University is adopting the guidelines of NBC 461 which is the primary basis for recruitment, classification and promotion of a faculty member in SUCs in the Philippines. The Common Criteria for Evaluation (CCE) is a set of factors consisting of services and achievements which establishes the relative performance of a faculty in the institution for the period of evaluation through the application of a point system in determining faculty rank and sub-rank. Below is the CCE point system in determining faculty rank and sub-rank:

Table 8 -2
CCE point system

Factors	Maximum Number of points
Educational Qualification	85
Experience and Professional Services	25
Professional Development, Achievement and Honors	90
TOTAL	200

Table 8 – 3
The point allocation under NBC 461

Faculty Rank	Sub-Rank	SG	Point Bracket
Instructor	I	12	66-Below
	II	13	66-76
	III	14	77-87
Assistant Professor	I	15	88-96
	II	16	97-105
	III	17	106-114
	IV	18	115-123
Associate Professor	I	19	124-130
	II	20	131-137
	III	21	138-144
	IV	22	145-151
	V	23	152-158
Professor	I	24	159-164
	II	25	165-170
	III	26	171-176
	IV	27	177-182
	V	28	183-188
	VI	29	189-194
College/University Professor		30	195-200

Note: SG means Salary Grade

E. Support of Faculty Professional Development

The Faculty Professional Development Program is a critical factor towards the creation of a strong foundation of an educational system to ensure quality education. Its mission is to assist and support faculty in their professional development from developing strategies that enrich student learning to foster a culture that values innovative teaching and learning, quality faculty development is the cornerstone to educational excellence. The opportunities for faculty development include graduate and post-graduate studies, workshops, seminars and attendance of conferences.

The Faculty Professional Development Program is supported by the University and other government and private agencies. The university supports faculty work life through a variety of programs designed to encourage faculty growth and development

throughout their careers. The University provides faculty, departments and colleges with workshops, short courses, research institutes, and extension works. Additionally, in cooperation with other university units and offices, the university offer technology training and other activities. The university provides and supports each faculty member to attend or present a paper at a professional meeting.

The university is conducting faculty development seminar every year. The invited guest speakers who are well-known in their field provides talks and lectures for the faculty members of the University wherein the topics are those related and recent trends in education. Also, the allocate fund for the attendance of each faculty members to trainings and seminars. Each faculty members has ten thousand pesos budget allocation for each academic year provided by the university under the faculty development program.

APPENDICES

Appendix A

Course Syllabi

Course Code: IT 111	Course Title: Introduction to Computing
Instructors: Mr. John Robert D. Atienza, Mr. Dean Charliemagne F. Ramos	Semester: First
Prerequisite: None	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours lecture

COURSE DESCRIPTION:

Introduction to Computing provides an overview of the Computing Industry and Computing Profession, including Research and Applications in different fields; an Appreciation of Computing in different fields such as Biology, Sociology, Environment and Gaming; an understanding of ACM requirements; an appreciation of the history of computing; and Knowledge of the Key Components of Computer Systems (Organization and Architecture), Malware. Computer Security, Internet and Internet Protocols, HTML 4/5 and CSS.

GOALS:

1. The students shall be able to explain the fundamental principles, concepts and evolution of computing systems as they relate to different fields.
2. The students shall be able to expound on the recent developments in the different computing knowledge areas.
3. The students shall be able to analyze solutions employed by organizations to address different computing issues.

STUDENT OUTCOMES:

- B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution
- E. Ability to understand professional, ethical, legal, security and social issues and responsibilities.
- F. An ability to communicate effectively in speech and in writing with a range of audiences.
- G. Ability to analyze the local and global impact of computing on individuals, organizations and society.
- H. Ability to recognize the need for and ability to engage in continuing professional development

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Overview of the course
2-3	Computer System
4	Information System Concepts
5-6	Internet
7	Basic Networking Concept
8-9	Programming language Concepts
10-11	Database
12-17	Algorithms and Flowchart
18	Tracks for IT Students

REFERENCES:

Copernius Pepito, **Introduction to Computer Fundamentals and Application**. 1st ed., Anvil Publishing.

Course Code: IT204	Course Title: Database Management Systems
Instructor: Jefferson I. Cañada, Maricel Grace Z. Fernando	Semester: First
Co-Requisites: CS122, CS 131	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

This subject focuses on the general concept and methodologies in file and database management systems-data representation, data modelling and files organization. Additional focus will be on the movement of data to related data-base systems within and outside the user organization. Students are required to understand the architecture of and start implementing simple database application using commercially available packages such as MS ACCESS and My SQL.

GOALS:

1. Exhibit the fundamental elements of a relational database management system.
2. Provide creative solutions to specific functional requirements.
3. Contribute to the design, implementation and operation of a database management system typical to the business sector.

STUDENT OUTCOMES:

- B. An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
- C. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.
- K. An ability to apply design and development principles in the construction of software systems of varying complexity.

TOPICS TO BE COVERED:

WEEK	TOPICS
1	I. The Database Environment <ul style="list-style-type: none"> • Basic Concepts and Definitions • Traditional File Processing System • Database Approach • Range of Database Applications • Advantages, Costs and Risks of Database Approach • Components of database environment • Evolution of Database Systems
2	II. Modelling Data in the Organization <ul style="list-style-type: none"> • Modelling Rules of the Organization

3	<ul style="list-style-type: none"> • The E-R Model • Entity-Relationship Model Constructs • Relationships • EER Model
4	III. Logical Database Design and the Relational Model <ul style="list-style-type: none"> • Relational Data Model • Integrity Constraints IV. Normalization <i>*Exercises/Quizzes</i>
5	PRELIMINARY EXAMINATION
6-8	V. MS Access 2007 <i>*Exercises/Quizzes</i> <i>*Presentation of Midterm Project</i>
10	MIDTERM EXAMINATION
11-13	VI. Advance topics of ACCESS VII. SQL <i>*Exercises/Quizzes</i>
14	SEMI-FINALS EXAMINATION
15	VIII. Applications of SQL <ul style="list-style-type: none"> • Using MySQL • Using Oracle 10g Express Edition <i>*Exercises/Quizzes</i>
18	EXAMINATION

REFERENCES:

Textbook

1. **Modern Database Management**, Sixth Edition. Hoffer, J., Prescott, Mary B., McFadden, Fred R.,

References

1. Database Systems: A Practical Approach to Design, Implementation and Management. Thomas Connolly, Carolyn Begg, Anne Strachan
2. **Database Design and Development**, Gerald V. Frost.
3. **Microsoft Office Access 2007 Quick Steps**. John Cronman& Bobbi Sandberg. 2007 , Mathews Technology

Course Code: IT 211	Course Title: Fundamentals of Networking
Instructor: Ryndel V. Amorado, Lloyd H. Macatangay	Semester: Second
Prerequisites or Co-Requisites: IT 111	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

This course introduces the architecture, structures, functions, components, and models of the Internet and other computer networks. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structures of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum.

GOALS:

1. Describe data communication and network models, topologies, protocol, standards and architecture.
2. Describe necessary hardware and components used to establish communication between multiple networks and analyze the effect of various technologies, applications and devices on network performance.
3. Analyze networking algorithms protocols, process routing table and configure routers for proper orientation of an efficient network.

STUDENT OUTCOMES:

- A. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.
- M. Ability to understand best practices and standards and their application.

TOPICS TO BE COVERED:

WEEK	TOPIC
1-2	1.0 Exploring the Network 1.2 LANs, WANs, and the Internet 1.3 Converged Networks 1.4 The Changing Network Environment

3-4	2.0 Configuring a Network Operating System 2.1 IOS Bootcamp 2.2 Getting Basic 2.3 Address Schemes
4	3.0 Network Protocols and Communications 3.1 Network Protocols and Standards 3.2 Moving Data in the Network
5	Network Access
6	Ethernet
7	6.0 Network Layer
8	7.0 Transportation Layer 7.1 Transport Layer Protocols 7.2 TCP and UDP
9-10	8.0 IP Addressing 8.1 IPv4 Network Addresses 8.2 IPv6 Network Addresses 8.3 Connectivity Verification
11-12	9.0 Subnetting IP Networks 9.1 Subnetting an IPv4 Network 9.2 Addressing Schemes 9.3 Design Considerations for IPv6
13	10.0 Application Layer 10.1 Application Layer Protocols 10.2 Well-Known Application Layer Protocols and Services 10.3 The Message Heard Around the World
14	11.0 It's a Network 11.1 Create and Grow 11.2 Keeping the Network Safe 11.3 Basic Network Performance 11.4 Managing IOS Configuration Files 11.5 Integrated Routing Services

REFERENCES:

- [1] Introduction to Networks Companion Guide: Pearson Education South Asia Pte Ltd. 2014
[2] Routing and switching (www.netacad.com)

Course Code: IT 222	Course Title: AdvancedDatabase Management Systems
Instructor: Jefferson I. Cañada, Maricel Grace Z. Fernando	Semester: First
Prerequisites or Co-Requisites: IT 204	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

The aim of this course is to introduce students to the additional principles of databases, particularly relational databases using Structured Query Language. It leads students through the process and techniques of database modeling, design, implementation and management. It also provides students with hands-on practice on skills in developing database systems using commercial DBMS software, specifically Oracle and IBM Cognos 10 Business Intelligence. This course also serves as a good foundation for the data warehousing and data mining course that follow.

GOALS:

1. Write SQL queries to extract information from database proficiently.
2. Identify and perform the steps involved in the design of a database.
3. Understand the principles of transactions and concurrency control.
4. Implement and critique the design in distributed database management system.

STUDENT OUTCOMES:

- C. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.
- K. Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems

TOPICS TO BE COVERED:

WEEK	TOPICS
1-2	Review on Structured Query Language (SQL) Introduction to SQL Data Definition Commands Data Manipulation Commands Select Queries Advanced Data Definition Commands Virtual Tables: Creating a View Joining Database Tables
3-5	Advanced SQL Relational Set Operators

	SQL Join Operators Sub queries and Correlated Queries Multi row Sub Query Operators ANY and ALL SQL Functions Conversion Functions
6-10	Transaction Management and Concurrency Control What is Transaction? Concurrency Control Concurrency Control with Locking Methods Concurrency Control with Time Stamping Methods Concurrency Control with Optimistic Methods Database Performance Tuning and Query Optimization Database Performance-Tuning Concepts
11-14	Distributed Database Management Systems The Data Warehouse
15-17	Database Connectivity and Web Development Database Connectivity Internet Database Using Web-to-Database Production Tool: ColdFusion Extensible Markup Language (XML)

REFERENCES:

1. Hoffer, J. A., Ramesh, V., and Topi, H. Modern Database Management, Tenth Edition
2. Silberschatz, A., Korth, H. F., and Sudarshan, S., Database Systems Concepts, Sixth Edition
3. Gillenson, M., Fundamentals of Database Management Systems, Second Edition

Course Code: IT 223	Course Title: Fundamentals of Information Management
Instructors: Ailine D. Balcera, Ria L. Castillo	Semester: First
Prerequisites or Co-Requisites: None	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours lecture

COURSE DESCRIPTION:

This course aims to explore current Information Systems concepts and technologies. Students learn how information systems give a business or organizations a competitive edge by providing technologies that help managers plan, control, and make decisions. Includes topics such as hardware and software components of an information system, e-business concepts and implementation, and a survey of common information systems used today.

GOALS:

1. To develop an integrative knowledge of the information technologies (IT) applied for management in organizations;
2. To understand how technologies are applied to almost all aspects of organizational operations and processes;
3. To understand how modern IT is shaping the operations of modern business environment;
4. To communicate effectively on Information Management issues

STUDENT OUTCOMES:

- G. Ability to analyze the local and global impact of computing on individuals, organizations and society.
- J. Ability to use and apply current technical concepts and practices in the core information technologies; human computer interaction, information management, programming, networking, and web systems and technologies.

TOPICS TO BE COVERED:

WEEK	TOPIC
1-4	<ul style="list-style-type: none"> • Information System in Global Business Today • Global E-Business and Collaboration • Information Systems, Organizations, and Strategy • Ethical and Social Issues in Information System
6-9	<ul style="list-style-type: none"> • IT Infrastructure and Emerging Technologies • Foundations of Business Intelligence: Database and Information Management

	<ul style="list-style-type: none"> • Telecommunications, the Internet and Wireless Technology • Securing Information Systems
11-13	<ul style="list-style-type: none"> • Achieving Operational Excellence and Customer Intimacy: Enterprise Applications • E-Commerce: Digital Markets, Digital Goods • Managing Knowledge • Enhancing Decision Making
15-17	<ul style="list-style-type: none"> • Building Information System • Managing Projects • Managing Global Systems

REFERENCES:

Textbook

1. Management Information Systems: Managing the Digital Firm 12th Edition by Kenneth C. Laudon and Jane P. Laudon

References

1. MIS Quarterly Executive
2. Information Systems Research
3. Journal of Management Information Systems

Course Code: IT 224	Course Title: Platform Technologies
Instructor: Princess Marie B. Melo, Maricel Grace Z. Fernando	Semester: Second
Prerequisite: IT111	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours lecture

COURSE DESCRIPTION:

This course provides the hardware/software technology background for information technology personnel. Hardware topics include CPU architecture, memory, registers, addressing modes, busses, instruction sets and a variety of input/output devices. Software topics include operating system modules, process management, and memory and file system management. Also included are basic network components and multi-user operating systems.

GOALS:

1. Recommend and appropriate operating system based on the given requirements
2. Plan and write a simple assembly – language program.
3. Perform a cost benefit analysis for proposed sever solution.

STUDENT OUTCOMES:

- B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution
- C. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.
- K. Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems
- L. Ability to effectively integrate IT-based solutions into the user environment.
- M. Ability to understand best practices and standards and their application.

TOPICS TO BE COVERED:

WEEK	TOPIC
1-7	Hardware CPU Architecture Memory Registers Addressing Modes Busses Instruction Sets Input/output Devices

8-14	Software Operating system modules Process Management Memory Files system management
10-16	Basic network components and multi-user operating systems

REFERENCES:

1. David Chappell, “**Understanding .NET – A Tutorial and Analysis**”, Addison Wesley, 2002. (UNIT I)
2. Herbert Schildt, “**C# 3.0 The Complete Reference**”, McGraw-Hill Professional, Third Edition, 2008. (UNIT II)
3. Harvey M. Deitel, Paul J. Deitel, Tem R. Nieto, Contributor Paul J. Deitel, and Tem R. Nieto, “**Visual Basic .NET – How to Program**”, Prentice Hall, Second edition, 2001. (UNITs III & IV)
4. Keogh, “**J2EE The Complete Reference**”, Tata McGraw-Hill, 2008. (UNIT V)

Course Code: IT 225	Course Title: Introduction to Human Computer Interaction
Instructor: Princess Marie B. Melo, Alex I. Magboo	Semester: Second
Prerequisite: CS131	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

This course deals with the impact of computers on us as individuals and on our society. The widespread use of computing technology has changes the way we work, play and interact with other people. The changes have created a flood of new social and legal issues that demand critical examination.

This course is designed to acquaint students with extensive and topical coverage of the legal, ethical and societal implications on information technology. Students will learn about issues such as different ethical theories, infringement of intellectual property, security risks, Internet crime, identity theft, employee surveillance, privacy, plagiarism, social networking and ethics of IT corporations. Students will gain an excellent foundation in ethical decision making for current and future business managers and IT professionals.

GOALS:

1. The students shall be able to identify the advantages and disadvantages of computer/networking.
2. The students shall be able to evaluate different scenarios based on different ethical theories.
3. The students shall be able to apply the professional ethics to different information technology issues.

STUDENT OUTCOMES:

- E. Ability to understand professional, ethical, legal, security and social issues and responsibilities.
- G. Ability to analyze the local and global impact of computing on individuals, organizations and society.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Overview of the course (<i>Philosophy, Scope, Objectives, Grading System, Requirements, etc.</i>)
2-3	Common Ethical Theories

4	Computer Ethics
6-7	Technologies' Impact on Privacy
8	The Programmer's Source Code and the Intellectual Property Right
10-11	The Blogger's Freedom of Expression and the Cyber Libel Law
12	Cyber Criminals and the Cybercrime Law
15-16	Extent of Liability of ICT Professionals and other Computer Related Laws
17	IT Students in Corporate World: How to apply for a job?

REFERENCES:

- Laviña, C. **Social, Ethical, Legal and Professional Issues in Computing**, Mindshapers Co., Inc. 2015
- Reynolds, G. **Ethics in Information Technology**, fourth edition. Cengage Learning. 2013
- Brinkman, W. et al. **Computer Ethics**. Cengage Learning. 2012

Course Code: IT312	Course Title: Systems Integration and Architecture
Instructor:	Semester: First
Prerequisite: IT223	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

In this course, students will build upon the ICT knowledge gained throughout the degree program by developing skills in enterprise architecture planning (EAP) and in enterprise application integration (EAI). Using EAP, students will learn to create architectures that define and describe the data, applications, and technology needed to support organizations. In applying EAI, students will gain experience in creating strategic business solutions using Web services and middleware to integrate the functionality of an organization's existing applications, commercial packaged applications, and new code.

GOALS:

1. Analyze the appropriateness of a decision to in-source IT services in a given situation.
2. Create a testing environment and design a stress test using appropriate tools and techniques that impact system performance.
3. Implement an enterprise integration middleware platform.

