EXCERPTS OF APPROVED MINUTES OF THE
7th   LSU Board of Regents Meeting
08 November 2002 * LNU, Tacloban City

**Proposal to Offer Bachelor of Science in
Information Technology at the LSU-Isabel Campus**

Board Resolution No. 107, *s.* 2002

**Approving the proposal to offer Bachelor of Science in
Information Technology (BSIT) at the LSU-Isabel Campus, as
amended, effective immediately.**

> *Note:*   The Board recommended that a financial feasibility be prepared to make sure that
> the campus will have financial resources for the course.

BOARD ACTION: **APPROVED**
Date   : 08 November 2002
ATTACHMENT: **I**

Certified True and Correct:

DANIEL M. TUDTUD JR.
Board Secretary

Cc: *Univ. Registrar — Nov 1/6
LSU - Isabel*

PROPOSAL TO OFFER BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY (BSIT)

I. RATIONALE

The Information Revolution in this millennium is transforming society, creating new careers, new industries, new academic disciplines, and thus the need for new programs of education and research. These changes affect how people work and think, two things that are fundamental to universities.

The business and industry sectors have adapted to the fast and easy storage, processing and transmission of information. According to the 1999 U.S. President's Information Technology Advisory Committee (PITAC), information technology shall be one of the key factors driving progress in the 21st century. The advancement in information technology will, undoubtedly, create a new infrastructure for business, scientific research, and social interactions. This shall provide new tools for communicating throughout the world and for acquiring knowledge and insights from information. For the citizenry to be informed in this, there is a need to learn the technology and understand the underlying theories and principles behind it.

Computer industry has provided an attractive employment market for a wide range of computer – trained personnel. The rapid evolution of electronic machines, the decrease of hardware cost, hardware development and advancements have opened widely new range of applications; and as computer applications expand, systems analysts, computer scientists and database administrators are projected to be among the fastest growing occupations (Occupational Outlook Handbook, internet publication of the U.S. Department of Labor).

This employment trend will be the same for the third world countries like the Philippines. Because of the reduction of hardware and software costs, Filipino businessmen and industries will expand computerization and integrate new technologies for easier and more facilitated transactions. Thus, private colleges and universities are offering courses in computer and other related computer courses to keep pace with the rapid changing needs of the workplace.

The great challenge for universities like the Leyte State University is how to teach the principles underlying information technology. More students are seeking to combine computing with a liberal education in the arts and humanities, to prepare themselves for jobs that increasingly require both technical depth and liberal breadth.

A survey was conducted by the Leyte State University–Isabel Campus on 824 graduating high school students from the towns of Isabel and Merida. Of this total, 419 students indicated their preference to take up a computer-related course.

The over-all results showed that of the 419 senior high school student respondents interested to pursue a computer-related course, 39.1% preferred to take up the B.S. Information Technology; 31.3%, BS Computer Science; 20.1%, Associate in Computer Technology, and 9.5% other courses. (See Appendix 2).

It is in this premise that Leyte State University - Isabel Campus have conceived to offer Bachelor of Science in Information Technology; hence this proposal.

II.   OBJECTIVES

The Bachelor of Science in Information Technology (BSIT) aims to produce professionals equipped with one or more of the following:

1. the basic principles and foundation underlying the field of information technology;
2. ability to design, develop and implement information systems;
3. practical knowledge on how to operationalize, administer and maintain local area networks and information systems; and
4. actual experience in development of information systems.

III.   TARGET CLIENTELE

1. High school graduates.
2. Graduates of the Associate in Computer Technology (ACT) who wish to pursue BSIT.
3. Students from other degree programs who want to shift to BSIT.

IV.   EMPLOYMENT OPPORTUNITIES

1. Information technology entrepreneurs (software house, computer shop, internet café, modern study center)
2. Researchers
3. Instructors in computer courses.
4. As systems analyst, computer programmer, IT officer, web analyst/designer, database administrator.

V.   GRADUATE PROFILE

A.   Cognitive

1. Acquire knowledge on the concepts and principles of information technology.

1	2. Acquire techniques and better understanding of problem solving – analysis in conducting system projects.
2	
3	3. Recognize the types of computer software applications on current technological innovations.
4	
5	**B.** **Affective**
6	1. Demonstrate and cultivate positive problem attitudes demanded in any abstract and analytical processes.
7	
8	2. Acquire values of integrity, sense of professionalism in the discharge of respective duties and responsibilities in the workplace.
9	
10	3. Display safety consciousness and ergonomics in the use of modern information technology equipment and other high –level machines.
11	
12	4. Appreciate the importance of information technology, its principles, processes and innovations.
13	
14	5. Utilize wisely and effectively computer resources in any organization.
15	**C.** **Psychomotor**
16	1. Demonstrate skills and techniques in developing, implementing and assessing technology and software.
17	
18	2. Install, operate, manage and administer information systems.
19	3. Provide graduates the appropriate skills that are needed in system design, problem solving, and programming.
20	
21	

