

# Republic of the Philippines

### BATANGAS STATE UNIVERSITY



Pablo Borbon Main II, Batangas City, Philippines 4200

# COLLEGE OF INFORMATICS AND COMPUTING SCIENCES

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#### **CURRICULUM**

## **Master of Science in Information Technology (MSIT)**

Academic Year 2019-2020 Reference CMOs: CMO No. 07, s. 2010

#### **Curriculum Description**

Designed to broaden and upgrade the knowledge and skills of IT practitioners. The program aims to equip the students with the concepts and technologies that will prepare and enable them for the industrial practice of systems integration, systems administration, systems planning, systems implementation and other design and operation of IT infrastructure.

The MSIT curriculum is based from the Policies and Standards (PS) for the graduate program of the Information Technology Education issued by the Commission on Higher Education (CHED) and is benchmarked from the curriculum of leading international academic institutions offering this program.

#### **Program Objectives**

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

- 1. Engage in professional development or post-graduate education to pursue flexible career paths adapting to innovative technological changes in computer science and related fields;
- 2. Demonstrate professionalism and a sense of societal and ethical responsibility in computer science practice, development and in all their endeavors; and
- 3. Articulate their expertise in making technical contributions to design, develop, and solve problems in their practice of computer science which meet the desired needs of the society.

#### **Program Outcomes**

- 1. Ability to apply information technology principles and practices.
- 2. Ability to apply suitable software engineering principles and practices to develop and maintain stable, secure, scalable, and maintainable software.
- 3. Ability to produce effective solutions to complex information technology problems.
- 4. Ability to recommend appropriate information technology solutions based on organizational needs and an evaluation of alternatives.
- 5. Ability to identify and discuss professional, individual, organizational, societal, and regulatory implications of information systems and technology.
- 6. Ability to select technologies, policies, and procedures to assure the confidentiality, integrity, and availability of information and IT systems.

## **Curriculum Components**

Courses	Units	Total
A. Core Courses		18 units
Computer Architecture and Operating Systems	3	
Advanced Database Management Systems	3	
Programming Languages and Data Structures and Analysis	3	
Advanced Concepts in Software Engineering	3	
Computer Network Technologies	3	
Methods of Research with Statistics	3	
B. Specialization Courses		12 units
Systems Analysis and Logical Design	3	
Object-oriented Software Development	3	
Computer and Network Security	3	
Multimedia System Design and Development	3	
C. Elective Courses		6 units
E Learning and Related Technology	3	
E Commerce Technology	3	
XML and Web Services Programming	3	
Knowledge Engineering and Expert Systems	3	

D. Capstone Project		6 units
Seminar in Thesis Writing in IT	3	
Thesis Writing in IT	3	

SUMMARY				
Courses	Number of Units			
Core Courses	18			
Specialization Courses	12			
Elective Courses	6			
Capstone Project	6			
TOTAL	42			