STUDENT OUTCOMES:

- A. Ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- C. Ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.
- I. Ability to use the techniques, skills, and modern tools necessary for computing practice.
- K. Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems
- L. Ability to effectively integrate IT-based solutions into the user environment.
- M. Ability to understand best practices and standards and their application.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Overview of the course

2-3	IT Governance <ul style="list-style-type: none"> • Data domains • Information governance • Information security
4-5	EIA Conceptual Model
6	EIA Component Model <ul style="list-style-type: none"> • Component model • Component description
7-8	EIA Operational Model <ul style="list-style-type: none"> • Context • Service quality • Operational patterns
9-10	Service Oriented Architecture <ul style="list-style-type: none"> • SOA overview • SOA Reference Architecture
11-12	Enterprise Application Integration <ul style="list-style-type: none"> • Concepts, types, and key issues • ESB
13-14	Cloud Computing <ul style="list-style-type: none"> • Concept and framework • Virtualization • Distributed file systems • CAP theorem & NoSQL • MapReduce
15-16	Enterprise Information Integration <ul style="list-style-type: none"> • Data integration • Lifecycle and stages
17-18	Data Warehousing <ul style="list-style-type: none"> • OLTP and OLAP • Data warehouse

REFERENCES:

- The Art of Enterprise Information Architecture: A Systems-Based Approach for Unlocking Business Insight Reynolds, G. Mario Godinez, Eberhard Hechler, Klaus Koenig, Steve Lockwood, Martin Oberhofer, Michael Schroeck, IBM.
- Computer architecture and security: fundamentals of designing secure computer systems, Shuangbao Paul Wang, Robert S. Ledley, John Wiley & Sons Singapore.

Instructor: Melnar C. Arquillo, Erika A. Cañete	Semester: Second
Prerequisite: IT221	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory, 2 hours lecture

COURSE DESCRIPTION:

Best practices, basic policies and procedures, ethics, and fundamental legal issues will be explored. Risk Management and Disaster Recovery as applied to Information Assurance/Security will be investigated. Ethics and vulnerability issues will be also be covered.

This course provides the foundations of information assurance and security from a business prospective. Topics covered include human factors, compliance with regulations, personnel security, risk assessment and ethical considerations.

GOALS:

1. Understand vulnerabilities, threats, and risks (INFOSEC, OPSEC, Software Security, and Information Security)
2. Understand the concepts of security policies
3. Understand basic security mechanisms used in order to protect information
4. Plan and Manage Access Control.
5. Understand physical security and personnel security.
6. Understand the development of the information assurance infrastructure and The Security Systems Development Life Cycle.
7. Understand the importance of human factors like ethics in the process of information assurance.

STUDENT OUTCOMES:

- E. An ability to understand professional, ethical, legal and social issues and responsibilities
- G. An ability to analyze the local and global impact of computing on individuals, organizations and society
- I. An ability to use the techniques, skills and modern tools necessary for computing practice

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Syllabus Overview Beginning of Project # 1. Introduction to Information Security: What is security? Security Model. Components of an Information System.

	Approaches to Information Security Implementation. The System Development Life Cycle. The Security Systems Development Life Cycle. Security professionals and the Organization.
2-3	The Need for Security: Business Needs First Threats, Attacks, Secure Software Development
4	Legal, Ethical, and Professional Issues in Information Security: Laws and Ethics in Information Security. Relevant U.S. Laws. International Laws and Legal Bodies. Ethics and Information Security. Codes of Ethics and Professional organizations.
5	Risk Management: Overview, Risk identification, Risk Assessment, Risk Control Strategies, Quantitative vs. Qualitative Risk Control Practices. Risk Management.
6-7	Planning for Security: Information Security Planning and Governance, Information Security Policy Standards, and Practices, The Information Security Blueprint, Security education, Training, and Awareness program, Continuity Strategies.
8	Security Technology: Firewalls and VPNs: Access Control, Firewalls, protecting remote Connections.
9	Security Technology: Intrusion Detection, Access Control, and other Security Tools: Intrusion Detection and Prevention Systems, Honeypots, Honeynets, and Padded Cell Systems, Scanning and Analysis Tools, Biometric Access Controls.
10-11	Cryptography: Foundations of Cryptography, Cipher Methods, Cryptographic Algorithms, Cryptographic Tools, Protocols for Secure Communications, Attacks on Cryptosystems
12	Physical Security: Physical Access Controls, Fire Security and safety, Failure of Supporting Utilities and Structural Collapse, Interception of Data, Mobile and Portable Systems.
13	Implementing Information Security
14-15	Security and Personnel: Positioning and Staffing the security Function, Credentials of Information Security Professionals.
16-17	Information Security Maintenance: Security Management Maintenance Models. Digital Forensics.

REFERENCES:

Michael E. Whitman and Herbert J. Mattord. **Principles of Information Security, 4th Edition.** Course Technology CENGAGE Learning. ISBN 1-111-13821-4

Course Code: IT 321	Course Title: Advanced Information Assurance and Security
Instructor: Melnar C. Arquillo, Erika A. Cañete	Semester: Second
Prerequisite: IT221	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory, 2 hours lecture

COURSE DESCRIPTION:

This course provides an in-depth examination of the fundamental principles of information assurance. We will cover a range of topics, including authentication, integrity, and confidentiality of distributed systems, network security, malware, privacy, intrusion detection, intellectual property protection, and more.

GOALS:

1. Discuss policies and practices to system integration and architecture to ensure secure system operation and information assurance.
2. Perform vulnerability analysis of the system and explain how the design, implementation, installation of hardware and software contribute to vulnerabilities of the organization.
3. Propose strategies on how to counter attack threats.

STUDENT OUTCOMES:

- B. Ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution
- E. Ability to understand professional, ethical, legal, security and social issues and responsibilities.
- G. Ability to analyze the local and global impact of computing on individuals, organizations and society.
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.
- L. Ability to effectively integrate IT-based solutions into the user environment.
- M. Ability to understand best practices and standards and their application.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Syllabus Overview
2-3	Classical Encryption Techniques <ul style="list-style-type: none"> • Symmetric Cipher Model; Substitution Techniques; Transposition Techniques; Rotor Machines; Steganography
4	Block Ciphers and the Data Encryption Standard <ul style="list-style-type: none"> • Block Cipher Principles; The Data Encryption Standard; A DES Example; The Strength of DES; Differential and Linear Cryptanalysis; Block Cipher Design Principles

Course Code: IT 322	Course Title: Advanced Systems Integration and Architecture
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5-6	Advanced Encryption Standard <ul style="list-style-type: none"> The Origins AES; AES Structure; AES Round Functions; AES Key Expansion; An AES Example; AES Implementation
7	Block Cipher Operation <ul style="list-style-type: none"> Multiple Encryption and Triple DES; Electronic Codebook Mode; Cipher Block Chaining Mode; Cipher Feedback Mode; Output Feedback Mode; Counter Mode; XTS Mode for Block-Oriented Storage Devices
8	Pseudorandom Number Generation and Stream Ciphers <ul style="list-style-type: none"> Principles of Pseudorandom Number Generation 219; Pseudorandom Number Generators 226; Pseudorandom Number Generation Using a Block Cipher 229; Stream Ciphers 232; RC4; True Random Numbers
9	Asymmetric Ciphers <ul style="list-style-type: none"> Public-Key Cryptography and RSA; Principles of Public-Key Cryptosystems; The RSA Algorithm
10	Other Public-Key Cryptosystems <ul style="list-style-type: none"> Diffie-Hellman Key Exchange; ElGamal Cryptosystem; Elliptic Curve Arithmetic; Elliptic Curve Cryptography; Pseudorandom Number Generation Based on an Asymmetric Cipher
11-12	Cryptographic Hash Functions <ul style="list-style-type: none"> Applications of Cryptographic Hash Functions; Two Simple Hash Functions; Requirements and Security; Hash Functions Based on Cipher Block Chaining; Secure Hash Algorithm (SHA); SHA-3
12-13	Message Authentication Codes <ul style="list-style-type: none"> Message Authentication Requirements; Message Authentication Functions; Message Authentication Codes; Security of MACs; MACs Based on Hash Functions: HMAC; MACs Based on Block Ciphers: DAA and CMAC; Authenticated Encryption: CCM and GCM; Pseudorandom Number Generation Using Hash Functions and MACs
14	Digital Signatures <ul style="list-style-type: none"> Digital Signature; ElGamal Digital Signature Scheme; Schnorr Digital Signature Scheme; Digital Signature Standard (DSS)
15-16	Key Management and Distribution <ul style="list-style-type: none"> Symmetric Key Distribution Using Symmetric Encryption; Symmetric Key Distribution Using Asymmetric Encryption; Distribution of Public Keys; X.509 Certificates; Public Key Infrastructure
17	User Authentication Protocols <ul style="list-style-type: none"> Remote User Authentication Principles; Remote User Authentication Using Symmetric Encryption; Kerberos; Remote User Authentication Using Asymmetric Encryption; Federated Identity Management

REFERENCES:

- William Stallings, **Cryptography And Network Security Principles And Practice Fifth Edition**. Pearson Education, Inc., publishing as Prentice Hall (2011)
- Michael E. Whitman and Herbert J. Mattord. **Principles of Information Security, 4th Edition**. Course Technology CENGAGE Learning. ISBN 1-111-13821-4

Instructors: Maricel Grace Z. Fernando, Princess Marie B. Melo	Semester: Second
Prerequisite: IT315	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

This course studies the process of integrating different systems and software applications by examining current and emerging trends, strategies, and techniques for developing systems integration solutions effectively.

GOALS:

1. Summarize and analyze the data from a usability test and recommend appropriate actions.
2. Construct an architectural model of a complex system using architectural framework.
3. Develop a component and demonstrate its integration into an existing environment.

STUDENT OUTCOMES:

- A. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution
- D. An ability to function effectively on teams to accomplish common goal
- E. Ability to understand professional, ethical, legal, security and social issues and responsibilities.
- G. Ability to analyze the local and global impact of computing on individuals, organizations and society.
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.
- K. Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems
- L. Ability to effectively integrate IT-based solutions into the user environment.
- M. Ability to understand best practices and standards and their application.
- N. Ability to assist in the creation of an effective project plan.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Overview of the course
2	Overview of Systems Integration: challenges and drivers

3	Types of systems integration
4	Systems integration technologies
5	Enterprise Resource Planning Systems and business process models
6	Integration methodologies
7	Designing systems integration solutions and Enterprise integration patterns
8-9	XML and Application Integration
10	Systems integration tools assessment presentations
11	Service-oriented Architecture and Web Services
13-14	Advanced Web Services technologies
15-16	Integrating Web Services into Applications
17-18	Selecting Commercial-off-the shelf Products

REFERENCES:

1. Enterprise Systems for Management (2nd Edition)
Author: Luvai Motiwalla and Jeffrey Thompson
Publisher: Prentice Hall
ISBN-13: 9780132145763
2. Next Generation Application Integration: From Simple Information to Web Services
Author: David S. Linthicum
Publisher: Addison-Wesley Professional
ISBN-13: 9780201844566
3. Enterprise Integration Patterns: Designing, Building, and Deploying Messaging Solutions (1st Edition)
Author: Gregor Hohpe and Bobby Woolf
Publisher: Addison-Wesley Professional
ISBN-13: 9780321200686
4. Service-Oriented Architecture: A Field Guide to Integrating XML and Web Services (1st Edition)
Author: Thomas Erl
Publisher: Prentice Hall
ISBN-13: 9780131428980

Course Code: IT 325	Course Title: Applications Development and Emerging Technologies
Instructor: Francis Jesmar P. Montalbo, Xyza Gay Lyzyll C. Mazo	Semester: Second
Prerequisite: CS321	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

This course is intended for the development of an applications using web, mobile and emerging technologies with emphasis or requirements management, interface design, usability, testing, deployment, including ethical and legal considerations.

GOALS:

1. Develop specifications for a software development effort that precisely articulates the functional requirements, expected execution paths, and the explicit use of cutting edge or emerging technologies which includes hardware devices and software library APIs.
2. Select and use a defined coding, documentation writing, and licensing standards in a sufficiently complex software project where coding idioms and mechanisms for implementing designs to achieve desired properties such as reliability, efficiency, and robustness are practiced with respect to legal and ethical considerations.
3. Undertake, as part of a team activity, an inspection of the source code and unit testing of the functional units of a sufficiently complex software project.

STUDENT OUTCOMES:

- A. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution
- C. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.
- K. Ability to identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems
- L. Ability to effectively integrate IT-based solutions into the user environment.
- M. Ability to understand best practices and standards and their application.

TOPICS TO BE COVERED:

WEEK	TOPIC
1-3	Overview of software and hardware technologies

4-6	Requirements Analysis and Modeling
7-9	Design Principles and Patterns
10-12	Prototyping and Quality Assurance
13-15	Software Testing and Deployment
16-18	Ethical and Legal Considerations

REFERENCES:

1. Erich Gamma, Ricard Helm, Ralph Johnson, and John Vlissides. **Design Patterns: Elements of Reusable Object-Oriented Software.** Addison-Wesley.
2. Stephen G. Kocha. **Programming in Objective-C 2.0.** Addison-Wesley
3. George Resse. **Cloud Applications Architectures: Building Applications and Infrastructure in the Cloud.** O'Reilly Media
4. Wei-Meng Lee. **Beginning Android Tablet Applications Development.** Wrox
5. Stephen Fishman JD. **Legal Guide to Web and Software Development.** Nolo

Course Code: IT 418	Course Title: Professional Ethics and Computer Laws
Instructor: Jefferson I. Cañada, Mary Ann B. Manalo	Semester: First
Prerequisites or Co-Requisites: None	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours lecture

COURSE DESCRIPTION:

This course deals with the impact of computers on us as individuals and on our society. The widespread use of computing technology has changes the way we work, play and interact with other people. The changes have created a flood of new social and legal issues that demand critical examination.

This course is designed to acquaint students with extensive and topical coverage of the legal, ethical and societal implications on information technology. Students will learn about issues such as different ethical theories, infringement of intellectual property, security risks, Internet crime, identity theft, employee surveillance, privacy, plagiarism, social networking and ethics of IT corporations. Students will gain an excellent foundation in ethical decision making for current and future business managers and IT professionals.

GOALS:

1. The students shall be able to identify the advantages and disadvantages of computer/networking.
2. The students shall be able to evaluate different scenarios based on different ethical theories.
3. The students shall be able to apply the professional ethics to different information technology issues.

STUDENT OUTCOMES:

- E. Ability to understand professional, ethical, legal, security and social issues and responsibilities.
- G. Ability to analyze the local and global impact of computing on individuals, organizations and society.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Overview of the course
2-3	Common Ethical Theories
4	Computer Ethics
6-7	Technologies' Impact on Privacy

8	The Programmer's Source Code and the Intellectual Property Right
10-11	The Blogger's Freedom of Expression and the Cyber Libel Law
12	Cyber Criminals and the Cybercrime Law
15-16	Extent of Liability of ICT Professionals and other Computer Related Laws
17	IT Students in Corporate World: How to apply for a job?

REFERENCES:

- Laviña, C. **Social, Ethical, Legal and Professional Issues in Computing**, Mindshapers Co., Inc. 2015
- Reynolds, G. **Ethics in Information Technology**, fourth edition. Cengage Learning. 2013
- Brinkman, W. et al. **Computer Ethics**. Cengage Learning. 2012

Course Code: IT 412	Course Title: Integrative Programming and Technologies
Instructor: Princess Marie B. Melo, Alex I. Magboo	Semester: First
Prerequisite: CS 121	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

This course aims to examine the integration of systems and applications across global businesses; explores programming interfaces, data mapping and exchange, scripting, and programming languages to support the configuration, maintenance, integration, and security of systems. The purpose of this course is to examine the integration of systems and applications across global businesses. Additionally, this course explores programming interfaces, data mapping, and integration. This course provides students with a foundation for applying scripting and analyzing the security of systems.

GOALS:

1. Design, develop and test a program that uses a messaging service that sends asynchronous messages across the network.
2. Design, develop and test program that uses SAX or DOM to parse an XML document, XSL and XSLT to transform a data stream from one format to another.
3. Write, debug and test a script using an operating scripting language to facilitate the management of an operating system

STUDENT OUTCOMES:

- A. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.
- L. Ability to effectively integrate IT-based solutions into the user environment.
- M. Ability to understand best practices and standards and their application.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Characterization of Distributed Systems
2	System Models
3	Networking and Internetworking
4-5	Interprocess Communication

	Remote Invocation Indirect Communication
6-7	Operating System Support Distributed Objects and Components Web Services
8-9	Peer-to-peer Systems Security Distributed File Systems
10 - 11	Name Services Time and Global States
12-13	Coordination and Agreement Transactions and Concurrency Control
14-15	Distributed Transactions Replication
16-17	Mobile and Ubiquitous Computing Distributed Multimedia Systems

REFERENCES:

Distributed Systems: Concepts and Design.Coulouris, G. et al., (2012).

Course Code: CS 111	Course Title: Computer Programming
Instructor: John Richard M. Esguerra, Lovely Rose C. Tipan	Semester: Second
Prerequisite: none	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 2 hours lecture, 3 hours laboratory

COURSE DESCRIPTION:

The course covers the use of general purpose programming language to solve problems. The emphasis is to train students to design, implement, test, and debug programs intended to solve computing problems using fundamental programming constructs.

GOALS:

1. Design, implement, test, and debug a program, based on a given specification, that uses each of the following fundamental programming components:
 - a. Primitive data types,
 - b. Basic computation,
 - c. Simple I/O,
 - d. Conditional and iterative structures,
 - e. Definition of functions and parameter passing, and
 - f. Recursion.
4. Assess and recommend revisions to another programmer's code
 - a. Regarding documentation and program style standards that contribute to readability and maintainability of software,
 - b. Regarding appropriateness of chosen conditional and iterative constructs given a programming task, and
 - c. Regarding thoroughness in applying procedural abstraction.

STUDENT OUTCOMES:

- A. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Introduction to Computer Programming
2-3	Variable and Constants
4-5	Getting Data from the Keyboard
6-10	The Selection Structure

11-14	The Repetition Structure
15	Functions
16	Arrays
17	Strings

REFERENCES:

- Pankaj, Dhaka. **Basics of C++ Programming**. 2014
- Zak, Diane. **Introduction to Programming with C++**. 2014
- Deitel, Paul. **C++: How to Program**. 2012
- Josuttis, Nicolai. **The C++ Standard Library: A Tutorial and Reference**. 2012
- Scholl, Judy. **C++ Programming: Problem Analysis to Program Design Lab Manual**. 2012

Course Code: CS 121	Course Title: Advanced Computer Programming
Instructor: John Richard M. Esguerra	Semester: Second
Prerequisites: IT 111, CS 111	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

The emphasis is to train students to design, implement, test and debug programs intended to solve computing problems using basic data structures and standard libraries.