VI. CURRICULAR OFFERINGS

A. Course Schedule

Course No.	Descriptive Title	Lec	Lab	Units	Pre-requisite

FIRST YEAR, *First Semester*

Course No.	Descriptive Title	Lec	Lab	Units	Pre-requisite
CS/IT 21	Introduction to Computers	2	3	3	
Chem 11	General Chemistry I	3	3	4	
Engl 11	Communication Skills I	3		3	
Math 11	College Algebra	3		3	
Psych 11	General Psychology	3		3	
Soc Sci 13	Socio-Economic Systems	3		3	
PhyEd 11	Physical Fitness and Gymnastics	2	(2)		
NSTP/ROTC	First Year Basic Course I	3	(3)		
			Total Units	**19**	

FIRST YEAR, *Second Semester*

Course No.	Descriptive Title	Lec	Lab	Units	Pre-requisite
IT 22	Comp. Concepts & Fundamentals	2	3	3	CS/IT 21
Bio 11	General Biology	3	3	4	
Engl 12	Communication Skills II	3		3	Engl 11
Math 22	Plane Trigonometry	3		3	Math 11
Philo 12	Contemporary Philo. Thoughts	3		3	
Socio 11	General Sociology	3		3	
PhyEd 12	Rec. Games, Rhythmic Act, & Dance	2	(2)		
NSTP/ROTC	First Year Basic Course II	3	(3)		
			Total Units	**19**	

SECOND YEAR, *First Semester*

Course No.	Descriptive Title	Lec	Lab	Units	Pre-requisite
IT 101	Qual. Consc., Habits & Processes	2	3	3	IT 22
IT 102	Math Logic & Discr. Structures	3	3	3	Math 11
IT 103	Problem Solving & Programming	3	3	3	IT 22
Hum 11	Intro. to Humanities	3		3	
Phys 11	General Physics	3	3	4	Math 22
Engl 24	Writing the Scientific Paper	3		3	Engl 12
PhyEd 13	Team Sports	2	(2)		
			Total Units	**19**	

SECOND YEAR, *Second Semester*

Course No.	Descriptive Title	Lec	Lab	Units	Pre-requisite
IT 111	Presentation Skills in IT	2	3	3	Engl 24, IT 103
IT 112	Data Structures and Algorithms	3	3	3	IT 102, 103
Math 101	Elementary Calculus	3		3	Math 22
Phys 21	College Physics	3	3	3	Phys 11
Spch 11	Speech Communications	3		3	Engl 12
Stat 21	Elementary Statistics	3	3	3	Math 11
Soc Sci 15	Phil. History & Constitution	3		3	
PhyEd 14	Individual-Dual Sports	2	(2)		
			Total Units	**21**	

THIRD YEAR, *First Semester*

Code	Description				Prereq
IT 113	File Org. & Database System	2	3	3	IT 112
IT 122	Computer Architecture	2	3	3	IT 103
IT 133	Object-Oriented Programming	2	3	3	IT 112
IT 134	Accounting	3		3	
IT Elective	Free Elective in IT	2	3	3	
Engl 21	Introduction to Literature	3		3	Engl 12
Fil 11	Sining ng Pakikipagtalastasan at Retorika	2	3		
	Total Units			**21**	

THIRD YEAR, *Second Semester*

Code	Description				Prereq
CS/IT 135	Visual Programming	2	3	3	IT 103
IT 136	Programming Languages	2	3	3	IT 103
IT 138	Intro to Software Engineering	2	3	3	IT 112
IT 139	Intro to Operating Systems	2	3	3	IT 122
IT Elective	Free Elective in IT	3	3	3	
Fil 12	Panitikang Pilipino	3		3	Fil 11
Soc Sci 14	Phil. Social Problems, Land Reform and Taxation	3	3		
	Total Units			**21**	

THIRD YEAR, *Summer*

Code	Description				
IT 195	Practicum	3	3		

FOURTH YEAR, *First Semester*

Code	Description				Prereq
IT 142	System Analysis and Design	2	3	3	IT 112
IT 143	Web Page Design & Dev't.	3	3	3	IT 103
IT 144	Data Comm. & Comp. Network	3	3	3	IT 122
IT Elective	Free Elective in IT	3		3	
Soc Sci 16	Life and works of Rizal	3	3	3	
Ethics 21	Prof. Ethics & Values Education	3		3	
	Total Units			**18**	

