



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

PFJ.9

I.9. regularly update respective course syllabi.

Documents attached:

- SYLLABUS 2017-2018



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

Syllabus 2017-2018



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES COLLEGE OF ENGINEERING COMPUTER ENGINEERING DEPARTMENT



Republic of the Philippines
POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
College of Engineering
Department of Computer Engineering

Vision

Clearing the paths while laying new foundations to transform the Polytechnic University of the Philippines into an epistemic community.

Mission

Reflective of the great emphasis being given by the country's leadership aimed at providing appropriate attention to the alleviation of the plight of the poor, the development of citizens, and of the national economy to become globally competitive, the University shall commit its academic resources and manpower to achieve its goals through:

- o Provision of undergraduate and graduate education which meet international standards of quality and excellence;
- o Generation and transmission of knowledge in the broad range of disciplines relevant and responsive to the dynamically changing domestic and international environment;
- o Provision of more equitable access to higher education opportunities to deserving and qualified Filipinos; and
- o Optimization, through efficiency and effectiveness, of social, institutional, and individual returns and benefits derived from the utilization of higher education resources.

Goals

1. Provide quality education through instruction, advance research and extension services.
2. Produce world-class professionals as potential industry leaders and job providers.
3. Develop and produce facilities through the use of adapted technology and indigenous materials.
4. Maintain, upgrade or improve facilities through the applications of engineering technology.

Objectives

1. Strengthen the Bachelor of Science in Computer Engineering program consistent with global trends;
2. Develop the critical thinking and communication skills of students, giving emphasis to research and extension services;
3. Enhance the competencies of students to evaluate, assess, design and operate safe, effective, economically-efficient and environmental friendly computer-based system;
4. create a conducive teaching and learning atmosphere with emphasis to Bachelor of Science in Computer Engineering faculty and students' growth and academic freedom;

(02) 8713 5968 | dcoe_chair@gmail.com
RM322 CEA BLDG. NDC COMPOUND,
ANONAS COR. PUREZA STREETS, STA. MESA, MANILA



ISO 9001:2015 CERTIFIED
CERTIFICATE NUMBER: SCP0004130



**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT**

5. establish network with educational institutions, Industries, GO's and NGO's, local and international, which could serve as:
 - a. Funding sources and/or partners of researches;
 - b. Sources of new technology;
 - c. Centers for faculty and students' exchange programs and on-the-job trainings; and
 - d. Grantees of scholarship/additional facilities.
6. conduct continuously action researches on the needs of laboratory and other facilities that could be locally produced or innovated using local materials and adapted technology
7. equip graduates with appropriate knowledge and technical skills imbued with desirable work attitudes and moral values, through enhanced teaching/learning process by multimedia facilities on top of traditional methods;
8. develop faculty as competent mentors and quality researchers through advanced studies and other facets of continuing professional education

Course Title : OBJECT-ORIENTED PROGRAMMING

Course Code : COEN 3444

Course Credit : 4 units

Pre-Requisite : COEN 3340 (DATA STRUCTURES and ALGORITHM ANALYSIS)

Course Description : This course introduces new techniques and concepts of programming. Java will be use as the programming language and as tool to implement object-oriented programming. Consequently, students will acquaint themselves with new syntax that is used to program Java programs. Object oriented programming as one of the classifications of program mainly introduces the use of objects, methods, variables, abstraction, interface, polymorphism and other object oriented related topics. This course takes as fact that the students have already learned the basic concepts of programming.

Institutional Learning Outcomes	Program Outcomes	Course Objectives
1. Creative and Critical Thinking	Use of contemporary problem solving in the analysis, design, and evaluation of computer and software systems, including system integration and implementation.	After completing the course, the student must be able to:
2. Effective Communication	Communicate effectively with the computing community and with society at large (in local and international scenes) about engineering activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.	✓ Learn the basic syntax and language rule of Java
3. Strong Service Orientation	Share expertise in literacy, productivity, and livelihood technology to the adopted community	✓ Understand the different control structure and their functions in programs
4. Community Engagement		✓ Learn the behavior and concepts of object and classes
5. Adeptness in the Responsible Use of Technology	Use the techniques, skills and modern computer engineering tools necessary for engineering practice.	✓ Understand the use and the significance of encapsulation, polymorphism, inheritance and abstraction
6. Passion to Life-Long Learning	Engage in life-long learning and an understanding of the need to keep current of the developments in the specific field of practice.	
7. High Level of Leadership and Organizational Skills	Knowledge and understanding computer engineering and management principles as a member and a leader in a team, to manage projects and in	