GOALS:

1. Design, implement, test, and debug a program, based on a given specification, that uses each:
 - d. Data structures, arrays, strings, structures, linked list, and files,
 - e. Conditional, iterative, and recursive constructs, and
 - f. Standard libraries in VB.Net
2. Assess and recommend revisions to another programmer's code
 - g. Regarding documentation and program style standards that contribute to readability and maintainability of software,
 - h. Regarding appropriateness of chosen conditional and iterative constructs given a programming task, and
 - i. Regarding thoroughness in applying procedural abstraction.
3. Argue costs and benefits of dynamic and static data structure implementations

STUDENT OUTCOMES:

- B An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution
- C. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired need
- K. Ability to apply design and development principles in the construction of software systems of varying complexity, in accordance with applicable standards.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Understanding problems and how to solve them using a computer
1-2	Introduction to Visual Basic .NET
2	Creating a user interface with basic controls
3	General concepts and arithmetic
3	Write algorithms and program in sequential steps

4-7	The selection control structure
8	Iteration using fixed count loop
8	Iteration using do-loop
10-15	Data Structures and Text Files
17	Putting it all together and a Database

REFERENCES:

- Zak, Diane. **Programming with Microsoft Visual Basic 2015**. 2015
- Zak, Diane. **Programming with Microsoft Visual Basic 2010**. 2012

Course Code: CS 122	Course Title: Data Structure and Algorithm Analysis
Instructor: John Richard M. Esguerra, Lovely Rose C. Tipan	Semester: First
Prerequisite: CS111	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

The course includes linear data structures such as arrays, stacks, queues, linked list; non-linear data structures such as generalized lists, trees and graphs; operations on this using algorithm such as insertions, deletions and traversals.

GOALS:

1. The students shall be able to recognize the different data structures.
2. The students shall be able to graphically present data structure.
3. The students shall have a clear understanding of the algorithms for accessing and destroying structural information.

STUDENT OUTCOMES:

- B. Ability to design and conduct experiments, as well as to analyze and interpret data
- E. Ability to identify, formulate and solve engineering problems

TOPICS TO BE COVERED:

WEEK	TOPIC
1-2	Introduction to Data Structures and Algorithms
3-4	Algorithm Analysis
5-6	Lists, Stacks and Queues
7-9	Trees
10	Hashing
11	Priority Queues(Heaps)
12-13	Sorting
14-15	The disjoint set ADT
16-18	Graph Algorithms

REFERENCES:

Textbook:

Data Structures and Algorithm Analysis in C by Mark Allen Weiss

Data Structures and Algorithm Analysis Edition 3.2 (C++ Version) by Clifford A. Shaffer

Course Code: CS 131	Course Title: Object Oriented Programming
Instructor: Raymond Kit M. Rodriguez	Semester: First
Prerequisites or Co-Requisites: None	Credit Hours: 3 units
Course Classification: Required	Contact Hours:

COURSE DESCRIPTION:

This subject should provide students with a foundation in the basic theory and programming techniques using an object oriented programming language and its approach. These will be motivated by an introduction to a variety of application areas. Important topics like procedures, classes, components and objects and their behavior are to be discussed in detailed. Principles will be discussed and different underlying techniques and approach in object oriented system development. Since, most of the programs created nowadays are deemed to be object oriented in nature, the subject is essential and necessary especially in the real world scenario. By the end of each session, students are expected to have sufficient understanding on the subject matter and in the end of the term, apply them in their software development.

GOALS:

1. Define the Java Technology and identify the components needed for Object-Oriented Programming
2. Choose the right components needed for a specific problem and modify a given solution to meet new requirements
3. Analyze and debug a source code until it does what it intends to do and should always do
4. Design a solution for a problem using the 3 Principles of Object-Oriented Programming: Abstraction, Inheritance and Polymorphism.

STUDENT OUTCOMES:

- A. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline
- C. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution.
- H. An ability to apply mathematical foundation, algorithmic principles and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of tradeoffs involved in design choices.

TOPICS TO BE COVERED:

WEEKS	TOPICS
1	Introduction to Computer Programming Getting to know your Programming Environment
2	Programming Fundamentals
3	Designing Classes Compiling and Executing (Testing) a Program
4	Using Operators and Decision Constructs
	Using Loop Constructs
5	<i>Preliminary Examination</i>
6-7	Developing and Using Methods
8-9	Creating static Methods and Variables
10	<i>Midterm Examination</i>
11-13	Using Method Overloading Creating and Using Arrays
14	<i>Semi-final Examination</i>
15	Setting Array Values Using the length Attribute and a The length Attribute Setting Array Values Using a Loop Using the args Array in the main Method
16	Declaring Object References, Instantiating Objects, and Initializing Object References Declaring Object Reference Variables
17	Advanced Object Oriented Programming Inheritance Abstract Classes and Polymorphism
18	<i>Final Examination</i>

REFERENCES:

- Deitel, Harvey. Java: How to Program 9th Edition. Prentice Hall.
- Downey, Allen. Think Java: How to Think Like a Computer Scientist. Green Tea Press.
- Kjell, Bradley. Introduction to Computer Science in Java. Central Connecticut State University, Retrieved from <http://chortle.ccsu.edu/CS151/cs151java.html>,
- Schildt, Herbert. Java: The Complete Reference 8th Edition. Oracle Press.

Course Code: CS 321	Course Title: Web Programming
Instructor: John Richard M. Esguerra	Semester: Second
Prerequisites or Co-Requisites: CS 121, IT 223	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 2 hours lecture, 3 hours laboratory

COURSE DESCRIPTION:

Web programming focuses on developing a website for the World Wide Web or Internet. This can include e-commerce business development, web design, web content development, client-side / server-side scripting and web server configuration. The need for a thorough understanding on Web Programming is vital for students majoring in the field of computing sciences to abreast with the fast-pace trends in Information Technology. The understanding of the principles, theories and applications of the course are needed by students to prepare them to the next higher and advanced computer science courses.

GOALS:

1. Develop Web applications using HTML, XHTML, XML, client-side programming and other Web GUI technologies to create and validate documents, generate contents via programming and integrate digital libraries with other media contents.
2. Set up a web server to support server-side processing in a secure fashion and identify common server-side configuration issues that affect securing.

STUDENT OUTCOMES:

- C. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired need
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Web Developer Guide
2	Introduction to Web Server Environment
3-5	HTML
6-8	CSS & Javascript
9-10	Introduction of Mockup Software for Web Design
11-14	Introduction to PHP
15	Introduction to SQL
16	Using PHP and MySql
17-18	Introduction to Wordpress

REFERENCES:

1. Scobey, Porter. **Web Programming and Internet Technologies: An E-commerce Approach.**
2. Wang, Paul. **Dynamic Web Programming and HTML5.**
3. Teague, Jason Crawford. **Visual Quick Start Guide: CSS3.**
4. Zakas, Nicholas. **Professional JavaScript for Web Developer.**
5. Gosselin, Don. **PHP with MySQL.**

Course Code: Cpe 350	Course Title: Discrete Mathematics
Instructor: Princess Marie B. Melo, Jeffrey S. Sarmiento	Semester: Second
Prerequisite: BIO101	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 2 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

The course presents the underlying foundations of discrete mathematics, develop the ability of the students to think in a more mathematical way, show how this mathematics can be applied and encourage students to apply these skills and knowledge. It also stresses on mathematical reasoning, combinatorial analysis, discrete structures, algorithmic thinking and applications and modelling.

GOALS:

1. The students shall be able to describe and apply theoretic techniques in Discrete Structures
2. The students shall be able to identify solutions to problems and apply Logical Proofs in Discrete Structures
3. The students shall be able to illustrate various operations in Discrete Structures
4. The students shall be able to apply algorithms to problem situations involving logical concepts

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Fundamentals of Mathematical Logic Propositions and Related Concepts Conditional and Biconditional Propositions
2	Propositions and Quantifier Rules of Inferential Logic
3	Arguments with Quantified Premises
4-5	Fundamentals of Mathematical Proofs Methods of Direct Proof I More Methods of Proof Methods of Indirect Proofs: Contradiction and Contraposition
6	Method of Proof by Induction
7-8	Fundamentals of Set Theory Basic Definitions Properties of Sets
9- 10	Relations and Functions Equivalence Relations

	Partial Order Relations Functions: Definitions and Examples
11	Bijjective and Inverse Functions Recursion
12-13	Introduction to the Analysis of Algorithms Time Complexity and O-Notation Logarithmic and Exponential Complexities
14	θ - and Ω -Notations
15	Fundamentals of Counting and Probability Theory Elements of Counting
16-17	Basic Probability Terms and Rules Binomial Random Variables
18	Elements of Graph Theory Graphs, Paths, and Circuits Trees

REFERENCES:

Textbook

Johnsonbaugh, Richard, Discrete Mathematics, Prentice Hall, 2004. 6th Ed. (J)
Discrete Structure Manual

References:

1. Rosen, Kenneth H. (2001). Discrete Mathematics and Its Applications, 4th Edition. McGraw-Hill. (R)
2. Haggarty, Rod (2002). Discrete Mathematics for Computing, Addison-Wesley. (H)

Course Code: IT 307	Course Title: Routing and Switching
Instructor: Mr. Lloyd H. Macatangay Dr. Luisa P. Macatangay	Semester: First
Prerequisites or Co-Requisites: None	Credit Hours: 3 units
Course Classification: Required	Contact Hours:

COURSE DESCRIPTION:

The focus of this course is on learning the architecture, components, and operations of routers and switches in a small network. In this course, students will learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks.

GOALS:

At the end of the course, the students should be able to :

1. Describe enhanced switching technologies such as VLANs, VLAN Trunking Protocol (VTP), Rapid Spanning Tree Protocol (RSTP), Per VLAN Spanning Tree Protocol (PVSTP), and 802.1q.
2. Configure and troubleshoot basic operations of a small switched network.
3. Configure and verify static routing and default routing.
4. Configure and troubleshoot basic operations of routers in a small routed network.
5. Configure and troubleshoot VLANs and inter-VLAN routing.
6. Configure, monitor, and troubleshoot ACLs for IPv4 and IPv6.

STUDENT OUTCOMES:

- c. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs
- j. An ability to apply mathematical foundation, algorithmic principles and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of tradeoffs involved in design choices.
- m. Ability to understand best practices and standards and their application.

TOPICS TO BE COVERED:

WEEK	TOPIC
1-2	Introduction to Switched Networks
3-4	Basic Switching Concepts and Configuration

5-6	VLANs
7	Routing Concepts
8-9	Inter-VLAN Routing
10	Static Routing
11	Routing Dynamically
12	Single-Area OSPF
13-14	Access Control Lists
15	DHCP
16	Network Addressing Translation for IPV4

REFERENCES:

Textbook:“ Routing and Switching Essentials”, Scott Empson and Cheryl Schmidt, Cisco Press @2014

References:Course Material<http://netacad.com>

Hardware: Cisco 1841 router with IP IOS, 128 MB DRAM, 32mb Flash
Cisco 2960 switches
Lynksys wireless network
Laboratory PC
Assorted Ethernet and Serial cables and hubs

Software: Packet Tracer, Windows 2000 server, Windows 2000 or Windows XP

Course Code: IT 314	Course Title: Scaling Networks
Instructor: Lloyd H. Macatangay	Semester: Second
Prerequisite: IT 313	Credit Hours: 3 units
Course Classification: Selective Elective	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

CCNA R&S: Scaling Networks (ScaN) covers the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality.

An instructor-led course is the 3rd of 4 courses in the Cisco CCNA Routing & Switching curriculum. The course includes activities using Packet Tracer, hands-on lab work, and a wide array of assessment types and tools.

GOALS:

1. The students shall be able to Configure and troubleshoot routers and switches.
2. The students shall be able to resolve common issues with OSPF, EIGRP, and STP in both IPv4 and IPv6 networks.
3. The students shall be able to implement a WLAN in a small-to-medium network.

STUDENT OUTCOMES:

- G. Ability to analyze the local and global impact of computing on individuals, organizations and society.
- H. Ability to recognize the need for and ability to engage in continuing professional development.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Introduction to Scaling Networks
2-3	LAN Redundancy
4-5	Link Aggregation
6-7	Wireless LANs
8-10	Adjust and Troubleshoot Single Area OSPF
11-12	Multiarea OSPF
13-14	EIGRP
15-17	EIGRP Advanced Configuration and Trouble Shooting
18	IOS images and Licensing

REFERENCES:

Textbook: “Scaling Networks”, Companion Guide, Allan Johnson, Cisco Press 2014

References:“LAN Switching and Wireless, CCNA Exploration Companion Guide”, Wayne Lewis, Ph.D., Cisco Press @2008
“Cisco Networking Academy Guide Program, CCNA 3 and 4 Companion Guide Revised Third edition”, Cisco Press

Course Material: <http://netacad.com>

Course Code: IT422	Course Title: Connecting Networks
Instructor: Erwin L. Enriquez	Semester: First
Prerequisites or Co-Requisites: IT307 and IT314	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 2 Hrs LEC, 3 Hrs LAB

COURSE DESCRIPTION:

The focus of this course is on the WAN technologies and network services required by converged applications in a complex network. In this course, you will learn the selection criteria of network devices and WAN technologies to meet network requirements. By the end of this course, you will be able to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPsec and virtual private network (VPN) operations in a complex network.

GOALS:

1. Describe different WAN technologies and their benefits.
2. Describe the operations and benefits of virtual private networks (VPNs) and tunnelling.
3. Configure and troubleshoot serial connections.
4. Configure and troubleshoot broadband connections.
5. Configure and troubleshoot IPsec tunnelling operations.
6. Monitor and troubleshoot network operations using syslog, SNMP, and NetFlow.
7. Describe network architectures.

STUDENT OUTCOMES:

- C. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.
- M. Ability to understand best practices and standards and their application.

TOPICS TO BE COVERED:

WEEK	TOPIC
1-2	Chapter 1 Hierarchical Networks Design 1.1 Hierarchical Networks Design Overview 1.2 Cisco Enterprise Architectures

	1.3 Evolving Network Architectures
3-4	Chapter 2 Connecting Networks 2.1 WAN Technologies Overview 2.2 Selecting WAN Technology
5-6	Chapter 3 Point-to-Point Connections 3.1 Serial Point-to-Point Overview 3.2 PPP Operation 3.3 Configuring PPP 3.4 Troubleshoot WAN Connectivity
7-8	Chapter 4 Frame Relay 4.1 Introduction to Frame Relay 4.2 Configure Frame Relay 4.3 Troubleshoot Connectivity
9-10	Chapter 5 Network Address Translation for IPv4 5.1 NAT Operation 5.2 Configuring NAT 5.3 Troubleshooting NAT
11-12	Chapter 6 Broadband Solution 6.1 Teleworking 6.2 Comparing Broadband Solutions 6.3 Configuring xDSL Connectivity
13-14	Chapter 7 Securing Site-to-Site Connectivity 7.1 VPNs 7.2 Site-to-Site GRE Tunnels 7.3 Introducing IPsec
15-16	Chapter 8 Monitoring the Network 8.1 Syslog 8.2 SNMP 8.3 NetFlow
17	Chapter 9 Troubleshooting the Network 9.1 Troubleshooting with Systematic Approach 9.2 Network Troubleshooting

REFERENCES:

- “Connecting Networks”, Companion Guide, Rick Graziani and Bob Vachon, Cisco Press @2014
- “Cisco Networking Academy Guide Program, CCNA 3 and 4 Companion Guide Revised Third edition”, Cisco Press
- Course Material: <http://netacad.com>

Course Code: IT324	Course Title: Networks Security
Instructor: Lloyd H. Macatangay	Semester: Second
Prerequisite: IT313	Credit Hours: 3 units
Course Classification: Selective Elective	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

This course addresses security issues for TCP/IP-based and NT networks. Access Control and Communications Security issues will be covered as well as Internet and intranet security.

GOALS:

1. Students will be able to identify security breaches in a computer network
2. Students will be able to discuss major issues concerning computer security.
3. Students will know how to use standard security tools to locate and fix security leaks in a computer network.
4. Students will have an understanding of a variety of cryptographic algorithms and protocols underlying network security applications.
5. Students will have an understanding of system-level security issues.

STUDENT OUTCOMES:

- C. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.

TOPICS TO BE COVERED:

WEEK	TOPIC
1-2	Introduction to Computer Networking and Security:
3	Conventional Encryption and Message Confidentiality
4	Public-Key Cryptography and Message Authentication
5	Prelim Exam
6	Authentication Applications
7	Electronic Mail Security
8	IP Security
9	Midterm Exam
10	Web Security
11	Network Management Security

12-13	Intruders and Viruses
14	Semi final Exam
15-17	Firewalls
18	Final Exam

REFERENCES:

Textbook:

1. Network Security Essentials. Prentice-Hall by William Stallings 2000, ISBN: 0-13-016093-8.

Supplementary Books and Materials

1. Maximum Security, 2nd Edition, SAMS Books by Anonymous, 1998, ISBN: 0-672-31341-Maximum Linux Security, SAMS Books by Anonymous, 2000, ISBN: 0-672-31670-6.
2. The Cuckoo's Egg : Tracking a Spy Through the Maze of Computer Espionage; by Clifford Stoll; Pocket Books; ISBN 0671726889
3. Material from the Internet
4. Software and manuals found in the lab and on the Internet.

Course Code: IT413	Course Title: CCNA Preparation: Exam Review
Instructor: Lloyd H. Macatangay	Semester: First
Prerequisite: IT323	Credit Hours: 3 units
Course Classification: Selective Elective	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

This course provides a solid foundation for the serious effort of preparing for the Cisco Certified Network Associate (CCNA) exam. However, taking the time to study and practice with routers or a router simulator is the real key to success.