FOURTH YEAR, *Second Semester*

Code	Description				Prereq
IT 145	Database Mgt. System	2	3	3	IT 113
IT 147	Systems Resource Management	2	3	3	(Consent of Instructor)
IT Elective	Free Elective in IT	2	3	3	
IT 200	Software Project			6	
	Total Units			**15**	

B. Course Analysis

1. General Education

Course	Description	No. of Units
Language and Humanities		
Eng 11	Communication Skills 1	3
Eng 12	Communication Skills 2	3
Eng 21	Introduction to Literature	3
Eng 24	Writing the Scientific Paper	3
Speech 11	Speech Communication	3
Hum 11	Introduction to Humanities	3
Philo 12	Contemporary Philosophical Thoughts	3
Fil 11	Sining ng Pakikipagtalastasan at Retorika	3
Fil 12	Panitikang Pilipino	3
	Sub-total	27
Mathematics and Natural Sciences		
Math 11	College Algebra	3
Math 22	Plane Trigonometry	3
Math 101	Elementary Calculus	3
Physics 11	General Physics	4
Biology 11	General Biology	4
Chemistry 11	General Chemistry I	4
	Sub-total	21
Social Sciences		
Psych 11	General Psychology	3
Socio 11	General Sociology	3
Soc. Sci.13	Socio Economic System	3
Soc. Sci 14	Phil. Social and Economic Problems, Agrarian Reform and Taxation	3
	Sub-total	12

2. Mandated Courses

Course	Description	No. of Units
Soc Sci, 15	Philippine History & Constitution	3
Soc. Sci. 16	Life & Works of Rizal	3
	Sub-total	6

3. Fundamental Courses

Course	Description	No. of Units
Physics 21	College Physics	3
Stat 21	Elementary Statistics	3
CS/IT 21	Introduction to Computer	3
IT 22	Computer Concepts and Fundamentals	3
Ethics 21	Prof. Ethics & Values Ed.	3
	Sub-total	15

4. Major Subjects /Courses

IT 101	Quality Consciousness, Habits & Processes	3
IT 102	Mathematical Logic & Discrete Structures	3
IT 103	Problem Solving & Programming	3
IT 111	Presentation Skills in IT	3
IT 112	Data Structures and Algorithms	3
IT 113	File Organization & Database Systems	3
IT 122	Computer Organization and Architecture	3
IT 133	Object–Oriented Programming	3
IT 134	Accounting	3
IT 135	Visual Programming	3
IT 136	Programming Languages	3
IT 138	Intro to Software Engineering	3
IT 139	Intro to Operating Systems	3
IT 142	System Analysis and Design	3
IT 143	Web Page Design and Development	3
IT 144	Data Communications and Computer Network	3
IT 145	Database Management Systems I	3
IT 147	Systems Resource Management	3

Sub-total   60

5. Electives   18 units

(Four (4) Courses from what are given below and
others which may be introduced by the school)

IT 148	Management Information System	3
IT 149	Integrated Application Software/Productivity Tools	3
IT 151	Assembly Language Programming	3
IT 152	Database Management Systems II	3
IT 153	Network Administration	3
IT 154	The Internet Services	3

6. Practicum/Internship   9 units

IT 195	Practicum 1	3
IT 200	Software Project	6

SUMMARY OF UNITS

General Education	57
Mandated Courses	6
Fundamental Courses	15
Major Courses	57
Electives	18
Practicum	9

Grand total   **162**

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C. Descriptive Titles for BSIT

Courses for Adoption (from the Main Campus)

1. General Education

a. Course No.:   **Engl 11**
   Course Title: **Communication Skills 1**
   Description: *Proficiency in speech, reading, composition, and rhetorics*
                    using selected materials in science and humanities.

                    Prerequisite: *none*
                    Credit: 3 units
                                   3 hours a week (lecture)

b. Course No.:   **Engl 12**
   Course Title: **Communication Skills 2**
   Description: *Advance language skills in sentence structure, reading and*
                    comprehension; competencies in composition and
                    expository writing.

                    Prerequisite: *Engl. 11*
                    Credit: 3 units
                                   3 hours a week (lecture)

c. Course No.:   **Engl 21**
   Course Title: **Introduction to Literature**
   Description: *Study on the short story, drama and poetry; their nature,*
                    form and elements.

                    Prerequisite: *Engl. 12*
                    Credit: 3 units
                                   3 hours a week (lecture)

d. Course No.:   **Engl 24**
   Course Title: **Writing the Scientific Paper**
   Description: *Principles involved in preparing and writing the scientific paper.*

                    Prerequisite: *Engl. 12*
                    Credit: 3 units
                                   3 hours a week (lecture)

e. Course No.:   **Speech 11**
   Course Title: **Speech Communication**
   Description: *Principles, elements and purposes; level of human*
                    communication; barriers and breakdowns.