# PROGRAM OF STUDY

Tright   Code   Course Title   Units   Lec   Lab   Prerequisite		FIRST YEAR				
Tr 501		FIRST SEMESTER	_			
Tr 502			Units	Lec	Lab	Prerequisite
Tr 503		Computer Architecture and Operating Systems	_		-	-
TOTAL   9   9   5   5	IT 502	Č ,	3	3	-	-
Analysis	IT 502	Programming Languages and Data Structures and				
SECOND SEMESTER	11 303	Analysis			-	1
Code         Course Title         Units         Lec         Lab         Prerequisite           IT 504         Advanced Concepts in Software Engineering         3         3         -         -           IT 507         Systems Analysis and Logical Design         3         3         -         -           IT 508         Object-oriented Software Development         3         3         -         -           SECOND YEAR           FIRST SEMESTER           Code         Course Title         Units         Lec         Lab         Prerequisite           IT 510         Computer and Network Security         3         3         -         -         -           IT 510         Multimedia System Design and Development         3         3         -         -           Elective Course 1         3         3         -         -           SECOND SEMESTER           Code         Course Title         Units         Lec         Lab         Prerequisite           IT 505         Computer Network Technologies         3         3         -         -           RES 501         Methods of Research and Statistics         3         3         -		TOTAL	9	9	-	
Tr 504		SECOND SEMESTER				
Trigon   Systems Analysis and Logical Design   3   3   3   3   5   5     Trigon   Trigon	Code	Course Title	Units	Lec	Lab	Prerequisite
Tr 507   Systems Analysis and Logical Design   3   3   3   -   -     Tr 508   Object-oriented Software Development   3   3   3   -       TOTAL   9   9   -     SECOND YEAR   FIRST SEMESTER	IT 504	Advanced Concepts in Software Engineering	3	3	-	-
TOTAL   9   9   -	IT 507		3	3	-	-
TOTAL   9   9   -	IT 508	Object-oriented Software Development	3	3	-	-
Time			9	9	-	
Code         Course Title         Units         Lec         Lab         Prerequisite           IT 510         Computer and Network Security         3         3         -         -           IT 511         Multimedia System Design and Development         3         3         -         -           Elective Course I         3         3         -         -           SECOND SEMESTER           Code         Course Title         Units         Lec         Lab         Prerequisite           IT 505         Computer Network Technologies         3         3         -         -         -           RES 501         Methods of Research and Statistics         3         3         -         -         -           Elective Course 2         3         3         -         -         -           THIRD YEAR           THIRD YEAR           FIRST SEMESTER           Code         Course Title         Units         Lec         Lab         Prerequisite           Thesis 1         Seminar in Thesis Writing in IT         3         3         -         -           SECOND SEMESTER           Code         Course Title </th <th></th> <th>SECOND YEAR</th> <th></th> <th>l .</th> <th></th> <th></th>		SECOND YEAR		l .		
Code         Course Title         Units         Lec         Lab         Prerequisite           IT 510         Computer and Network Security         3         3         -         -           IT 511         Multimedia System Design and Development         3         3         -         -           Elective Course I         3         3         -         -           SECOND SEMESTER           Code         Course Title         Units         Lec         Lab         Prerequisite           IT 505         Computer Network Technologies         3         3         -         -         -           RES 501         Methods of Research and Statistics         3         3         -         -         -           Elective Course 2         3         3         -         -         -           THIRD YEAR           THIRD YEAR           FIRST SEMESTER           Code         Course Title         Units         Lec         Lab         Prerequisite           Thesis 1         Seminar in Thesis Writing in IT         3         3         -         -           SECOND SEMESTER           Code         Course Title </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
Tr 510	Code	Course Title	Units	Lec	Lab	Prerequisite
T 511   Multimedia System Design and Development   3   3   3   -   -	IT 510	Computer and Network Security	3	3	-	-
Elective Course 1	IT 511		3	3	-	-
SECOND SEMESTER   Code   Course Title   Units   Lec   Lab   Prerequisite		, ,	3	3	-	-
SECOND SEMESTER           Code         Course Title         Units         Lec         Lab         Prerequisite           IT 505         Computer Network Technologies         3         3         -         -           RES 501         Methods of Research and Statistics         3         3         -         -           Elective Course 2         3         3         -         -           THIRD YEAR           FIRST SEMESTER           Code         Course Title         Units         Lec         Lab         Prerequisite           TOTAL 3 3 3 -           SECOND SEMESTER           Code         Course Title         Units         Lec         Lab         Prerequisite           Thesis 2         Thesis Writing in IT         3         3         -         -		TOTAL	9	9	-	
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T 505   Computer Network Technologies   3   3   -   -       RES 501   Methods of Research and Statistics   3   3   3   -       Elective Course 2   3   3   3   -       TOTAL 9   9   -     THIRD YEAR	Code		1	Lec	Lab	Prerequisite
RES 501         Methods of Research and Statistics         3         3         -         -           Elective Course 2         3         3         -         -           TOTAL 9         9         -           THIRD YEAR           FIRST SEMESTER           Code         Course Title         Units         Lec         Lab         Prerequisite           TOTAL 3         3         -         SECOND SEMESTER           Code         Course Title         Units         Lec         Lab         Prerequisite           Thesis 2         Thesis Writing in IT         3         3         -         -					_	-
Elective Course 2	RES 501	ı Ç	3	3	_	-
THIRD YEAR  FIRST SEMESTER  Code Course Title Units Lec Lab Prerequisite  Thesis 1 Seminar in Thesis Writing in IT 3 3 3 -  SECOND SEMESTER  Code Course Title Units Lec Lab Prerequisite  TOTAL 3 3 3 -  SECOND SEMESTER  Thesis 2 Thesis Writing in IT 3 3 3 -					-	-
THIRD YEAR FIRST SEMESTER  Code Course Title Units Lec Lab Prerequisite  Thesis 1 Seminar in Thesis Writing in IT 3 3 3 -  TOTAL 3 3 3 -  SECOND SEMESTER  Code Course Title Units Lec Lab Prerequisite  Thesis 2 Thesis Writing in IT 3 3 3 -		TOTAL	9	9	-	
FIRST SEMESTERCodeCourse TitleUnitsLecLabPrerequisiteThesis 1Seminar in Thesis Writing in IT33-TOTAL 33-SECOND SEMESTERCodeCourse TitleUnitsLecLabPrerequisiteThesis 2Thesis Writing in IT33-					1	
CodeCourse TitleUnitsLecLabPrerequisiteThesis 1Seminar in Thesis Writing in IT33-TOTAL 33-SECOND SEMESTERCodeCourse TitleUnitsLecLabPrerequisiteThesis 2Thesis Writing in IT33-						
Thesis 1 Seminar in Thesis Writing in IT  TOTAL 3 3 -  SECOND SEMESTER  Code Course Title Units Lec Lab Prerequisite  Thesis 2 Thesis Writing in IT 3 3 3 -	Code		Units	Lec	Lab	Prerequisite
TOTAL 3 3 -  SECOND SEMESTER  Code Course Title Units Lec Lab Prerequisite Thesis 2 Thesis Writing in IT 3 3 3 -			1		-	2 2 2 2 4 4 4 5 2 5 6
SECOND SEMESTERCodeCourse TitleUnitsLecLabPrerequisiteThesis 2Thesis Writing in IT33-		ĕ	_		_	
CodeCourse TitleUnitsLecLabPrerequisiteThesis 2Thesis Writing in IT33-		=	_			
Thesis 2 Thesis Writing in IT 3 3 -	Code		1	Lec	Lab	Prerequisite
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