GOALS:

1. Install, configure, and operate simple-routed LAN, routed WAN, and switched LAN and LANE networks.
2. Understand and be able to configure IP, IGRP, IPX, serial, AppleTalk, Frame Relay, IP RIP, VLANs, IPX RIP, Ethernet, and access lists.
3. Install and/or configure a network.
4. Optimize WAN through Internet-access solutions that reduce bandwidth and WAN costs, using features such as filtering with access lists, bandwidth on demand (BOD), and dial-on-demand routing (DDR).
5. Provide remote access by integrating dial-up connectivity with traditional, remote LAN-to-LAN access, as well as supporting the higher levels of performance required for new applications such as Internet commerce, multimedia, etc.

STUDENT OUTCOMES:

- C. An ability to design, implement and evaluate the capability of a computer-based system, process, component or program to meet the desired needs.
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Internetworking
2-3	Switching Technologies
4-5	Internet Protocols
6	Configuration and IOS Management
7	Internet Protocols Routing
8	Virtual LANs (VLANs)
9	Managing a Cisco Internetwork

10	Configuring Novell IPX
11	Managing Traffic With Access Lists
12-13	Wide Area Networking Protocols
14-18	Practice Exam

REFERENCES:

Required Textbook:

1. Network Security Essentials, Prentice-Hall by William Stallings, 2000, ISBN: 0-13-016093-8.

Supplementary Books and Materials

1. Maximum Security, 2nd Edition, SAMS Books by Anonymous, 1998, ISBN: 0-672-31341-3.
2. Maximum Linux Security, SAMS Books by Anonymous, 2000, ISBN: 0-672-31670-6.
3. The Cuckoo's Egg : Tracking a Spy Through the Maze of Computer Espionage; by Clifford Stoll; Pocket Books; ISBN 0671726889
4. Material from the Internet
5. Software and manuals found in the lab and on the Internet.

Course Code: IT 313	Course Title: Fundamentals of Business Analytics
Instructor: Jefferson I. Cañada, Kimberly Marasigan	Semester: First
Prerequisites or Co-Requisites: IT222, IT223	Credit Hours: 3 units
Course Classification: Selective Elective	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

This course provides an introduction to the field of business analytics, which has been defined as the extensive use of data, statistical and quantitative analysis, exploratory and predictive models, and fact-based management to drive decisions and actions. The development and use of data warehouses and data marts to support business analytics is discussed.

The course provides students with an overview of the current trends in information technology that drives today's business. The course will provide understanding on data management techniques that can help the organization to achieve its business goals and address operational challenges. This will also introduces different tools and methods used in business analytics to provide the students with opportunities to apply these techniques.

GOALS:

1. Understand management concepts and criticality of data availability in order to make reliable business decisions
2. Demonstrate understanding of business intelligence including the importance of data gathering, data storing, data analyzing and accessing data
3. Describe where to look for data in an organization and create required reports
4. Perform high-quality tasks required by the organization in particular and the industry in general

STUDENT OUTCOMES:

- B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.

TOPICS TO BE COVERED:

WEEK	TOPIC
1-4	Overview of Business Analytics <ul style="list-style-type: none">• Overview of Analytics in Practice• Fundamentals of Business Analytics
6-8	Data Visualization <ul style="list-style-type: none">• The Value of Data Visualization• Choosing the right chart for your data• Getting from Business Idea to Business Model• Tools for Visualization• Business Model Canvass
10-12	Data Warehousing <ul style="list-style-type: none">• Modelling the Enterprise• Value Chain Analysis• Analytics in Marketing and Strategic Planning• Balanced Scorecard
15-17	Data Mining <ul style="list-style-type: none">• Decision Management• Data Mining Concepts• Data Preprocessing

REFERENCES:**Textbook**

Han, J, et al. **Data Mining Concepts and Techniques**, 2012

References

IBM Global Center for Smarter Analytics. www.ibm.com

Course Code: IT 324	Course Title: Analytics Techniques and Tools
Instructor: Kimberly I. Marasigan	Semester: First
Prerequisites: Fundamentals of Enterprise Data Management	Credit Hours: 3 units
Course Classification: Required	Contact Hours:

COURSE DESCRIPTION:

This course aims to provide the student with the techniques and tools that help organizations identify patterns and anomalies in business data, conduct deep trend analyses using statistical and financial management tools, perform predictive modeling to anticipate potential threats and opportunities and produce accurate financial and regulatory reports for proactive planning and budgeting.

GOALS:

1. Understand data management concepts and critically of data availability in order to make reliable business decisions.
2. Describe where to look for data in an organization and create required reports
3. Apply different analytics modeling concepts on enterprise data
4. Work on various analytic tools available in the market for various business functions
5. Understand the business processes as they relate to data analysis and optimization.

STUDENT OUTCOMES:

- B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.

TOPICS TO BE COVERED:

WEEK	TOPIC
1-5	Gathering of Company Information Company Profile Board of Directors Organizational Chart Subsidiaries Products and Solutions Income Statements

	Risk Factors Balance Sheet Statement of Cash flows Current Ratio Fundamental Analysis
6-7	Pearson R
8-10	Spearman's rho Spearman's Rank Correlation Coefficient How can the calculation be carried out in excel?
11-13	Hypothesis Testing Paired Data Independent Data
14-15	Non Parametric Test
16-18	Regression Installation of Analysis ToolPak Linear Regression using the Analysis Add-In Select the Input Data Set for Y and X Values Output

REFERENCES:

- edge.pse.com.ph
- Hypothesis T-Test Excel
<https://cosmosweb.champlain.edu/people/stevens/WebTech/ExcelFiles/Chap9-Excel.pdf>
- Linear Regression using Excel
https://it.usu.edu/plugins/work/sitemaps/107/files/Linear_Regression_using_Excel.pdf
- Non parametric test <http://www.slideshare.net/pratiksb/nonparametric-tests>
- OASpearmans Rank Excel Guide <https://www.rgs.org/NR/rdonlyres/4844E3AB-B36D-4B14-8A20-3A3C28FAC087/0/OASpearmansRankExcelGuidePDF.pdf>
- Pearson R <http://www.statstutor.ac.uk/resources/uploaded/pearsons.pdf>

Course Code: IT 413	Course Title: Analytics Application
Instructor: Kimberly I. Marasigan	Semester: First
Prerequisites: Fundamentals of Analytics Modeling	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

This course aims to provide a student with application that helps organizations develop insights to make better timely decisions and automate processes. It provides a solid foundation of strategic analytics products and services to take advantage of all the data sources, including structured and unstructured data, and ultimately get the support needed to stay one step ahead of the competition.

GOALS:

1. Understand data management concepts and critically of data availability in order to make reliable business decisions.
2. Describe where to look for data in an organization and create required reports
3. Apply different analytics modeling concepts on enterprise data
4. Understand the functions and data access constraints of various departments within an organization and provide compliance report
5. Work on various analytic tools available in the market for various business functions
6. Participate actively in business discussions with various departments and create common reports or specific or unique reports with regard to predictive and prescriptive analytics
7. Understand the business processes as they relate to data analysis and optimization.
8. Convey results of data analysis to organizational stakeholders at various levels
9. Perform high-quality tasks required by the organization in particular and the industry in general

STUDENT OUTCOMES:

- B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.

TOPICS TO BE COVERED:

WEEK	TOPIC
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1	Overview of IBM Cognos
2	Introduction to the Reporting Application
3	Create List Reports
4-5	Focus Reports using Filters
6	Create Crosstabs Reports
7	Present Data Graphically
8	Focus Reports Using Prompts
9-10	Extend Reports using Calculations
11	Present Data using Maps
12	Analyze Data using Statistical Reports
13	Use Additional Report Building Techniques
14	Customize Reports with Conditional Formatting
15	Drill-Through from One Report to Another
16	Drill-Through Definitions
17-18	Enhance Report Layout

REFERENCES:

- IBM Cognos Report Studio Fundamentals Volume 1 and Volume 2

Course Code: IT 313	Course Title: Fundamentals of Business Process Outsourcing 1
Instructor: Xyza Gay Lyzyl C. Mazo	Semester: First
Prerequisites or Co-Requisites: None	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours per week

COURSE DESCRIPTION:

This course, BPO 101 is an indispensable course to students enrolled in the Information Technology program. It is due to the reason that the BPO is one of the booming industries as of today and there is a high possibility that they would be engaging on this line of career in the near future. To respond to this academic challenge, the course covers different BPO activities and processes which describes the actual practice in the BPO industry. It also includes the different elements that are required in order to engage in outsourcing as well as the skills that are essential in order to pursue this task. This course also discusses what lies ahead in the future for those professionals who are currently in the BPO Industry.

This 3-unit course is intended for Third year undergraduate students of BS-Information Technology students of Batangas State University.

GOALS:

1. The students shall be able to define outsourcing terms such as BPO, MSA and other related terms when a firm engages in outsourcing.
2. The students shall be able to instill the meaning of the word responsibility and rights to the stakeholders of the business.
3. The students shall be able to apply theories and concepts of outsourcing in real – life situations.
4. The students shall be able to observe and examine real life processes related to operations and management done by BPO companies.

STUDENT OUTCOMES:

- D. An ability to function effectively on teams to accomplish common goal.
- E. Ability to understand professional, ethical, legal, security and social issues and responsibilities.
- F. An ability to communicate effectively in speech and in writing with a range of audiences.
- G. Ability to analyse the local and global impact of computing on individuals, organizations and society.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Course Orientation
2 – 4	Module 1 Introduction to BPO
4 – 6	Module 2 Fundamentals Of Outsourcing
6 – 9	BPO Engagements
9 – 12	Managing Outsourcing Transitions
13 – 14	BPO Operations Management
15 - 17	BCM – Critical Situation in BPO Engagements

REFERENCES:

1. BPAP Module 1 – 6
2. Finch et al., Operations Now, McGraw-Hill/Irwin , 2007
3. Davis and Heineke, Operations Management: Integrating Manufacturing and Services, McGraw-Hill/Irwin ,2009
4. Gray and Larson, Operations and Project Management, McGraw-Hill/Irwin ,2005
5. Sepannen, Kumar and Chandra, Process analysis and Improvement, McGraw-Hill/Irwin, 2007
6. Vollman & Berr, Process Analysis and Improvement, McGraw-Hill/Irwin, 2007

Course Code: IT 314	Course Title: Fundamentals of Business Process Outsourcing 2
Instructor: Xyza Gay Lyzyl C. Mazo	Semester: Second
Prerequisites or Co-Requisites: IT 313	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours per week

COURSE DESCRIPTION:

This course focuses on global sourcing of professional services including examples from IT outsourcing, business process outsourcing (BPO), and Knowledge Process Outsourcing (KPO). The course covers three broad areas: (1) global sourcing models; (2) the design and implementation of a sourcing strategy; and (3) open innovation and crowdsourcing. It draws on economics and management theories as well as real-world examples from managerial practice.

The goal is to help identify the challenges of global sourcing as well as the costs, risks, rewards, and strategies involved in sourcing decisions.

GOALS:

1. Skills: Meaning, types, Skills needed for BPO industry, BPO skills assessment tests, Skills for innovation.
2. Personal Effectiveness: - Personal effectiveness and behavioural skills, leadership & personal effectiveness. Develop personal effectiveness at supervisory level.
3. Effective Communication skills, achievements. Motivation, goal orientation, creativity, assertiveness and quick response.
4. Enterprise development: - Entrepreneurship and enterprise development.

STUDENT OUTCOMES:

- D. An ability to function effectively on teams to accomplish common goal.
- E. Ability to understand professional, ethical, legal, security and social issues and responsibilities.
- F. An ability to communicate effectively in speech and in writing with a range of audiences.
- G. Ability to analyze the local and global impact of computing on individuals, organizations and society.

TOPICS TO BE COVERED:

	TOPIC
1 - 4	Historical and economic perspectives on outsourcing and offshoring. Trade-offs among global sourcing models (Domestic Outsourcing,

	Offshore outsourcing, Domestic Insourcing Captive Models).
5 – 7	Types of global outsourcing services (IT, BPO, Infrastructure) Developing an outsourcing strategy
9 - 12	Sourcing in different geographies The vendor landscape (local/multinational, niche players/generalists) Legal Issues: Contracts, Taxes, IP, Privacy, Compliance
14 - 17	Critical success factors in managing outsourcing relationships Managing distributed work teams: overcoming distance, time, and culture Innovating through global sourcing

REFERENCES:

- Service Management, Fourth Edition, J.A. Fitzsimmons and M.J. Fitzsimmons, McGraw Hill. Managing Services, Alan Nankervis, Cambridge Press.
- Services Marketing, Valerie Zeithaml, Mary Jo Bitner, and Dwayne Gremler, McGraw-Hill.
- Principles of Service Marketing and Management, Christopher Lovelock and Lauren Wright, Prentice Hall.
- Introduction to Operations Research, Hillier and Lieberman
- Blue Ocean Strategy, W. Chan Kim and R. Mauborgne, Harvard Business School Press
- Service modeling, Principles and Applications. Vilho Råisänen, Wiley
- Understanding Service Business, S.E. Sampson, Wiley.
- Development as Freedom, A. Sen, Anchor Books.
- “The Handbook of Global Outsourcing and Offshoring” by Oshri, Kotlarsky, and Willcocks, 2nd edition (abbreviated in the assignments as Handbook)

Course Code: IT 324	Course Title: Service Culture
Instructor: Xyza Gay Lyzyl C. Mazo	Semester: First
Prerequisites or Co-Requisites: None	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 Hours

COURSE DESCRIPTION:

This case course explores the dimensions of successful service firms. It prepares students for enlightened management and suggests creative entrepreneurial opportunities. Outstanding service organizations are managed differently than their "merely good" competitors. Actions are based on totally different assumptions about the way success is achieved. The results show not only in terms of conventional measures of performance but also in the enthusiasm of the employees and quality of customer satisfaction. Beginning with the service encounter, service managers must blend marketing, technology, people, and information to achieve a distinctive competitive advantage.

GOALS:

1. To study "breakthrough" services in order to understand the operations of successful service firms that can be benchmarks for future management practice.
2. To develop an understanding of the "state of the art" of service management thinking.
3. To develop an awareness of the opportunities that information technology can have for enhancing service firms' competitiveness.
4. To appreciate the organizational significance of managing the service encounter to achieve internal and external customer satisfaction.
5. To understand the dimensions of service growth and expansion both domestically and internationally.
6. To gain an appreciation of the complexities associated with implementing change.
7. To appreciate the entrepreneurial opportunities in services.

STUDENT OUTCOMES:

- E. Ability to understand professional, ethical, legal, security and social issues and responsibilities.
- F. An ability to communicate effectively in speech and in writing with a range of audiences.
- G. Ability to analyze the local and global impact of computing on individuals, organizations and society.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Overview of the course

2-4	Services and the economy The nature of services Creating breakthrough services Developing a vision of the business Building Customer Loyalty
5-6	Structuring the service enterprise Delivering internet services
7-8	Service facility design and layout Consolidations: rollups
9-11	Managing service operations Creating a service culture The service encounter
12-14	Servqual Managing the service profit chain Achieving total customer satisfaction
15	Total customer satisfaction
16	Managing growth and renewal
17	Process innovation

REFERENCES:

References

- Fitzsimmons, James A., and Mona J. Fitzsimmons, Service Management: Operations, Strategy, and Information Technology, 4th Ed., Irwin/McGraw-Hill, 2004. (Abbreviated “Fitz” hereafter)

Course Code: IT 413	Course Title: Principles of System Thinking
Instructor: Xyza Gay Lyzyl C. Mazo	Semester: First
Prerequisites or Co-Requisites: BPO 1/BPO2	Credit Hours: 3 units
Course Classification: Selective Elective	Contact Hours: 3 hours lecture

COURSE DESCRIPTION:

This course aims to prepare the student for the twenty-first century workplace by building their foundations in systems thinking, enabling them to examine business systems, identify the inter-dependencies of specific systems within an organization and recommend suggestions to improve systems performance within organizations. It introduces students to concepts in systems architecture and systems optimization, with the intent of developing the students' analytical skills in identifying and resolving issues in business systems.

GOALS:

1. Increase awareness of the importance of architecting and implementing business systems that consider the organization as a whole.
2. Develop analytical skills to identify issues in organizational systems and recommend system-optimization solutions.
3. Acquire practical knowledge of evaluating organizational systems, modeling optimized solutions, and championing change.
4. Gain familiarity in industry trends for systems hardening and certification. (e.g ISO, CMMi, P-CMM, Six Sigma, etc.)

STUDENT OUTCOMES:

- A. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- G. Ability to analyze the local and global impact of computing on individuals, organizations and society.
- M. Ability to understand best practices and standards and their application.
- N. Ability to assist in the creation of an effective project plan.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Introduction
2	Natural Systems: Global Warming
3	Health Systems: Obesity Epidemic
4-5	Economic Systems: Great Depression

6-7	Security Systems: International Terrorism
8-9	Social Systems: Poverty
10 - 11	Political Systems: Corruption 1
12-13	Human Systems: Overpopulation Labor Systems: Unemployment
14-15	Marketing Systems: False Advertising 1 Financial Systems: Product Recall
16-17	Human Resource Systems: Layoff Project Presentation

REFERENCES:

- SMP Principles of Systems Thinking Teacher's Guide, IBPAP, IT and Business Process Association Philippines

Course Code: BIO 101	Course Title: Introduction to Biology
Instructor: -	Semester: First
Prerequisites or Co-Requisites: -	Credit Hours: 3 units
Course Classification: -	Contact Hours: 3 hours laboratory; 2 hours lecture

COURSE DESCRIPTION:

Biology is the study of life. Through the study of biology students employ the processes of science in their investigations and explore the diversity of life and the inter-relationship between organisms and their environment. Students develop an understanding and knowledge of the unit of life – the cell – whose structures and processes are shared by all living organisms and, in so doing, gain an insight into the uniqueness, function and role of organisms, including themselves. In addition, they become aware of the use by humans of other living organisms and their products to enhance human health and the human environment and make informed evaluations about contemporary biological issues. It is intended that this syllabus will prove relevant to the lives of students and inspire in them an interest in and excitement about biology. It should enable them as future citizens to discuss and make judgements on issues in biology and science that impact on their daily lives and on society. It should provide them with the knowledge, skills and understanding to pursue further education, training and employment in biology-related fields and thereby respond to the needs of the economy and contribute to sustained economic development.