                    Prerequisite: *Engl. 12*
                    Credit: 3 units
                                   3 hours a week (lecture)

f. Course No.:   **Hum 11**
   Course Title: **Introduction to Humanities**
   Description: *Survey of the field of music, arts and literature; principles*
                    underlying these arts.

                    Prerequisite: *none*
                    Credit: 3 units
                                   3 hours a week (lecture)

1	g.	Course No.:	**Philo 12**
2		Course Title:	**Contemporary Philosophical Thoughts**
3		Description:	*A course in the principles of sound reasoning as an*
4			*introduction to an in-depth study of values, their acquisition,*
5			*clarification and development views on contemporary*
6			*issues.*

g. Course No.:   **Philo 12**
   Course Title: **Contemporary Philosophical Thoughts**
   Description: *A course in the principles of sound reasoning as an
                   introduction to an in-depth study of values, their acquisition,
                   clarification and development views on contemporary
                   issues.*

   Prerequisite: *none*
   Credit: 3 units
                   3 hours a week lecture

h. Course No.:   **Fil 11**
   Course Title: **Sining ng Pakikipagtalastasan at Retorika**
   Description: *Pagtalakay sa mga sanaysay (essay), artikulo (articles),
                   maikling kuwento (short story), dula (drama), tula (poem), at
                   iba pang uri ng panitikan bilang lundayan ng mga tuntuning
                   panritorika at mga pagsasanay na lilinang sa apt (4) na
                   kasanayang pangwika: (1) kakayahang bumasa (2)
                   kakayahang umunawa, (3) kakayahang magsalita, at (4)
                   kakayahang sumulat.*

   Prerequisite: *none*
   Credit: 3 units
                   3 hours a week (lecture)

i. Course No.:   **Fil   12**
   Course Title: **Panitikang Pilipino**
   Description: *Pag-aaral ng mga katutubo at naangking anyo ng panitikang
                   Pilipino sa loob ng iba't ibang panahon sa kasaysayan ng
                   kultura ng Pilipinas upang matutuhan ang mga tradisyong
                   bumubuhay sa panitikan ng mga Pilipino at mapahalagahan
                   ang mga ito sa pamamagitan ng pagpapahalaga sa lalong
                   makabuluhang kathang kumakatawan sa mga panahon sa
                   kasaysayan ng panitikan.*

   Prerequisite: *Fil. 11*
   Credit: 3 units
                   3 hours a week (lecture)

j. Course No.:   **Math   11**
   Course Title: **College Algebra**
   Description: *Fundamentals of mathematics; linear and quadratic
                   equations, exponents and radicals; binomial theorem,
                   variation and progression.*

   Prerequisite: *none*
   Credit: 3 units
                   3 hours a week (lecture)

k. Course No.:   **Math   22**
   Course Title: **Plane Trigonometry**
   Description: *Trigonometric functions and identities; solutions of triangles;
                   logarithms and their applications; radian measures, complex
                   number and inverse trigonometric functions.*

   Prerequisite: *Math 11*
   Credit: 3 units
                   3 hours a week (lecture)

	l.	Course No.:	**Physics 11**
		Course Title:	**General Physics**
		Description:	*Fundamental concepts of forces, work and energy: heat and temperature measurements; properties of matter; electricity and magnetism.*
		Prerequisite:	*Math 22*
		Credit:	4 units
			5 hours a week (2 lec, 3 lab)

	m.	Course No.:	**Bio 11**
		Course Title:	**General Biology**
		Description:	*Biological principles and ecology of life; cellular metablosm; general morphology of tissues and organs; heredity.*
		Prerequisite:	*none*
		Credit:	3 units
			5 hours a week (2 lec, 3 lab)

	n.	Course No.:	**Chem 11**
		Course Title:	**General Chemistry I**
		Description:	*Fundamental principles of chemistry; atoms, molecules, mole conept, stoichiometry, solutions and expressions of concentrations and introduction to chemical dynamics.*
		Prerequisite:	*none*
		Credit:	4 units
			6 hours a week (3 lec, 3 lab)

	o.	Course No.:	**Psycho 11**
		Course Title:	**General Psychology**
		Description:	*Principles and facts of human behavior in relation to environment.*
		Prerequisite:	*none*
		Credit:	3 units
			3 hours a week (lecture)

	p.	Course No.:	**Socio 11**
		Course Title:	**General Sociology**
		Description:	*Study of social relationships, institutions and forces; the process of social change.*
		Prerequisite:	*none*
		Credit:	3 units
			3 hours a week (lecture)

	q.	Course No.:	**SocSci 13**
		Course Title:	**Socio Economic System**
		Description:	*Analysis of social and economic systems, producer-consumer relationship within these systems and the impact of policies on resource allocation with emphasis in rural Philippines.*
		Prerequisite:	*none*
		Credit:	3 units
			3 hours a week (lecture)

1	r.	Course No.:	**SocSci 14**
2		Course Title:	**Philippine Social and Economic Problems, Agrarian**
3			**Reform and Taxation**
4		Description:	*Philippine issues and problems of man's relationship to land*
5			*and to the society; Philippine taxation.*

1   r.   Course No.:   **SocSci 14**
2   Course Title: **Philippine Social and Economic Problems, Agrarian**
3   **Reform and Taxation**
4   Description: *Philippine issues and problems of man's relationship to land*
5   *and to the society; Philippine taxation.*
6
7   Prerequisite: none
8   Credit: 3 units
9   6 hours a week (3 lec, 3 lab)
10
11   **2. *Mandated Courses***
12
13   a.   Course No.:   **SocSci 15**
14   Course Title: **Philippine History and Constitution**
15   Description: *Political, socio-economic and cultural development of the*
16   *Philippines; the New Philippine Constitution and other*
17   *instituted laws.*
18
19   Prerequisite: *none*
20   Credit: 3 units
21   3 hours a week (lecture)
22
23   b.   Course No.:   **SocSci 16**
24   Course Title: **Life and Works of Rizal**
25   Description: *A study of the various phase of Rizal's life and his work with*
26   *emphasis on the Noli Me Tangere and El Filibustirismo.*
27
28   Prerequisite: (***Consent of Instructor***)
29   Credit: 3 units
30   3 hours a week, lecture
31
32   **3. *Fundamental Courses***
33
34   a.   Course No.:   **CS/IT 21**
35   Course Title: **Introduction to Computers**
36   Description: *Development of computers, components of a computer*
37   *system, microcomputer operation: word processing,*
38   *electronic spreadsheets, electronic presentation; the internet.*
39
40   Prerequisite: *none*
41   Credit: 3 units
42   5 hours a week (2 lec, 3 lab)
43
44   b.   Course No.:   **Physics 21**
45   Course Title: **College Physics**
46   Description: *Forces, linear and circular motions; properties of matter;*
47   *thermodynamics; electromagnetism; light and sound.*
48
49   Prerequisite: *Physics 11*
50   Credit: 3 units
51   5 hours a week (2 lec, 3 lab)
52
53   c.   Course No.:   **Stat 21**
54   Course Title: **Elementary Statistics**
55   Description: *Basic statistical concepts and measures; frequency*
56   *distribution; probability and sampling test of significance;*
57   *regression and correlation; experimental design and*
58   *analysis of variance*
59
60   Prerequisite: *none*
61   Credit: 3 units
62   5 hours a week (2 lec, 3 lab)

4. Major Courses

a. Course No.: **Math 101**
   Course Title: **Elementary Calculus**
   Description: *Straight lines, functions and graphs; theories of differential and integral calculus and their applications.*

   Prerequisite: *Math 12*
   Credit: 3 units
   3 hours a week (lecture)

b. Course No.: **CS 135/IT 135**
   Course Title: **Visual Programming**
   Description: *Concepts of event driven programming; program design and flow; control arrays, procedures, functions and forms; working with files and graphics, interacting with user and system, debugging a Visual application, Active X Data Objects (ADO) and database access from Visual applications.*

   Prerequisite: *IT 103* (Problem Solving and Programming)
   Credit: 3 units
   5 hours a week (2 lec, 3 lab)

Courses for Institution

1. Fundamental Courses

a. Course No.: **Ethics 21**
   Course Title: **Professional Ethics and Values Education**
   Description: *Introduction to ethics in the conduct of business and its application to the field of information technology.*

   Prerequisite: *none*
   Credit: 3 units
   3 hours a week, 3 lec.

   Rationale: Acquaint the learners with the role expectations and obligations of the individual essential to the formation of ethical principles and its application to life as well as the moral values expected of information technology professionals.