GOALS:

1. **Knowledge, Understanding and Skills.** Students should have a knowledge and understanding of biological facts, terms, principles, concepts, relationships and experimental techniques, including practical laboratory skills. Such skills should include an ability to carry out practical work, laboratory work and fieldwork activities safely and effectively and ability to record and interpret biological data.
2. **Application and Interface with Technology.** Students should be able to apply, where possible, their knowledge and understanding of biology in environmental, industrial, agricultural, medical, waste management and other technological contexts.
3. **Science in the Political, Social and Economic Spheres.** Students should be able to apply, where possible, their knowledge and understanding of biology in personal, social and economic spheres and to make informed evaluations about contemporary biological issues.

TOPICS TO BE COVERED:

WEEK	TOPIC
1-4	The Study of Life <ul style="list-style-type: none"> • The Scientific • The Characteristics of Life Sub-unit

	<ul style="list-style-type: none"> • Nutrition • General Principles of Ecology • A Study of an Ecosystem
6-10	The Cell <ul style="list-style-type: none"> • Cell Structure • Cell Metabolism • Cell Continuity • Cell Diversity • Genetics
12-17	The Organism <ul style="list-style-type: none"> • Diversity of Organisms • Organisation and the Vascular Structures • Transport and Nutrition • Breathing System and Excretion • Responses to Stimuli • Reproduction and Growth

Course Code: BIO 102	Course Title: Computational Biology
Instructor: -	Semester: Second
Prerequisites: BIO 101	Credit Hours: 3 units
Course Classification: -	Contact Hours: 2 hours laboratory; 3 hours lecture

COURSE DESCRIPTION:

The scope of the course will sequence the genomes of a million of their citizens by 2020. Precision medicine, plant and animal breeding, molecular biology are being transformed by big data (exabytes, 10¹⁸ bytes) and computational biology (bioinformatics). This course is designed to benefit computational and experimental biologists as well as biostatisticians to understand the principles of analyzing biological data, building models and testing hypotheses using computer science paradigms.

GOALS:

1. Increase computational literacy.
2. Understand the principles and some methods of genomics, gene expression and proteomics that aid precision medicine, modern plant and animal breeding.
3. Understand the concepts of the new, high-throughput and high-noise biology.
4. Search large databases, interpret their results.
5. Analyze gene expression using data from microarrays or RNA sequencing.
6. Make sense out of hundreds of differentially expressed genes using Gene Ontology, pathways, gene set enrichment analysis
7. Analyze metabolomic, proteomics, and protein-protein interaction experiments
8. Understand the trends in personalized medicine Present your results in probabilistic terms using statistical significance
9. Perform (semi)automatic parsing of the literature over millions of publications.
10. Be able to apply Gene Ontology, pathways, gene set enrichment analysis
11. Be able to use the LINUX operating system at the novice level

TOPICS TO BE COVERED:

WEEK	TOPIC
1	How has the Information Age been changing biology and biologists? Roadmap to the Course.
2-3	How to use and search biological databases professionally? Finding out the sense of your research from 27 million abstracts on PUBMED, Scopus, Web of Science and a lot more on Google Scholar.
4	Inferring from sequence to function: aligning a pair or nucleic acid or protein sequences.
6	Inferring from sequence to function on a grand scale: searching sequence databases using BLAST.
7	Universal features of the domain architecture of proteins. Search domain models

	using hidden Markov models.
8	Precision medicine: some three millions of differences between two humans: sequence polymorphisms
10	Analysis of gene expression
11	Making sense out of gene expression: Gene Ontology, metabolic pathways, and gene set enrichment analysis.
12-13	Proteomics.
	Biological Networks: Protein-protein interactions
16	Metabolomics or Machine Learning, students choose
17	Systems biology.

REFERENCES:

1. **Zvelebil and Baum (2008): Understanding Bioinformatics.** Garland Science, ISBN-13: 978-0-8153-4024-9, 772 pages.
Note: Amazon displays a date of 2012, but this refers to the Kindle edition with identical text.
2. *Current Protocols in Bioinformatics.* Wiley Interscience.
Note: This series provides both theoretical foundations and practical instructions to the most important bioinformatics algorithms and tools.

Course Code: Math 103	Course Title: College Algebra
Instructor: Joel B. Bacay, Israel P. Peñero	Semester: First
Prerequisites: None	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours lecture

COURSE DESCRIPTION:

This subject is designed for the students to be able to appreciate the importance of College Algebra in their daily lives. The subject itself is an eye-opener for the student to be able for them to be prepared on how to deal with different problems relative to the economic growth of our country.

The subject deals with concepts and problems concerning basic mathematical operations, illustrations of different methods of solving equations and its applications. It helps student develop a desire to study more advance mathematics and student's analytical thinking in solving algebraic problems. Also, it establishes habits of neatness and orderliness especially in presenting solutions to the given problems.

GOALS:

1. Apply the concepts of the fundamentals on set theory in performing the basic operations which are necessary for the system of real numbers.
2. Perform the four fundamental operations in Arithmetic in algebraic polynomials.
3. Simplify and perform the four arithmetic operations in polynomials, rational expressions and radicals and able to apply the laws on exponents in simplifying some algebraic expressions.
4. Apply special products and factorization techniques in common problem solving.
5. Solve and compute the roots of linear, quadratic and radical equations and be able to apply to analyze and solve problems in the real world.

STUDENT OUTCOMES:

- A. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution.
- I. An ability to use the techniques, skills, and modern tools necessary for computing practice.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	A. Sets

	1. Sets and Basic Notations 2. Subsets and Counting 3. Operations on Sets 4. Venn Diagram
2	B. Real Number System 1. Algebra of Numbers 2. Properties of Real Numbers
3	C. Polynomials
4	3. Multiplication of Algebraic Expressions 4. Division of Algebraic Expression
5	PRELIMINARY EXAMINATION
6	D. Special Products and Factoring 1. Special Product Formulas 2. Types of Factorable Expression
7	E. Rational Expressions 1. Simplification of Fractions 2. Addition & Subtraction of Fractions
8	3. Multiplication of Fractions 4. Division of Fractions 5. Simplification of Complex Fractions.
9	F. Radicals 1. Integral and Zero Exponents 2. Rational Exponents
10	MIDTERM EXAMINATION
11	3. Addition and Subtraction of Radicals 4. Multiplication of Radicals 5. Division of Radicals
12	G. Linear Equations 1. Types of Linear Equation
13	2. Literal Equations
14	3. Solving Linear Equations
15	SEMI-FINALS EXAMINATION
16	H. Quadratic Equations 1. Methods of Solving Quadratic Equations
17	2. Characteristics of Roots
18	FINALS EXAMINATION

REFERENCES:

- **College Algebra.** Panopio and Acelajado

Course Code: Math 107	Course Title: Plane Trigonometry
Instructor: Joel B. Bacay, Israel P. Peñero	Semester: Second
Prerequisites or Co-Requisites: None	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours lecture

- **College Algebra for Engineering.** Maxima J. Acelajado and Felix M. Panopio. (A & P).
- **College Algebra with Trigonometry (8th Edition).** Raymond A. Barnett, Michael R. Ziegler, and Karl E. Byleen.

COURSE DESCRIPTION:

The subject is designed for students intending to take Physics and Calculus in various fields of discipline. A thorough knowledge of Trigonometry is essential in solving problems arising in measurement, and in determining lengths and distances especially those which are not measurable. It covers trigonometric functions, identities and equations, solutions of triangle, law of sine, law of cosine and applications of trigonometry.

GOALS:

1. Relate the basic concepts in Algebra that is necessary to understand Trigonometry
2. Discuss the equation of the circle, the six trigonometric ratio and other related topics using the unit circles
3. Define, use, and apply trigonometric functions and its inverses
4. Show and develop positive attitude towards Trigonometry and other Mathematics courses
5. Apply the skills learned in solving problems involving right and oblique triangles

STUDENT OUTCOMES:

- C. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- D. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution.
- J. An ability to use the techniques, skills, and modern tools necessary for computing practice.

TOPICS TO BE COVERED:

WEEK	TOPIC
1-5	1. Radian and Degree Measure 2. Trigonometric Functions: The Unit Circle 3. Right Triangle Trigonometry

	4. Trigonometric Functions of Any Angle PRELIMINARY EXAMINATION
6-9	1. Graphs of Sine and Cosine Functions 2. Graphs of Other Trigonometric Functions 3. Inverse Trigonometric Functions 4. Applications and Models MIDTERM EXAMINATION
10-14	1. Using Fundamental Identities 2. Verifying Trigonometric Identities 3. Solving Trigonometric Equations 4. Sum and Difference Formulas SEMI – FINAL EXAMINATION
15-18	1. Multiple-Angle and Product-to-Sum Formulas 2. Law of Sines 3. Law of Cosines FINAL EXAMINATION

REFERENCES:

- Larson, Ron, *Trigonometry Second Edition*, Cengage Learning Asia Pte Ltd, Philippines, 2015
- Panopio, Felix M. And Acelajado, Maxima J., *Plane Trigonometry*, Feliber Publishing House, Batangas City, 2004.
- Leithold, L., *Trigonometry*, Addison-Wesley Publications Co. Inc., Massachusetts, 1989.

Course Code: Math 116	Course Title: Symbolic Logic
Instructor:	Semester: First
Prerequisite: CpE 350	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours lecture

COURSE DESCRIPTION:

This course covers the basics of "symbolic" logic, as presented in Hurley's A Concise Introduction to Logic. Symbolic logic is formal logic in which special symbols are used to represent certain logical relationships. The use of such symbols enables us to study the form of good deductive arguments independently from their content. The focus of the course is not on the symbols, but on a rigorous study of the properties of good deductive arguments.

In this course, students will undertake a rigorous study of such basic logical concepts as validity, entailment and logical truth. The course will define these concepts for a formal language with symbols for sentential connectives like "or" and "if . . . then"; for quantity terms like "all" and "some"; and for relations like "is taller than". It will turn out that the basic concepts can be defined both semantically (in terms of meaning) and syntactically (in terms of formal proofs).

GOALS:

1. Supply students with the tools they need to distinguish good deductive thinking from bad deductive thinking.
2. Introduce the formal structure of the language(s) that the students use daily and the arguments that they can construct with it.
3. Introduce the logical concepts, such as argument, proof, validity, logical consequence, etc.
4. Expose student to the nature of deductive proofs and supply with the tools necessary to evaluate and construct such proofs.
5. Provide those who will encounter formal logic outside of this course with a firm foundation in symbolic logic. (This includes students of philosophy, and especially analytic philosophy, as well as students of mathematics, computer science, and other technical disciplines.)
6. Demonstrate how logical tools can be used in other mathematical contexts, e.g., set theory.

STUDENT OUTCOMES:

- A. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- B. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution

TOPICS TO BE COVERED:

WEEK	TOPIC
1-2	Introduction to Course Atomic Sentences
3-7	Propositional Logic and its Semantics Boolean Connectives
9-12	Propositional Formal Proofs Conditionals
13-15	Quantifiers
16-17	Metalogic Set Theory and Russel's Paradox

Course Code: Math 121	Course Title: Probability & Statistics
Instructor: Joel B. Bacay, Israel P. Peñero	Semester: First
Prerequisites or Co-Requisites: Math103	Credit Hours: 3 units
Course Classification: Required	Contact Hours: 3 hours lecture

COURSE DESCRIPTION:

This subject is designed for the students to be able to appreciate the beauty and importance of Statistics and Probability in nation building. This subject is also an eye-opener for the student to be able for them to be prepared on how to deal with different situation of the country's economic growth. The subject helps the student to apply statistical tool manually or with the aid of computer to solve different problems in line with the subject.

Specifically, the course is divided into three (3) parts. The first part is more on Descriptive Statistics which includes the basic concepts and important terms in Statistics, the measures of central tendency, location, variation and normality. The second part of the course discusses the basic concepts of set theory and its basic operations followed by the techniques of counting. Also includes in the second part is the introduction to probability deals with its background and fundamental principles. The selected discrete distributions are also included. Lastly, the third part is more on Inferential Statistics which includes hypothesis testing and some of the parametric and non-parametric test.

GOALS:

1. Describe the given set of data with the use of different and appropriate measurement under descriptive statistics and be able to compute the measure of central tendency, dispersion and location, the variation and the normality including its skewness and kurtosis.
2. Apply the probability theory in the investigation of various games of chance using the fundamental concepts in sets and be able to analyze and solve problems in permutation and combination and the different probability distribution.
3. Draw inferences for a certain study under investigation with the correct usage of different statistical tool in parametric and non-parametric test.

STUDENT OUTCOMES:

- E. An ability to apply knowledge of computing, basic science and mathematics appropriate to the discipline and the program educational objectives.
- F. An ability to analyze a problem and identify and define the computing requirements appropriate to the problem's solution.
- K. An ability to use the techniques, skills, and modern tools necessary for computing practice.

TOPICS TO BE COVERED:

WEEK	TOPIC
1	Introduction to Statistics Summation Notation Summarizing and Organizing Data
2	Measures of Central Tendency and Weighted Mean PRELIMINARY EXAMINATION
3	Measure of Location and Variability
4	Normal Distribution Areas Under Normal Curve Skewness and Kurtosis
5	Definition and Some Important Terms in Set Theory Basic Operations on Set and Laws of the Algebra of Sets Cartesian Product and Venn Diagram
6-7	Fundamental Principles of Counting Factorial Notation Permutations and Combinations MIDTERM EXAMINATION
8-10	Introduction to Probability Conditional Probability and Joint Probability Distribution
11-12	Binomial Distribution, Hypergeometric Distribution and Poisson Distribution
13-14	Hypothesis and Hypothesis Testing Test Statistics and Steps to Hypothesis Testing Making Decision: Type I and Type II Error SEMI FINAL EXAMINATION
15-16	t-test, z-test and f-test
17	One-way Analysis of Variance Pearson Product Moment Coefficient of Correlation r Linear Regression
18	Chi-square test of Goodness-of-fit Chi-square test of Independence FINAL EXAMINATION

REFERENCES:

1. Instructional Manual in Statistics and Probability prepared by Asst. Prof. Israel P. Penero
2. Statistics with Probability by: Dr. Felix M. Panopio
3. College Statistics by: Jonathan Utzurum and Sergio E. Ymas, Jr.

Appendix B

Faculty Vitae

MAGBOO, ALEX ILAGAN

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Email Address: aspenm32@yahoo.com



EDUCATION

- **Master of Engineering – Electronics and Communications Engineering**
Batangas State University, Batangas City
2005
- **Bachelor of Science in Computer Engineering**
Mapua Institute of Technology, Intramuros, Manila
1993

ACADEMIC EXPERIENCE

- **Associate Professor II**
Batangas State University, Batangas City
1994 – present
- **Lecturer** – Visual Programming, Data Communications
Lyceum of the Philippines University – Batangas, Batangas City
1998 – 1999
- **Lecturer** – Computer Programming, Electronics, Logic Circuits
Golden Gate Colleges, Batangas City
1998 – 1999

NON-ACADEMIC EXPERIENCE

- **Computer Programming Assessor**
TESDA Batangas, Batangas City
2004

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- CSC Certificate of Eligibility (EDP Specialist – Computer Programmer) □ Certificate of Proficiency – Computer Programming
- Certificate of Competency – Computer Programming
- Certificate of Accreditation – Computer Programmer

PROFESSIONAL ORGANIZATIONS

- Institute of Computer Engineers of the Philippines

PROFESSIONAL DEVELOPMENT ACTIVITIES

- **PC Recycling 2.0 Training**
Project / Training Manager
Batangas State University, Batangas City
August 5-10, 2011
- **PC Recycling 2.0 – Training of Trainers**
Central Luzon State University, Nueva Ecija
June 28-30, 2011
- **Laboratory Management Training**
Project / Training Manager
Batangas State University, Batangas City
June 3-5, 10-12, 17-19 and 24-26, 2011
- **Basic Technical Training for Community eCenter (CeC) Managers**
Project / Training Manager
Batangas State University, Batangas City
May 9-13, 2011
- **National Rollout Training – ICT Literacy Course for Public HighSchool Teachers**
Project / Training Manager
Batangas and Mindoro Provinces
February 4 – March 13, 2011

AMORADO, RYNDEL VENTURA

Address: Banaba Center, Batangas City

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EDUCATION

- **Master of Science in Information Technology**
Batangas State University
2012-2016
- **Bachelor of Science in Information Technology**
Batangas State University
2008-2012

ACADEMIC EXPERIENCE

- **Chairman, Information Technology Department**
College of Informatics and Computing Sciences
June 7, 2016 – present
- **OIC-Coordinator, Student Organization and Activities**
College of Informatics and Computing Sciences
June 2014-March 2016
- **OIC-Coordinator, Alumni Affairs**
College of Informatics and Computing Sciences
June 2014-March 2016
- **Instructor I**
Full Time Faculty
College of Informatics and Computing Sciences
June 22, 2012 - present

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **International IT Practitioner**
IT Passport Certification Examination

PROFESSIONAL ORGANIZATIONS

- Philippine Society of Information Technology Educators
- Batangas Information Technology Society

PROFESSIONAL DEVELOPMENT ACTIVITIES

- **Training on Fundamentals of Business Analytics**
University of Batangas, Batangas City
June 13-17, 2016
- **International Research Conference on Innovations in Engineering, Science and Technology 2015**
Batangas State University
November 18-20, 2016
- **International Research Conference on Innovations in Engineering, Science and Technology 2015**
Batangas State University
November 18-20, 2015
- **PSITE Regional Conference**
Sato Dizon Arcade, Tabing Dagat, Odiongan, Romblon
September 17-18, 2015
- **A Collaborative Education for a Global Academic Development**
Crown Regency Hotel, Baguio City
February 27 – March 1, 2014