2. Major Courses

a. Course No.: **IT 22**
   Course Title: **Computer Concepts & Fundamentals**
   Description: *Introduction to the major areas of computer technology, number systems, computer theory, organization and architecture, problem solving techniques; fundamental of logic formulation and introduction to computer programming.*

   Prerequisite: *IT 21*
   Credit: 3 units
   5 hours a week (2 lec, 3 lab)

   Rationale: This course presents the introductory knowledge on how computer work and on how computers can be used to solve problems. It provides the foundation from which higher subjects are based.

b.   Course No. :   **IT 101**
    Course Title: **Quality Consciousness, Habits & Processes**
    Description :   *Quality topics on work patterns, information management processes, and institutional business processes.*

    Prerequisite: *IT 22*
    Credit: 3 units
       3 hours a week (lecture)

    Rationale: This course intends to make students aware of the processes and information of internationally accepted standards and guidelines such as ISO 9000, Malcolm Baldridge, Software Engineering Institute, etc. Practical applications and case studies are also included.

c.   Course No.:   **IT 102**
    Course Title: **Mathematical Logic and Discrete Structures**
    Description: *Principles of logic, set theory, counting techniques, functions and relations, combinatorics and graph theory.*

    Prerequisite: *Math 11* (College Algebra)
    Credit: 3 units
       3 hours a week (lecture)

    Rationale: This course is meant to teach students to distinguish correct from incorrect arguments, construct truth tables, and formal proofs to test the validity of an argument. This will introduce fundamental tools, topics and concepts of discrete mathematics needed to study information technology. It would emphasize proof techniques and problem solving strategies.

d.   Course No.:   **IT 103**
    Course Title: **Problem Solving and Programming**
    Description: *Fundamental programming principles, analysis and debugging of programs, top down design, program verification and quality assurance, and program documentation.*

    Prerequisite: *IT 22* (Computer Concepts and Fundamentals)
    Credit: 3 units
       5 hours a week (2 lec, 3 lab)

    Rationale: This course will discuss the principles and elements of programming using specific programming language.

e.   Course No.:   **IT 111**
    Course Title: **Presentation Skills in IT**
    Description: *Analysis and preparation of different types of written communications for computer professionals.*

    Prerequisites: *Eng 24* (Writing the Scientific Paper)
       IT 103 (Problem Solving and Programming)
    Credit: 3 units
       5 hours a week (2 lec, 3 lab)

		Rationale:	This will train students in the preparation of technical and business presentations using popular presentation/ graphic software and multimedia technology.

f. Course No.: **IT 112**
  Course Title: **Data Structures and Algorithms**
  Description: *Abstract data types and implementation of data structures, arrays, stacks, queues, linked lists, mappings and trees. Algorithms for creating data structures, searching and sorting techniques.*

  Prerequisite: *IT 102* (Math Logic and Discrete Structures)
         IT 103 (Problem Solving and Programming)
  Credit: 3 units
      5 hours a week (2 lec, 3 lab)

  Rationale: This course covers concepts of abstract data structures used in problem solving and some algorithms used in problem solving.

g. Course No.: **IT 113**
  Course Title: **File Organization and Database System**
  Description: *Data modeling concepts and methods transforming the data model into a database, data definition and manipulation language, data security, integrity synchronization; protection and recovery, principal database systems and query languages.*

  Prerequisite: *IT 112* (Data Structure and Algorithms)
  Credit: 3 units
      5 hours a week (2 lec, 3 lab)

  Rationale: Students will be provided with the basic concepts of database, relational databases, query languages and schema design.

h. Course No.: **IT 122**
  Course Title: **Computer Organization and Architecture**
  Description: *Data representation and computer arithmetic, logic circuit functions and equations (Boolean Algebra), analysis of combinatorial and sequential circuits, flip-flops and memory circuits, basic computer structure and the SAP-7 architecture.*

  Prerequisite: *IT 102* (Math Logic and Discrete Structures)
  Credit: 3 units
      3 hours a week (lecture)

  Rationale: This course introduces the students to digital hardware as well as the basic memory building blocks and memory management. They will also learn the basic computer organization and its architecture in (SAP-7).

i. Course No. : **IT 133**
  Course Title: **Object-Oriented Programming**
  Description: *Object – oriented programming, analysis and design.*

  Prerequisite: *IT 103* (Computer Programming)
         IT 112 (Data Structures)
  Credit: 3 units
      5 hours a week (2 lec, 3 lab)

Rationale: It introduces the fundamental concepts, methodology and applications of object-oriented programming including fundamental abstraction, modularity, encapsulation and hierarchy.

j. Course No. : **IT 134**
   Course Title: **Accounting**
   Description: *Basic accounting principles and procedures.*

   Prerequisite: *SocSci 13* (Socio-Economic Systems)
   Credit: 3 units
   3 hours a week (lecture)

   Rationale: It introduces the student to the basic accounting principles, presentation of financial statements and depreciation using accounting software.