ARQUILLO, MELNAR CASTILLO

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EDUCATION

- **Master of Science in Information Technology**
Batangas State University
2015 – present
- **Bachelor of Science in Information Technology**
Batangas State University
2010 – 2014

ACADEMIC EXPERIENCE

- **Instructor I**
Full Time – Contractual Faculty
College of Informatics and Computing Sciences
July 2015 – present

NON-ACADEMIC EXPERIENCE

- **Onsite Support Engineer**
Microbase Incorporated
April 2014 – July 2015

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **National Certificate II in Computer Systems Servicing**
Technical Education and Skills Development Authority
August 29, 2016
- **International IT Practitioner**
IT Passport Certification Examination
November 2013

PROFESSIONAL ORGANIZATIONS

- Philippine Society of Information Technology Educators, Member
- The Society of Digital Information and Wireless Communications, Member

PROFESSIONAL DEVELOPMENT ACTIVITIES

- **Action Research Seminar – Workshop**
Batangas State University
October 14, 2016
- **Data Mining Seminar**
Batangas State University
October 9, 2016
- **A Day In the Life of a Software Engineer Series**
Pointwest Technologies Corporation Philippines
April 27, 2016
- **Seminar – Workshop on Writing Research Proposal and Publishable Papers**
Batangas State University
March 10, 2016
- **PSITE IV 15th Regional Conference**
Sato Dizon Arcade, Tabing Dagat, Odiongan, Romblon
March 10, 2015
- **Sustaining Excellence Through Organizational Commitment / Getting Ready for ISO: The Challenge of Excellence**
Batangas State University
June 9, 2015
- **Graduate Research Seminar**
Batangas State University
August 23, 2015
- **ITSO Training on Patent Drafting**
Batangas State University
September 11-12, 2015
- **First CICS Multidisciplinary Research Forum**
Batangas State University
October 18, 2015
- **10th NOCEI Research Forum**
Batangas State University
October 28, 2015

ATIENZA, JOHN ROBERT DE ROXAS

Address: Dolor Subdivision, Batangas City

Contact Number: 09185973537

Email Address: jrdatienza.xvii@gmail.com



EDUCATION

- **Bachelor of Science in Information Technology**
Batangas State University
2012-2016

ACADEMIC EXPERIENCE

- **Instructor I**
Full Time Faculty
College of Informatics and Computing Sciences
September 6, 2016 - present

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **International IT Practitioner**
IT Passport Certification Examination
- **Test of English for International Communication Certification**
Batangas State University
April 22, 2016

PROFESSIONAL DEVELOPMENT ACTIVITIES / SEMINARS

- **EUREKAFFE: Ideation Workshop, Career Development, Personality Development & Making Money Online**
Amphitheater, CEAFA Bldg., Main Campus II, BatStateU, Alangilan, Batangas City
July 31, 2015
- **Batangas Information Technology Students' Conference 2015**
SM City-Lipa, Batangas
January 24, 2015

- **PSITE: Gearing Towards International Accreditation**
Saint Theodore Hall of Saint Michael's College of Laguna, Biñan City
February 12, 2015
- **Introduction to Cloud Computing**
Audio Visual Building, GPB Main Campus II, BatStateU, Alangilan, Batangas City
September 12, 2014
- **Batangas Information Technology Students' Conference 2014**
Lipa City Youth and Cultural Center, Lipa City, Batangas
January 25, 2014
- **Batangas Information Technology Students' Conference 2013**
Batangas City Convention Center, Batangas City
February 09, 2013

BALCERA, AILINE DEOMAMPO

Address: Buso-Buso Laurel, Batangas

Contact Number: 0909-647-6858

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**EDUCATION**

- **Master of Science in Information Technology**
Batangas State University
2015-Present
- **Bachelor of Science in Information Technology**
Polytechnic University of the Philippines, Sto.Tomas Campus
2010-2014

ACADEMIC EXPERIENCE

- **Instructor I**
Full Time – Contractual Faculty
College of Informatics and Computing Sciences
June 2015-Present

NON-ACADEMIC EXPERIENCE

- **Junior Staff – Marketing Department**
Aikawa Philippines Inc.
May 2014-June 2015

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **International IT Practitioner**
IT Passport Certification Examination
October 2015
- **Computer Hardware Servicing (NCII)**
TESDA Certification
2014

PROFESSIONAL ORGANIZATIONS

- Philippine Society of Information Technology Educators
- Integrated Southern Tagalog Association of Information Technology Education (iSITE)
- The Society of Digital Information and Wireless Communications

PROFESSIONAL DEVELOPMENT ACTIVITIES

- Tree Planting Activity (Extension Activity)
Brgy. San Pedro, Batangas City

- July 15, 2016
- Disaster Risk Management: Incident Command System, Contingency Plan & Disaster Management (Committee / Extension Activity)
CEAFA Bldg., Alangilan Campus, Batangas City
Feb. 26, 2016
 - “A Day in the Life of a Software Engineer Series”
CEAFA Bldg., BatStateU, Main Campus II
Apr. 27, 2016
 - “Business Analytics: Bringing Tools to Data”
CEAFA Bldg., BatStateU, Main Campus II
Mar. 19, 2016
 - “Network to Network: Live Statistically! Act Dynamically!”
CEAFA Bldg., BatStateU, Main Campus II
Mar. 12, 2016
 - Seminar – Workshop on Writing Research Proposal and Publishable Papers
AVR, CEAFA Bldg., BatStateU, Main Campus II
Mar. 10, 2016
 - Batangas Information Technology Students’ Conference 2016
SM CityLipa Cinema, Lipa City
Jan. 30, 2016
 - Cyber Security: The Present and Beyond
Lyceum of the Philippines University, Capitol Site, Batangas City
December 7, 2015
 - First Multidisciplinary Research Forum 2015
AVR, CEAFA Bldg., BatStateU, Main Campus II
Oct. 18, 2015
 - Seminar – Workshop on Patent Basics and Patent Search & Documentation
BatStateU, Main Campus I
Sept. 4-5, 2015
 - Career Development
CEAFA Bldg., BatStateU, Main Campus II
July 31, 2015
 - EUREKAFF: Ideation Workshop
CEAFA Bldg., BatStateU, Main Campus II
July 31, 2015
 - Sustaining Excellence Through Organizational Commitment and Getting Ready For ISO: The Challenge of Excellence
BatStaeU, Main Campus I, Batangas City
Jun. 9, 2015

CAÑADA, JEFFERSON I.

Address: Noble St. cor. P. Canlapan, Batangas City

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Email Address: canadajefferson@gmail.com



EDUCATION

- **Master of Science in Information Technology**
Batangas State University
2014-present
- **Bachelor of Science in Information Technology**
Batangas State University
2008-2012

ACADEMIC EXPERIENCE

- **Head, Student Organizations and Activities**
BatStateU Alangilan Campus
August 2015 - present
- **OIC-Coordinator, Alumni Affairs**
College of Informatics and Computing Sciences
June 2015 - March 2016
- **Instructor I**
Full Time – Contractual Faculty
College of Informatics and Computing Sciences
August 7, 2014 - present

NON-ACADEMIC EXPERIENCE

- **Education Program Specialist**
Office of the Vice President for Academic Affairs
Batangas State University
September 2012 - August 2014

PROFESSIONAL ORGANIZATIONS

- Philippine Society of Information Technology Educators
- Batangas Information Technology Society

PROFESSIONAL DEVELOPMENT ACTIVITIES

- **Training on Fundamentals of Business Analytics**
University of Batangas, Batangas City
June 13-17, 2016
- **International Research Conference on Innovations in Engineering, Science and Technology 2015**
Batangas State University
November 18-20, 2015
- **PSITE Regional Conference**
Sato Dizon Arcade, Tabing Dagat, Odiongan, Romblon
September 17-18, 2015
- **AACCUP Level IV Seminar-Workshop**
International Affairs Office, Batangas State University Main Campus I
February 20, 2015
February 27 – March 1, 2014
- **PSITE Regional Conference for Faculty Members**
Saint Michael College of Laguna, Biñan City, Laguna
February 13, 2015

CAÑETE, ERIKA ARELLANO

Address: Barangay Dumantay, Batangas City

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EDUCATION

- **Master of Science in Information Technology**
Batangas State University
30 units
- **Bachelor of Science in Information Technology**
Batangas State University
2010-2014

ACADEMIC EXPERIENCE

- **Instructor I**
Full Time – Contractual Faculty
College of Informatics and Computing Sciences
June 19, 2015-present

NON-ACADEMIC EXPERIENCE

- **Marketing Secretary / Officer**
Pyrotech Solutions and Integrated Services Corporation
January 2015 – June 2015

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **International IT Practitioner**
IT Passport Certification Examination
November 28, 2015

PROFESSIONAL ORGANIZATIONS

- Philippine Computer Society
- Philippine Society of Information Technology Educators
- Integrated Southern Tagalog Association of Information Technology Education

PROFESSIONAL DEVELOPMENT ACTIVITIES

- **A Day in the Life of a Software Engineer Series**
Pointwest Technologies Corporation Philippines
April 27, 2016
- **Seminar-Workshop on Writing Research Proposal and Publishable Papers**
Batangas State University
March 10, 2016
- **Disaster Risk Management: Incident Command System, Contingency Plan & Disaster Management**
Batangas State University
February 26, 2016
- **Multidisciplinary Research: in Response to the Needs of the Changing Time**
NOCEI, Inc.
October 28, 2015
- **First CICS Multidisciplinary Research Forum 2015**
Batangas State University
October 18, 2015
- **PSITE 4 15TH Regional Conference**
Philippine Society Of Information Technology Educators
September 18, 2015
- **Seminar-Workshop on Patent Basics and Patent Search & Documentation**
Batangas State University
September 4-5, 2015
- **CICS Transforming Lives through Leading Innovation**
Batangas State University
August 23, 2015
- **EUREKAFF: Ideation Workshop**
Batangas State University
July 31, 2015
- **Making Money Online**
Batangas State University
July 31, 2015

CASTILLO, RIA LOPEZ

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**EDUCATION**

- **Master of Science in Computer Science(36 units)**
Batangas State University
2012-2015
- **Master of Information Technology (30 units)**
Technological University of the Philippines
2003-2006
- **Bachelor of Science in Computer Science**
University of Batangas
1997-2001

ACADEMIC EXPERIENCE

- **OIC-Coordinator, On the Job Training**
College of Industrial Technology
2013 - 2016
- **OIC, In-Charge for Sports and Cultural Affairs**
College of Industrial Technology
2008-2010
- **Adviser, Association of Computer Technology Students**
College of Industrial Technology
2014
- **Instructor I**
Full Time
College of Informatics and Computing Sciences
August 8, 2016 - present
College of Industrial Technology
November 16, 2006-July 20, 2016

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **National Certificate II**
PC Operations
January 28, 2009

PROFESSIONAL ORGANIZATIONS

- United Professionals for the Development and Advancement of Teacher Education, Inc.
- Philippine Association of Industrial and Technology Educators (PAITE), Inc.
- Philippine Association of Extension Program Implementors, Inc. (PAEPI)
- Teachers Organization of the Philippine Public Sector
- Association of Higher Education Institutions

PROFESSIONAL DEVELOPMENT ACTIVITIES

- **International Research Conference on Innovations in Engineering, Science and Technology 2015**
Batangas State University
November 18-20, 2015
- **Network of CALABARZON Educational Institutions, Inc. (NOCEI) Research Forum**
Colegio de San Juan de Letran Calamba, Calamba City, Laguna
October 28, 2015

FERNANDO, MARICEL GRACE ZULLO

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EDUCATION

- **Doctor of Information Technology** (15 units)
Technological Institute of the Philippines
2015-present
- **Doctor of Technology** (9 units)
Batangas State University
2015-2016
- **Master of Science in Information Technology**
Batangas State University
2001-2014
- **Master in Development Management**
Pangasinan State University
2010 - 2011
- **Bachelor of Industrial Technology**
Batangas State University
1996 - 2000

ACADEMIC EXPERIENCE

- **Chairman, Information Technology Department**
College of Informatics and Computing Sciences
November 2015 – March 2016
- **Coordinator, NBC 461 Zonal Center**
Region IV A and IV B
November 2011 – March 2016
- **College Instructor**
Full Time Faculty
Batangas State University
November 5, 2001 – present

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **International IT Practitioner**
IT Passport Certification Examination
- **ICDL Start Certificate**
International Computer Driving License

PROFESSIONAL ORGANIZATIONS

- Association of Computing Machinery (ACM)
- Institute of Electrical and Electronics Engineers (IEEE)
- Philippine Association of Industrial Technology Educators (PAITE)
- Philippine State Universities and Colleges Computer Education (PSITE)
- Computer Science Teachers Association (CSTA)
- Batangas Information Technology Society, Inc. (BITS)

PROFESSIONAL DEVELOPMENT ACTIVITIES

- **International Research Conference on Innovations in Engineering, Science and Technology 2015**
Batangas State University
November 18-20, 2015
- **Seminar-Workshop on Patent Basics and Patent Search & Documentation**
Batangas State University
September 4-5, 2015
- **International Research Conference on Innovations in Engineering, Science and Technology 2013**
Batangas State University
November 27-29, 2013

MACATANGAY, LLOYD HERNANDEZ

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EDUCATION

- **Master of Science in Computer Science**
Batangas State University
On-Going
- **Master in Development Management**
Pangasinan State University
2011
- **Bachelor of Science in Computer Science**
De La Salle Lipa University
2001

ACADEMIC EXPERIENCE

- **OIC-Coordinator, Alumni Affairs**
College of Informatics and Computing Sciences
2016- present
- **OIC -Chairman, Information Technology Department**
College of Informatics and Computing Sciences
2013 – 2015
- **Instructor I**
Batangas State University
College of Informatics and Computing Sciences
Dec. 15, 2004 - present
- **Lecturer**
Informatics Computer Institute –Batangas
July 26,2001 –March 15, 2004

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- | | |
|--|-------------------------------|
| ➤ Career Service Professional | Registration No.: 107901WE |
| ➤ Certified Internet Professional | Registration No.: 3451 |
| ➤ International Computer Driving License | Registration No.: PH000000566 |
| ➤ International IT Practitioner | Registration No.: PHIP13A0166 |
| IT Passport Certification Examination | |

PROFESSIONAL ORGANIZATIONS

- Philippine Computer Society
- Philippine Society of Information Technology Educators (PSITE)
- The Philippine Society of Information Technology Educators(PSITE –IVA)
- Philippine Schools, Universities and Colleges Computer Education and System Society(PSUCCESS)
- Batangas Information Technology Society (BITS)
- Integrated Southern Tagalog Association of Information Technology Education (ISITE)
- The Society of Digital Information and Wireless Communications (SDIWC)

PROFESSIONAL DEVELOPMENT ACTIVITIES

- **Disaster Risk Management: Incident Command System, Contingency Plan and Disaster Management**
Batangas State University
February 26, 2016
- **Seminar on Thesis and Capstone Writing for ITE Students and Advisers**
De La Salle University Lipa
February 17, 2016
- **Batangas Information Technology Students Conference 2016**
SM City Lipa Cinema 1 &2
January 30, 2016
- **Cyber Security: The Present and Beyond**
Lyceum of the Philippines University
December 7, 2015

MANGUBAT, JELEEN MAPOY

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EDUCATION

- **Bachelor of Science in Information Technology**
Lyceum of the Philippines University-Batangas
2010-2014

ACADEMIC EXPERIENCE

- **Instructor I**
Full Time Faculty
College of Informatics and Computing Sciences
August 25 - present

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **TESDA National Certification II**
Computer Systems and Servicing

MARASIGAN, KIMBERLY I.

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EDUCATION

- **Bachelor of Science in Information Technology**
Batangas State University
2012-2016

ACADEMIC EXPERIENCE

- **Instructor I**
Full Time Faculty
College of Informatics and Computing Sciences
August 25, 2016 - present

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **Computer Systems Servicing NC II**
May 27, 2016

PROFESSIONAL DEVELOPMENT ACTIVITIES

- **Data Mining Seminar**
Audio Visual Room, CEAFA Building, BatStateU-Alangilan Campus
October 9, 2016
- **3-Day Intensive Training and Seminar in Computer Systems Servicing**
CICS Building, BatStateU Alangilan Campus, Batangas City
May 16, 2016
- **A Day in the Life of a Software Engineer Series**
Amphitheater, 4th Floor CEAFA Building, BatStateU Main Campus II
April 27, 2016
- **On-the-Job Training**
Pandora Security Labs, Unit 1806 Tycoon Center, Pearl Dr, Ortigas Center, Pasig,
1605 Metro Manila
November 2015 – March 2016

MAYO, CARLITO H. JR.

Address: Lipa City, Batangas

Contact Number: 09755804154

Email Address: carlito.mayo@gmail.com



EDUCATION

- **Bachelor of Science in Information Technology**
Batangas State University
2009-2013

ACADEMIC EXPERIENCE

- **Part-Time Instructor**
College of Informatics and Computing Sciences
2016 – present

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **International IT Practitioner**
IT Passport Certification Examination

PROFESSIONAL DEVELOPMENT ACTIVITIES

- **Android Application Development**
WOW Batangas
Dec. 17, 2013
- **Patent Search and Preparation of Patent Applications Writeshop**
TUP, Manila
Oct. 20-23, 2015
- **3D Systems Seminar**
Paseo Premier Hotel, Sta. Rosa Laguna
June 18, 2015

MAZO, XYZA GAY LYZYLL C.

Address: 04 Masagana Subd. Tambo, Lipa City

Contact Number: 0998-564-5902

Email Address: xglcmazo@gmail.com



EDUCATION

- **Master of Science in Information Technology**
Polytechnic University of the Philippines
2014 – Present
- **Bachelor of Science in Information Technology**
AMA Computer College Lipa Campus
2009 – 2013

ACADEMIC EXPERIENCE

- **Instructor I**
Full Time – Contractual Faculty
BSU - College of Informatics and Computing Sciences
August 24, 2015 – Present
- **OJT Coordinator**
BSU - College of Informatics and Computing Sciences
October 2015 – March 2016
- **Instructor I**
Full Time – Contractual Faculty
AMA – Information Technology / Computer Science Department
January 2014 – August 2015
- **Academic Coordinator**
AMA Computer College Lipa Campus
January 2015 – May 2015

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **International IT Practitioner**
IT Passport Certification Examination
- **NC II – Computer Systems Servicing**
- **Microsoft Certified Technology Specialist**

PROFESSIONAL ORGANIZATIONS

- Philippine Schools, Universities, and Colleges Computer Education and Systems Society, Inc. (PSUCCESS)
- Philippine Society of Information Technology Educators (PSITE)
- Integrated Southern Tagalog Association of Information Technology Education (iSITE)
- Lipa Adventist Medical Practitioner (LAMP)

PROFESSIONAL DEVELOPMENT ACTIVITIES

- A Day in the Life of a Software Engineer Series – April 27, 2016
- 2016 International Conference on Asean Regional Collaborations Through Distance Learning, Equivalency and Continuing Professional Development – March 13, 2016
- Seminar – Workshop on Writing Research Proposal and Publishable Papers – March 10, 2016
- Skills Development through New Techniques Using Microsoft Office Tools (MS Word, PowerPoint and Excel) – Resource Person – March 10, 2016
- Disaster Risk Management: Incident Command System, Contingency Plan and Disaster Management – February 26, 2016
- 20th Annual National Convention (PSUCCESS) – February 22 – 24, 2016
- First CICS Multidisciplinary Research Forum 2015 - October 18, 2015
- Mac OSX Basics and Mac Laboratory Handling – March 27, 2015
- Excellence of Open and Distance Learning Towards Global Competitiveness for 2015 Asean Integration – March 22, 2015
- The Corporate Life Overview – August 14, 2015
- Adobe Java Animation Seminar – October 11, 2014
- How to Survive in Corporate World – August 30, 2014
- Mobile Computing – August 2, 2014
- Follow Happiness – February 20, 2014
- Developing Robotics – February 6, 2014

MELO, PRINCESS MARIE BERBERABE

Address LPerlas Cmpd. Kumintang Ilaya Batangas City

Contact Number: 01163 (920) – 928 0309

E-mail Address: pmberberabe@yahoo.com



EDUCATION

- **MASTER OF ENGINEERING**
major in Electronics and Communication Engineering
Batangas State University, Academic Year 2005
- **BS Computer Engineering**
Polytechnic University of the Philippines
Sta. Mesa, Manila 1992-1997

ACADEMIC EXPERIENCE

- **College Dean**
College of Informatics and Computing Sciences
June 2012 – August 2016
- **Associate Dean**
College of Engineering, Architecture, Fine Arts & Computing Sciences
Informatics & Computing Sciences
June 2012 – present
- **Department Chairman, Computer Engineering Department**
College of Engineering, Architecture, Fine Arts & Computing Sciences
June 2012 - present
- **Assistant Director, ICT Special Projects**
Information & Communications Technology Services
October 2008 – June 2012
- **Full-Time Instructor**
Batangas State University
October 2007-present

NON-ACADEMIC EXPERIENCE

- **Hotel Systems Consultant /Guest Service Representative**
Global Hospitality Exchange
June 2006 – June 2007

- **Days Inn Atlanta**, Georgia, USA
December 2006 - June 2007
- **RAMADA Hotel**, San Francisco, California USA
June 2006 – December 20

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **International IT Practitioner**
IT Passport Certification Examination

PROFESSIONAL ORGANIZATIONS

- Philippine Computer Society
- Philippine Society of Information Technology Educators
- Institute of Computer Engineers of the Philippines

PROFESSIONAL DEVELOPMENT ACTIVITIES

- Agsecs first graduate research forum
- 5th aun/seed-net regional conference on information and communications technology
- Institute of Computer Engineers of the Philippines (ICpEP) National Assembly
Theme: “Converging Professionals for Excellence.”
- South Luzon Cluster Fair and Exhibits (SLCFE) - Science and Technology and Innovation: Drivers of Change for a Smarter South Luzon
- Santa Rosa I3CT Business Development Forum: Innovating, Incubating & Investing
- Philippine Computer Society Forum on New Specialization Tracks in Higher Education
- Corporate Sensitivity Workshop
- PSUCCESS 17th National Conference
- Moodle Training for Teachers
- PSITE 7th Regional Conference - OBE Training Workshop
- Seminar-Workshop on NBC No. 461: Updated CCE and QCE Instruments
- Participation at the 1st OBE-Outcomes Based Education Seminar
- US Agency for International Development (USAID-Science, Technology, Research and Innovation for Development STRIDE Program) Information Session
- Training of New AACCUP Accreditors
- Ensuring Sustainable Leadership for Batangas State University
- Seminar-workshop on Outcomes-Based Education Processes – an Accreditation Perspective Analytics
- Consultative Conference with Executives of Higher Education Institutions in Region IV-A

MONTALBO, FRANCIS JESMAR P.

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Pallocan West, Batangas City
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EDUCATION

- **Master of Science in Information Technology**
Batangas State University
(candidate)
- **Bachelor of Science in Information Technology**
Batangas State University
2008-2012

ACADEMIC EXPERIENCE

- **Instructor 1**
College of Informatics and Computing Sciences
Batangas State University
June 20, 2013 – present

NON-ACADEMIC EXPERIENCE

- **MIS Technical Staff / Dance Varsity Coach**
Stonyhurst Southville International School
July 21, 2012 – May 10, 2013

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **IT Passport Certification**
PhilNITS
October 2013
- **TESDA National Certification II – Computer Systems Servicing**
TESDA
March 2016

PROFESSIONAL ORGANIZATIONS

- Philippine Society of Information Technology Educators Foundation (PSITE)
- Batangas Information Technology Society (BITS)

- Integrated Southern Tagalog Association of Information Technology Education (iSITE)
- Philippine Schools, Universities, and Colleges Computer Education and Systems Society (PSUCCESS)

PROFESSIONAL DEVELOPMENT ACTIVITIES

- **Computer Systems Servicing**
Batangas State University
March 14, 2016 – March 16, 2016
- **"A Day in the Life of a Software Engineer Series"**
Pointwest Technologies Corporation Philippines
April 27, 2016
- **JasperReports: A Powerful Open Source Reporting Engine for Java Application**
CICS, Batangas State University
March 22, 2016
- **Batangas Information Technology Students' Conference 2016**
Batangas Information Technology Society (BITS)
January 30, 2016
- **Swift iOS Training - Module 1**
Octal Philippines Inc. & PSITE Region 4
January 25, 2016 - January 29, 2016
- **Cyber Security: The Present and Beyond**
Integrated Southern Tagalog Association of Information Technology Education
December 7, 2015
- **iOS App Development Training**
Power MAC Center
December 7, 2015
- **First CICS Multidisciplinary Research Forum 2015**
CICS, Batangas State University
October 18, 2015
- **Patent Basics and Patent Search & Documentation**
Batangas State University
September 4-5, 2015
- **Visiting Professor Program: Institutionalizing Technopreneurship in the Curriculum**
USAID, IDEA & PhilDev
August 3-7, 2015

RAMOS, DEAN CHARLIEMAGNE FERNANDEZ

Address: Pook masikap, brgy. Tinga Labac,
Batangas City
Contact Number: 09369228157
Email Address: rcharliemagne64@gmail.com



EDUCATION

- **Bachelor of Science in Information Technology**
Batangas State University
2012-2016

ACADEMIC EXPERIENCE

- **Instructor I**
Contractual Faculty
College of Informatics and Computing Sciences
September 5, 2016 - present

CERTIFICATIONS / PROFESSIONAL REGISTRATIONS

- **CSS NCII (Computer System Servicing National Certification Level 2)**
Best Mind, Malvar Batangas City
April 18, 2016
- **CAREER ENTRY COURSE FOR SOFTWARE DEVELOPMENT USING JAVA – NC IV**
Awarded as Best Web Designer
Right Technicomm International Corp.
June 15, 2016 – July 28, 2016

PROFESSIONAL ORGANIZATIONS

- BatStateU Alumni Association

Appendix C

Equipment

Software Laboratory 1

Item No	Property No	Category	Specifications	
1	9725-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
2	9711-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
3	9700-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
4	9680-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
5	9730-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
6	9693-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
7	9684-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
8	9683-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
9	9695-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
10	9727-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
11	9677-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
12	9689-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
13	9724-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
14	9679-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
15	9696-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
16		Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
17		Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
18		Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
19		Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
20	9975-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	LG DVD RW
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
21	9973-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	LG DVD RW
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
22	9972-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	LG DVD RW
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
23	9978-12	Desktop Computer	Processor	Intel Pentium ® Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	LG DVD RW
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
24	9980-12	Desktop Computer	Processor	Intel Core i3-2120 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Western Digital 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical	LG DVD RW

			Drive	
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
25	9960-12	Desktop Computer	Processor	Intel Core i3-2120 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Western Digital 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	LG DVD RW
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard
26		Desktop Computer	Processor	Intel Core i3-2120 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Western Digital 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	LG
			Casing	
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB keyboard

Software Laboratory 2

Item No	Property No	Category	Specifications	
1	1195-15	Desktop Computer	Processor	Intel Core i5-4570
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	4GB Kingston DDR3
			Video Card	None
			Display	AOC 15.6" LCD monitor
			Optical Drive	LITEON ATAPI iHAP422 8 SATA Multi DVD Recorder
			Casing	AMD Athlon(tm) 64 x2 BLACK
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
2	1196-15	Desktop Computer	Processor	Intel Core i5-4570
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	4GB Kingston DDR3
			Video Card	None
			Display	AOC 15.6" LCD monitor
			Optical Drive	LITEON ATAPI iHAP422 8 SATA Multi DVD Recorder
			Casing	AMD Athlon(tm) 64 x2 BLACK
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
3	1197-15	Desktop Computer	Processor	Intel Core i5-4570
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	4GB Kingston DDR3
			Video Card	None
			Display	AOC 15.6" LCD monitor
			Optical Drive	LITEON ATAPI iHAP422 8 SATA Multi DVD Recorder
			Casing	AMD Athlon(tm) 64 x2 BLACK

			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
4	1198-15	Desktop Computer	Processor	Intel Core i5-4570
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	4GB Kingston DDR3
			Video Card	None
			Display	AOC 15.6" LCD monitor
			Optical Drive	LITEON ATAPI iHAP422 8 SATA Multi DVD Recorder
			Casing	AMD Athlon(tm) 64 x2 BLACK
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
5	1200-15	Desktop Computer	Processor	Intel Core i5-4570
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	4GB Kingston DDR3
			Video Card	None
			Display	AOC 15.6" LCD monitor
			Optical Drive	LITEON ATAPI iHAP422 8 SATA Multi DVD Recorder
			Casing	AMD Athlon(tm) 64 x2 BLACK
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
6	1201-15	Desktop Computer	Processor	Intel Core i5-4570
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	4GB Kingston DDR3
			Video Card	None
			Display	AOC 15.6" LCD monitor
			Optical Drive	LITEON ATAPI iHAP422 8 SATA Multi DVD Recorder
			Casing	AMD Athlon(tm) 64 x2 BLACK
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
7	1202-15	Desktop Computer	Processor	Intel Core i5-4570
			Motherboard	ASUS

			d	
			HDD	HITACHI 500GB Serial ATA
			Memory	4GB Kingston DDR3
			Video Card	None
			Display	AOC 15.6" LCD monitor
			Optical Drive	LITEON ATAPI iHAP422 8 SATA Multi DVD Recorder
			Casing	AMD Athlon(tm) 64 x2 BLACK
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
8	9967-12	Desktop Computer	Processor	Pentium Core i3
			Motherboard	ASUS
			HDD	Western Digital 320GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6" LED Monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
9	9238-11	Desktop Computer	Processor	Pentium ® Dual-Core @ 3.06GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6" LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
10	9268-11	Desktop Computer	Processor	Pentium ® Dual-Core @ 3.06GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA

			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6" LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
11	9708-12	Desktop Computer	Processor	Pentium ® Dual-Core @ 3.06GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6" LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
12	9258-11	Desktop Computer	Processor	Pentium ® Dual-Core @ 3.06GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6" LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
13	9259-11	Desktop Computer	Processor	Pentium ® Dual-Core @ 3.06GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3

			Video Card	NONE
			Display	AOC 15.6" LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
14	9682-12	Desktop Computer	Processor	Pentium ® Dual-Core @ 3.06GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Video Card	NONE
			Display	AOC 15.6" LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
15	3647-07	Desktop Computer	Processor	Intel ® Pro E2140 @ 1.60GHz
			Motherboard	ECS P4M900M-M
			HDD	SEAGATE Barracuda 80GB Serial ATA
			Memory	1Gb RAM DDR2
			Video Card	None
			Display	SAMSUNG 15" LCD BLACK
			Optical Drive	
			Casing	
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
16	3642-07	Desktop Computer	Processor	Intel ® Pro E2140 @ 1.60GHz
			Motherboard	ECS P4M900M-M
			HDD	SEAGATE Barracuda 80GB Serial ATA
			Memory	1Gb RAM DDR2

			Video Card	None
			Display	SAMSUNG 15" LCD BLACK
			Optical Drive	
			Casing	
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
17	3664-07	Desktop Computer	Processor	Intel ® Pro E2140 @ 1.60GHz
			Motherboard	ECS P4M900M-M
			HDD	SEAGATE Barracuda 80GB Serial ATA
			Memory	1Gb RAM DDR2
			Video Card	None
			Display	SAMSUNG 15" LCD BLACK
			Optical Drive	
			Casing	
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2
18	3657-07	Desktop Computer	Processor	Intel ® Pro E2140 @ 1.60GHz
			Motherboard	ECS P4M900M-M
			HDD	SEAGATE Barracuda 80GB Serial ATA
			Memory	1Gb RAM DDR2
			Video Card	None
			Display	SAMSUNG 15" LCD BLACK
			Optical Drive	
			Casing	
			Mouse	A4Tech USB
			Keyboard	A4Tech PS2

Software Laboratory 3

Item No	Property No	Category	Specifications	
1	9252-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
2	9251-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
3	9250-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE

			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
4	9249-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
5	9248-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
6	9247-11	Desktop Computer	Keyboard	A4Tech Keyboard PS2
			Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE

			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
7	9246-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
8	9245-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
9	9244-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE

			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
10	9243-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
11	9242-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
12	9241-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE

			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
13	9270-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
14	9257-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
15	9674-11	Desktop Computer	Keyboard	A4Tech Keyboard PS2
			Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE

			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
16	9240-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
17	9264-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
18	9262-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE

			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
19	9261-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2
20	9256-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE
			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
21	9272-11	Desktop Computer	Processor	intel Pentium ® Dual-Core E6600 @3.06GHz
			Motherboard	ECS ELITEGROUP G4IT-R3
			HDD	Western Digital 320GB Serial ATA
			Memory	elixer 2GB DDR3-1066
			Video Card	NONE

			Display	LIKOM 16" LED monitor
			Optical Drive	NONE
			Casing	Risc 600w psu
			Mouse	A4Tech Optical PS2
			Keyboard	A4Tech Keyboard PS2

Multimedia Laboratory

Item No	Property No	Category	Specifications	
1	6318-09	Desktop Computer	Motherboard	ECS G31T-M7 REV. 1.0
			Speaker	USB
			Monitor	AOC TFT19W8oPS 19" LCD Monitor
			Hard Disk	WDC WD3200AAJS-22L7Ao ATA Device 320GB
			DVD Writer	ATAPI iHAP222 9 ATA Device
			Mouse	USB
			Keyboard	USB
			Processor	Intel Pentium4 (pinless) 3.06Ghz
			Motherboard	ECS P4M800-PRO-M2(socket 775)
			HDD	40GB HDD IDE
			Memory	256MB DDR2 PC533
2	6317-09	Desktop Computer	Motherboard	ECS G31T-M7 REV. 1.0
			Speaker	USB
			Monitor	AOC TFT19W8oPS 19" LCD Monitor
			Hard Disk	ST3160813AS ATA Device 160GB
			DVD Writer	ATAPI iHAP222 9 ATA Device
			Mouse	USB
			Keyboard	USB
			Processor	Intel Pentium4 (pinless) 3.06Ghz
			Motherboard	ECS P4M800-PRO-M2(socket 775)
			HDD	40GB HDD IDE
3	6316-09	Desktop Computer	Motherboard	ECS G31T-M7 REV. 1.0

			Speaker	USB
			Monitor	AOC TFT19W8oPS 19" LCD Monitor
			Hard Disk	WDC WD3200AAJS-22L7Ao ATADevice 320GB
			DVD Writer	ATAPI iHAP222 9 ATA Device
			Mouse	USB
			Keyboard	USB
			Motherboard	ECS G31T-M7 REV. 1.0
			Speaker	USB
			Monitor	AOC TFT19W8oPS 19" LCD Monitor
4	6319-09	Desktop Computer	Motherboard	ECS G31T-M7 REV. 1.0
			Speaker	USB
			Monitor	AOC TFT19W8oPS 19" LCD Monitor
			Hard Disk	WDC WD3200AAJS-22L7Ao ATADevice 320GB
			DVD Writer	ATAPI iHAP222 9 ATA Device
			Mouse	USB
			Keyboard	USB
5	6315-09	Desktop Computer	Motherboard	ECS G31T-M7 REV. 1.0
			Speaker	USB
			Monitor	AOC TFT19W8oPS 19" LCD Monitor
			Hard Disk	WDC WD3200AAJS-22L7Ao ATADevice 320GB
			DVD Writer	ATAPI iHAP222 9 ATA Device
			Mouse	USB
			Keyboard	USB
6	6320-09	Desktop Computer	Motherboard	ECS G31T-M7 REV. 1.0