k. Course No. : **IT 136**
   Course Title: **Programming Languages**
   Description: *Theory and implementation of high-level programming languages, syntax and translation language definition structures, elementary and structured data types, abstraction mechanisms, sequence and data controls, and run time considerations.*

   Prerequisite: *IT 103* (Computer Programming)
   IT 112 (Data Structures)
   Credit: 3 units
   5 hours a week (2 lec, 3 lab)

   Rationale: The course is a comparative study of different high-level languages, their construct, data structures, control and iteration and their implementation. This will give the students the opportunity to examine and implement different programming languages.

l. Course No. : **IT 138**
   Course Title: **Intro to Software Engineering**
   Description: *Software development process, requirement analysis, specification, designs abstraction, programming style, testing maintenance and software project management.*

   Prerequisite: *IT 103* (Computer Programming)
   IT 112 (Data Structures)
   Credit: 3 units
   5 hours a week (2 lec, 3 lab)

   Rationale: The students will learn and gain practical experience with software engineering principles and techniques centered on a team project in which a software development process is carried through all the stages of the software life cycle. Emphasis is place on designing and developing maintainable software.

m.	Course No.:	**IT 139**	
	Course Title:	**Introduction to Operating Systems**	
	Description:	*Evolution of operating systems and their main features; fundamental concepts that govern the design of modern computer operating systems; features of current operating systems.*	
		Prerequisite:	*IT 22* (Computer Concepts and Fundamentals)
		Credit:	3 units
			5 hours a week (2 lec, 3 lab)
		Rationale:	This course will provide students an understanding of the design and analysis of operating systems, convenient and efficient interface between user programs and hardware including the sharing of resources and the provision of common services to different programs.
n.	Course No. :	**IT 142**	
	Course Title:	**System Analysis and Design**	
	Description:	*Programming, implementation, maintenance and documentation.*	
		Prerequisite:	*IT 113* (File Organization and Database System)
		Credit:	3 units
			5 hours a week (2 lec, 3 lab)
		Rationale:	This course will provide the students the knowledge and skills of the theoretical and applied aspects of systems analysis and will allow the students to experience analyzing and designing a "line" system.
o.	Course No.:	**IT 143**	
	Course Title:	**Web Page Design and Development**	
	Description:	*Designing and developing a web page using existing software.*	
		Prerequisite:	*IT 103* (Problem Solving and Programming)
		Credit:	3 units
			5 hours a week (2 lec, 3 lab)
		Rationale:	The course will provide the students with the basic skills that are needed in languages that are used to develop and maintain Websites.
p.	Course No.:	**IT 144**	
	Course Title:	**Data Communications and Computer Network**	
	Description:	*Data communication fundamentals, asynchronous and synchronous communication, error detection and correction, file transfer/ architecture, ad protocol, TCP/IP suite; ISDN network management and network programming.*	
		Prerequisite:	*IT 122* (Computer Organization & Architecture)
			IT 139 (Introduction to Operating Systems)
		Credit:	3 units
			5 hours a week (2 lec, 3 lab)

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Rationale: This course introduces the students to the fundamentals of data communication and computer networking including the architecture, design, terminal handling, virtual circuits and protocols.

q. Course No. : **IT 145**
   Course Title: **Database Management Systems I**
   Description: *Different architecture of the relational, hierarchical and network models including the design of databases, analysis of data and the different management issues of security, integrity, concurrency control and recovery.*

   Prerequisite: *IT 113* (File Organization and Database System)
   Credit: 3 units
   5 hours a week (2 lec, 3 lab)

   Rationale: This course provides the students the accesses to various databases. The students will also be exposed to several commercial database systems.

r. Course No. : **IT 147**
   Course Title: **Systems Resource Management**
   Description: *Computer system resources as tools for productivity in the business environment.*

   Prerequisite: *(Consent of Instructor)*
   Credit: 3 units
   5 hours a week, 2 lec, 3 lab

   Rationale: This would train students in planning operating and maintaining computer system resources for productivity in the business world.

s. Course No.: **IT 148**
   Course Title: **Management Information Systems**
   Description: *Strategic and decision support systems.*

   Prerequisite: *IT 142* (Systems Analysis and Design)
   Credit: 3 units
   5 hours a week (2 lec, 3 lab)

   Rationale: The course will provide the students the various resource management principles and support systems in information technology.

t. Course No.: **IT 149**
   Course Title: **Integrated Application Software/Productivity Tools**
   Description: *Theoretical and practical applications of current productivity software.*

   Prerequisite: *IT 22* (Computer Concepts and Fundamentals)
   Credit: 3 units
   5 hours a week (2 lec, 3 lab)

   Rationale: This course introduces the students to the new productivity software tools such as word processors, spreadsheets,

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presentation/graphic software, project management programs, accounting programs and others.

u. Course No. : **IT 151**
   Course Title: **Assembly Language Programming**
   Description: *Introduction to instructional sets and high level language interfaces using Intel microprocessors.*

   Prerequisite: *IT 112* (Data Structures and Algorithms)
   Credit: 3 units
   5 hours a week (2 lec, 3 lab)

   Rationale: This course introduces the students to the details of assembly language programming using high level language interfaces to assembly language interrupts, ROM, BIOS, DOS, and TSR programs.

v. Course No. : **IT 152**
   Course Title: **Database Management Systems II**
   Description: *Implementation and relational data manipulation.*

   Prerequisite: IT 145 (Database Management Systems I)
   Credit: 3 units
   5 hours a week (2 lec, 3 lab)

   Rationale: This course introduces students to structured query languages (SQL) and to the creation of database tables, forms, queries and reports.

w. Course No. : **IT 153**
   Course Title: **Network Administration**
   Description: *Administration and maintenance of computer networks.*

   Prerequisite: IT 144 (Data Communications and Computer Networks)
   Credit: 3 units
   5 hours a week (2 lec, 3 lab)

   Rationale: This course introduces students to system administration and trouble-shooting, disaster recovery in a network environment; the rights of privacy in the information age, liability for information products and new crimes from new technologies.

x. Course No. : **IT 154**
   Course Title: **The Internet Services**
   Description: *Internet technology, applications, problems and premises, firewall services, virus tracking and protection.*

   Prerequisite: IT 22
   Credit: 3 units
   5 hours a week (2 lec, 3 lab)

   Rationale: This course exposes the students to the information superhighway and enable the students to understand the purpose and structure of the Internet.

VII. EXISTING STAFF

A. Core Staff	Degree & School Graduated	Courses Taught
1. Carocel A. Galler	Bachelor of Science in Information and Computer Science (BSICS) – University of Cebu	IT 101,103,111, 122,138,200,195 142,143,144, 145
2. Mildred A. Centino	Bachelor of Science in Information and Computer Science (BSICS) – University of Cebu	IT 151, 147, 152 102,122,148
3. Jackelyn R. Suson	Bachelor of Science in Computer Science – Southwestern University	IT 136,112,113, 153 139,133,135

B. Affiliate Staff

1. Ralin C. Alberca	Bachelor of Science in Biology – University of San Jose –Recoletos (6 months training in Computer - TESDA Marikina City & Netshift Cebu City)	IT 21,22,Bio 11
2. Ma. Epifania G. Tudtud	Bachelor of Science in Applied Mathematics– UP at Los Baños; Master of Education – Mathematics - LSU	IT 21,22,111,113, IT 143, 145
3. Daniel M. Tudtud, Jr.	Bachelor of Science in Agribusiness – UP at Los Baños; Master of Management (Agribusiness) UP at Los Baños	IT 21,22,134
4. Ma. Luisa E. Diputado	Bachelor of Science in Mathematics – UP Baguio; Master of Comp. Science UP Baguio	IT 149, 151, 154

VIII.   **EXISITING FACILITIES**

A. **Rooms**

(1) computer lecture room
(1) computer laboratory room (air –conditioned)

B. **Laboratory Facilities**

(25) Units Intel Pentium 4 Workstation Computers
- Pentium Motherboard with video, Sound and LAN
- 128 MB RAM, 1.44 MB FDD, 20 GBIDE Hard Disk, 14 inches Color Monitor
- Windows PS/2 Keyboard, PS/2 Mouse with pad

(1) Unit Intel Pentium 4 File Server
- Pentium 4 Motherboard with Video, Sound and LAN
- 128 MB RAM, 1.44 MB floppy Disk Drive
- 2 X 40 GB Seagate Barracuda IDE HD, 14 inches color Monitor
- Windows PS/2 Keyboard, PS/2 Mouse with pad, 52 X CD ROM DRIVE
- Amplified Stereo Speaker
- 500 VA UPS with network Interface and Software

(1) Lot Networking Hardware and Peripherals
(1) Unit HP Diskjet 845C Color Printer (Networked)
(1) Unit Epson Fx – 1170 (132 Col.) Dot Matrix printer (Networked)
(2) Units 1.5 HP Window type Air Conditioner
(1) Lot Protection Equipment for computers and peripherals
(1) Unit Panasonic Print out Board
(1) Set Fujitsu Computer (Branded)
(1) Unit Flat Bed Scanner
(1) Unit Digital Camera

C. **Proposed**

1. (1) Unit In-Focus Multi-Media Projector
2. Installation of Internet Package
3. Installation of Telephone lines
4. (1) Unit TV Set