			Speaker	USB
			Monitor	AOC TFT19W8oPS 19" LCD Monitor
			Hard Disk	WDC WD3200AAJS-22L7Ao ATADevice 320GB
			DVD Writer	ATAPI iHAP222 9 ATA Device
			Mouse	USB
			Keyboard	USB
			Hard Disk	WDC WD3200AAJS-22L7Ao ATADevice 320GB
			DVD Writer	ATAPI iHAP222 9 ATA Device
			Mouse	USB
7	6321-09	Desktop Computer	Motherboard	ECS G31T-M7 REV. 1.0
			Speaker	USB
			Monitor	AOC TFT19W8oPS 19" LCD Monitor
			Hard Disk	WDC WD3200AAJS-22L7Ao ATADevice 320GB
			DVD Writer	ATAPI iHAP222 9 ATA Device
			Mouse	USB
			Keyboard	USB
8	6314-09	Desktop Computer	Motherboard	ECS G31T-M7 REV. 1.0
			Speaker	USB
			Monitor	AOC TFT19W8oPS 19" LCD Monitor
			Hard Disk	WDC WD3200AAJS-22L7Ao ATADevice 320GB
			DVD Writer	ATAPI iHAP222 9 ATA Device
			Mouse	USB
			Keyboard	USB
9	6322-09	Desktop Computer	Motherboard	ECS G31T-M7 REV. 1.0

			Speaker	USB
			Monitor	AOC TFT19W8oPS 19" LCD Monitor
			Hard Disk	WDC WD3200AAJS-22L7Ao ATA Device 320GB
			DVD Writer	ATAPI iHAP222 9 ATA Device
			Mouse	USB
			Keyboard	USB
10	6323-09	Desktop Computer	Motherboard	ECS G31T-M7 REV. 1.0
			Speaker	USB
			Monitor	AOC TFT19W8oPS 19" LCD Monitor
			Hard Disk	WDC WD3200AAJS-22L7Ao ATA Device 320GB
			DVD Writer	ATAPI iHAP222 9 ATA Device
			Mouse	USB
			Keyboard	USB
			Printer	HP PhotoSmart C628o All-in-One
11	9723-12	Desktop Computer	Processor	Intel Pentium Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
			Printer	HP PhotoSmart C628o All-in-One
12	9239-12	Desktop	Processor	Intel Pentium Core i3 @ 3.30 GHz

			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
			Printer	HP PhotoSmart C6280 All-in-One
13	5867-09	Desktop Computer	Processor	Intel Pentium Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
			Printer	HP PhotoSmart C6280 All-in-One
14	5857-09	Desktop Computer	Processor	Intel Pentium Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
			Printer	HP PhotoSmart C6280 All-in-One
15	9710-12	Desktop	Processor	Intel Pentium Core i3 @ 3.30 GHz

			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
16	9719-12	Desktop Computer	Printer	HP PhotoSmart C6280 All-in-One
			Processor	Intel Pentium Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
			Printer	HP PhotoSmart C6280 All-in-One
17	9716-12	Desktop Computer	Processor	Intel Pentium Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
			Printer	HP PhotoSmart C6280 All-in-One
18	9717-12	Desktop	Processor	Intel Pentium Core i3 @ 3.30 GHz

			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
			Printer	HP PhotoSmart C6280 All-in-One
19	9715-12	Desktop Computer	Processor	Intel Pentium Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
20	9673-12	Desktop Computer	Processor	Intel Pentium Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
21	9721-12	Desktop Computer	Processor	Intel Pentium Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
22	9726-12	Desktop	Processor	Intel Pentium Core i3 @ 3.30 GHz

			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
23	9713-12	Desktop Computer	Processor	Intel Pentium Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse
24	5860-09	Desktop Computer	Processor	Intel Pentium Core i3 @ 3.30 GHz
			Motherboard	ASUS
			HDD	HITACHI 500GB Serial ATA
			Memory	2GB DDR3
			Display	AOC 15.6 LED Monitor
			Mouse	A4Tech USB mouse
			Keyboard	A4Tech USB mouse

Item No	Property No	Category	Specifications	
1	1182-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
2	1183-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
3	1184-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
4	1185-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
5	1186-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
6	1187-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
7	1188-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
8	1189-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
9	1190-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
10	1191-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
11	1173-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
12	1172-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
13	1171-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
14	1170-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
15	1169-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
16	1168-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	Genius USB mouse
			Keyboard	Genius USB keyboard
17	1167-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
18	1174-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
19	1175-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
20	1176-15		Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
21	1177-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
22	1178-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
23	1179-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
24	1180-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor

			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
25	1181-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard
26	1192-15	Desktop Computer	Processor	Intel Pentium ® Core i5 @ 3.30 GHz
			Motherboard	ASUS
			HDD	Seagate 500GB Serial ATA
			Memory	4GB DDR3
			Video Card	NONE
			Display	AOC 15.6 LED monitor
			Optical Drive	NONE
			Casing	
			Mouse	A4tech USB Mouse
			Keyboard	A4TECH USB keyboard

Appendix D

Institutional Summary

THE INSTITUTION

D.1 Name and address of the institution

Batangas State University
Gov. Pablo Borbon Main Campus II,
Golden Country Homes, Alangilan, Batangas City

D.2 Name and title of the chief executive officer of the institution

Dr. Tirso A. Ronquillo
University President

D.3 Name and title of the person submitting the Self-Study Report.

Assoc. Prof. Alex I. Magboo
College Dean

D.4 Name the organizations by which the institution is now accredited, and the dates of the initial and most recent accreditation evaluations.

Program	Date of Accreditation	Accrediting Body	Awards/Recognition
Bachelor of Science in Information Technology	December 2-5, 2009	AACCUP	Level II Reaccredited
	July 2008	AACCUP	Level I Accredited

D.5 Type of Control

State University

D.6 Educational Unit

Batangas State University has ten campuses strategically distributed in the province of Batangas where the principal office is located in Gov. Pablo Borbon Main Campus I, Rizal Avenue Ext., Batangas City. The other nine campuses are: 1) Gov. Pablo Borbon Main Campus II, (Alangilan Campus), 2) Malvar Campus, 3) Lipa Campus, 4) Rosario Campus, 5) Balayan Campus, 6) Lemery Campus, 7) Nasugbu Campus, 8) San Juan Campus and 9) Lobo Campus.

Gov. Pablo Borobon Main Campus II which is located in Alangilan, Batangas City houses the three colleges such as: College of Engineering, Architecture and Fine Arts (CEAFA), College of Informatics and Computing Sciences (CICS) and College of Industrial Technology (CIT). Each college is directed by the Dean who report directly to the Vice President for Academic Affairs. Each college has also an Associate Dean. Main Campus II is administered by the Executive Director who reports to the University President. The University created the Executive Committee which is composed of the Vice Presidents and Executive Directors of different campuses of the University.

The governing body of the University is the Board of Regents while the administration is vested in the President. Also, the university houses the Administrative Council which consists of the president as the Chairman, the vice-presidents, deans, directors and other officials of equal rank as members. On the other hand, the Academic Council also has the president as the Chairman and all members of the instructional staff of not lower than assistant professor as members.

Each program is composed of professors/instructors who shall perform the following duties and responsibilities:

- a. Teach according to one's field of specialization;
- b. Coordinate instructional activities with those teaching similar fields of specialization;
- c. Assist the Dean/Area Chair in planning programs and activities for the improvement of instruction;
- d. Conduct researches pertinent to one's area of specialization.
- e. Render extension service hand in hand with instruction, research and production;
- f. Try out innovative strategies and share these with other faculty member;
- g. Utilize community resources to reinforce teaching;
- h. Prepare and submit plans and programs for the development of instruction, research, extension and production;
- i. Cooperate with the Office of Student Services in implementing the latter's guidelines and programs;

- j. Participate in faculty and other professional meetings that may be called for the improvement of instructional and administrative services;
- k. Participate in social activities of the University; and
- l. Perform related works

All professors/instructors belong to a department and are under the supervision of the Program Chairs. The chairman of each program is designated by the College Dean. Mr. Ryndel V. Amorado serves as the Chairperson of the Information Technology Program.

The following are the duties and responsibilities of the program chair:

- a. Responsible to the departmental faculty in matters related to teaching and research;
- b. Responsible to the Dean of the College and other officers of the University for the implementation of University policies as they apply to the affairs of the department.
- c. Responsible for the general conduct of departmental affairs and assume authority in all matters concerning program scheduling, activities of student organization and all other matter relative to the successful implementation of the department's educational and scholarly objectives; and
- d. Assume other responsibilities as assigned by the Dean and higher authorities.

The Deans shall be designated or appointed by the President from among the faculty subject to the confirmation of the Board of Regents. At present, Engr. Alex I. Magboo serves as the Dean of CICS. She is directly responsible to the Vice President for Academic Affairs in carrying out the educational policies and program of the University and for supervising instructional research and other academic activities as well as technical and scientific instruction activities. The following are the duties and responsibilities of the Dean:

- a. Be the Presiding Officer of the faculty of his/her college and to notify VPAA of all meetings, furnishing the latter with their agenda and minutes.
- b. Prepare teaching assignments of the faculty members of his/her College.
- c. Supervise the admission and classification of students in accordance with the policies, rules and regulations of the University.

- d. Encourage his/her faculty to conduct research and extension service, write books and articles, and prepare instructional materials in cooperation with the department of similar concern
- e. Submit to the Office of the President an annual report of his/her college and such other reports which the President may require.
- f. Recommend to the VPAA promotions, demotions, transfer or removal of members of the faculty and staff provided that after due consideration, the VPAA shall in turn submit the proposal to the President subject to policies, rules and regulations.

All colleges are under the supervision of the Vice President for Academic Affairs (VPAA). The VPAA shall be appointed by the recommendation of the President. The following are the duties and responsibilities of the VPAA:

- a. Assist in the formulation of academic policies and plans pertaining to the efficient management of educational programs of the University;
- b. Evaluate the effectiveness of instructional services;
- c. Provide leadership among Executive Directors, Deans and Directors in planning, conducting follow-up phases of in-service education of faculty members;
- d. Review recommendations of subordinate officials regarding appointment of faculty positions;
- e. Review departmental plans and projects and is responsible for the efficient and economical operations of the University;
- f. Rate the performance of Executive Directors, Deans, Directors and Registrar and other officials equivalent rank;
- g. Conduct general faculty conferences and meetings for the students and impose penalties less severe than dismissal;
- h. Review recommendations of disciplinary sanctions for the students and impose penalties less severe than dismissal;
- i. Recommend fellowships, scholarships and trainings grants for deserving faculty members;
- j. Direct disciplinary action against erring faculty members;

- k. Consolidate and prepare final reports of accomplishments submitted by subordinates;
- l. Supervise the Executive Directors, Deans and Directors and other designated Heads in the Department;
- m. Perform other functions as the President may direct from time to time.

The administration of the University shall be vested in the President of the University who shall render full-time service. The University President shall be appointed by the Board of Regents, upon recommendations of a duly constituted search committee. The University President shall have a term of four (4) years and shall be eligible for reappointment for another term. The University is appointed.

At present, Batangas State University is headed by Dr. Tirso A. Ronquillo.

The powers and duties of the University President are as follows:

- a. Execute and implement the policies and general plans laid down by the Board;
- b. Exercise general supervision of all the programs, projects and operations and activities of the University to render more effective and efficient service to the public;
- c. Formulate plans and recommends policies to the Board that will enable the University to render more effective and efficient service to the public;
- d. Holds ultimate responsibility for collecting and accounting all revenues and receipts and for the proper custody of all property belonging to the University;
- e. Coordinate and cooperate with other government agencies in the locality for the successful implementation of community-wide program and projects;
- f. Appoint officials, faculty members, and other employees of the University consistent with pertinent laws, rules and regulations subject to confirmation by the Board of Regents;
- g. Represent the University in public ceremonies and other social-civic activities involving the participation of heads of agencies, offices and institutions;

- h. Imposes subject to due process, penalties and sanction even severe than dismissal against personnel of the University for violation of duly promulgated service rules and regulations; subject to confirmation by the Board; and
- i. Designate faculty and employees for administrative positions in accordance with the approved organization of the University.

The governing body of the University shall be the Board of Regents which shall be composed of the following:

- a. Chairman of the Commission on Higher Education (CHED), Chairman;
- b. The president of the University, Vice Chairman
- c. Chairman of the Committee on Education, Arts and Culture of the Senate, Member;
- d. Chairman of the Committee on Higher and Technical Education of the House of Representatives, Member;
- e. The Regional Director of the National Economic and Development Authority (NEDA) where the main campus of the University is located, member.

D.7 Academic Support Units

	NAME	EDUCATIONAL CREDENTIALS EARNED	
		BACCALAUREATE/ MASTER'S	DOCTORATE
Languages	Mrs. Ninfa M. Vergara	AB English (1984)	n/a
	Mrs. Elaine Noreen G. Baxa	ABMassCommunication (2008)	n/a
Social Science	Mr. Zoilo G. Viaña	Bachelor of Arts major in Economics (1993)	n/a
	Mrs. Jocelyn C. Mendoza	Bachelor of Arts Major in Political Science (2003)	n/a
	Mrs. Charity B. Soriano		
Physics / Mathematics	Mr. Joel B. Bacay	Bachelor of Science in Mathematics (1995)	Ph.D. Mathematics Education (48 units)

	Mr. Israel P. Peñero	Bachelor of Science in Mathematics (1992)	n/a
	Mrs. Aurelia G. Vivas	Bachelor of Science in Electronics & Communications Engineering (1998)	PhD- Mathematics (45 units)

D.8 Non-academic Support Units

Library	1. Rosario L. Cuevas, MLIS	University Librarian
	2. Nenita C. Silang	Librarian III
	3. Michelle R. Ramirez	Administrative Aid VI
	4. Gina A. Baez	Administrative Aid III
	5. Josephine T. Magdasoc	Administrative Aid III
	6. Agnetha Frid D. Roces	Administrative Aid III
	7. Christian P. Plata	Administrative Aid I
Scholarship and Financial Assistance	Asst. Prof. Jennifer G. Manalo	Assistant Director for Scholarship and Financial Assistance
Student Services	Dr. Lucille D. Evangelista	Director for Student Affairs and Services
	Asst. Prof. Renan T. Mallari	Assistant Director for Guidance and Counseling (University Guidance Counselor) Assistant Director for Services for Students with Special Needs and Persons with Disabilities
	Asst. Prof. Ana Maria Rivera	Assistant Director for Student Discipline
	Mr. Francis Jesmar P. Montalbo	Coordinator – Student Discipline
Registrar	Mrs. Editha B. Agustin	University Registrar
	Mrs. Merlita B. Mendoza (BSC-Accounting)	Registrar III
Accounting & Cashier	Lolita M. Atienza, CPA	Assistant Director, Accounting Office
	Dolores A. Madrid	Asst. Director, Cashier Office

ICT	Alex I. Magboo, CpE, MEngg-ECE	Director, ICT Services
Testing and Admission	Assoc. Prof. Virginita S. Eroa	Director, TAO
On-the-Job Training	Engr. Ferdinand Adrian Melo	Asst. Director, Job Placement
Sports and Cultural	Assoc Prof. Francisco V. Aguirre	Director, Sports Development
	Asst. Prof Normelinda M. Arias	Director, Arts and Culture

D.9 Credit Unit

Batangas State University uses two-semester per academic year operation. One semester credit represents one class hour or three laboratory hours per week. One academic year represents 35 weeks of classes, exclusive of major examinations.

D.10 Tables

Table D-1. Program Enrollment and Degree Data

Name of the Program: Bachelor of Science in Information Technology

	Academic Year		Enrollment Year					Total Undergrad	Total Grad	Degrees Awarded			
			1st	2nd	3 rd	4 th	5th			Associate s	Bachelor s	Masters	Doctorates
Current Year: 2016-2017		FT(1 st)	112	551	361	220		1244	37				
		FT(2 nd)	165	484	340	208		1197					
1.2015 - 2016		FT(1 st)	636	440	239	229		1544	40				
		FT(2 nd)	600	399	245	192		1436					
2.2014-2015		FT(1 st)	538	287	230	287		1342	21				
		FT(2 nd)	481	265	239	254		1239					
3.2013-2014		FT(1 st)	353	263	276	243		1135	22				
		FT(2 nd)	341	255	279	223		1098					
4.2012-2013		FT(1 st)	405	322	259	222		1208	25				
		FT(2 nd)	323	302	244	208		1077					

Give official first term enrollment figures (head count) for the current and preceding four academic years and undergraduate and graduate degrees conferred during each of those years. The "current" year means the academic year preceding the on-site visit.

FT--full time

PT--part time

Table D-2. Personnel
BS Information Technology
Year: 2016-2017

	HEAD COUNT		FTE ²
	FT	PT	
Administrative ²	1		
Faculty (tenure-track) ³	19	1	
Other Faculty (excluding student Assistants)	4	4	
Student Teaching Assistants ⁴			
Technicians/Specialists	4		
Office/Clerical Employees	2		
Others ⁵			

Report data for the program being evaluated.

Data on this table should be for the first term immediately preceding the visit. Updated tables for the first term when the ABET-CAC team is visiting are to be prepared and presented to the team when they arrive.

Persons holding joint administrative/faculty positions or other combined assignments should be allocated to each category according to the fraction of the appointment assigned to that category.

For faculty members, 1 FTE equals what your institution defines as a full-time load

For student teaching assistants, 1 FTE equals 20 hours per week of work (or service). For undergraduate and graduate students, 1 FTE equals 15 semester credit-hours (or 24 quarter credit-hours) per term of institutional course work, meaning all courses — science, humanities and social sciences, etc.

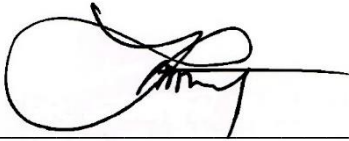
Specify any other category considered appropriate, or leave blank.

Signature Attesting to Compliance

By signing below, I attest to the following:

That BS Information Technology Program has conducted an honest assessment of compliance and has provided a complete and accurate disclosure of timely information regarding compliance with ABET's *Criteria for Accrediting Computing Programs* to include the General Criteria and any applicable Program Criteria, and the ABET *Accreditation Policy and Procedure Manual*.

Dr. JESSIE A. MONTALBO



Signature

October 6, 2017

Date