**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT**

	multidisciplinary environment.	✓ . Familiarize themselves with error and exception handling code
8. Sense of Personal and Professional Ethics	Recognition of professional, social, and ethical responsibility	✓ Use the different data structures and collections available in the Java standard library ✓ Learn how to read from input streams and write to output streams ✓ Create custom GUI using the Java Swing API ✓ Understand the concept behind single and multi-threaded applications ✓ Apply the knowledge of object oriented programming in writing Java programs
9. Sense of Nationalism and Global Responsiveness	The broad education necessary to understand the impact of computer engineering solutions in global and societal context.	

COURSE PLAN

Week	Topic	Learning Outcomes	Methodology	Resources	Assessment
Week 1	Class orientation Discussion of course goals, expected outcomes, course policies and grading system Assigning of Groups and Officers	Familiarize student on Outcome-Based Education Orient the student on the course syllabus, grading system and classroom rules	Orientation Review of the syllabus, learning activities and assessment Getting to know activity	Course Syllabus	None
Week 2	Object-Oriented Concepts • Procedural Programming vs. Object-Oriented Programming • Abstract Data Types (ADTs)	Explain the difference between a Procedural Programming and OOP Get familiar with Abstract Data Types Understand the basic concepts of Object Oriented Programming	Lecture/Discussion Program Demonstration Recitation/Board work	http://www.javaFAQ.nu/java-article381.html Maik, D. S.	Quiz Hands-on Activity Recitation



**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT**

	• Object-Oriented Programming Concepts			Java Programming	
Week 3	Java Fundamentals - Anatomy of a Basic Java Program <ul style="list-style-type: none"> • Comments • Primitive Data Types • Expressions and Operators • Reference Types 	Familiarize the Java Language Fundamentals Compile a basic program using Java Syntax	Lecture/Discussion Program Demonstration Recitation/Board work	http://www.javafaq.nu/java-article386.html Malik, D. S. <i>Java Programming</i>	Quiz Hands-on Activity Assignment Recitation
Week 4	Flow Controls <ul style="list-style-type: none"> • Conditional Statements • Looping Statements 	Understand how the various flow control statements could be useful in Java programs. Understand the concepts of conditional statements in Java. Create Java programs to solve problems using various Flow Control statements and conditional statements	Lecture/Discussion Program Demonstration Recitation/Board work	Wu, Thomas C. <i>An Introduction to Object-Oriented Programming.</i>	Quiz Machine Problem Program Tracing Practical Exam
Week 5	Arrays <ul style="list-style-type: none"> • array declaration • memory allocation • array initialization • accessing and storing values in arrays • multidimensional array 	Understand the concepts of array. Learn how to use array in Java. Create Java programs to solve problems using array.	Lecture/Discussion Program Demonstration Recitation/Board work	Skrien, D. <i>Object-Oriented Design Using Java</i>	Quiz Machine Problem Practical Exam Recitation



**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT**

Week 6	Objects and Classes in Java <ul style="list-style-type: none"> • Classes • Access Modifiers • Methods and Attributes • Constructors • Class Methods and Class Variables 	Understand the difference between procedural and object oriented programming. Learn the benefits of OOP. Learn how to define a class. Understand the concepts and significance of UML. Create Java programs to solve problems using array and array functions. Create a UML design of a given program.	Lecture/Discussion Program Demonstration Recitation/Board work	http://www.javafaq.nu/java-article669.html	Quiz Machine Problem Program Tracing Hands-on Activity
Week 7	Declaring Classes <ul style="list-style-type: none"> • Methods • String Manipulations • Encapsulation • Types of Java Methods 	Understand the concepts of declaring classes. Understand the java methods. Learn the concepts of string manipulation in Java. Create Java programs to solve problems that require different types of Java method.	Lecture/Discussion Program Demonstration Recitation/Board work	_http://www.javafaq.nu/java-article664.html	Long Quiz Machine Problem Hands-on Activity Practical Exam
Week 8	Polymorphism and Inheritance <ul style="list-style-type: none"> • Importance of Inheritance • Importance of Polymorphism • Methods overriding and 	Understand the concepts of polymorphism. Learn different way of using inheritance in Java. Create Java programs to solve problems that require polymorphism	Lecture/Discussion Program Demonstration Recitation/Board work	http://www.javafaq.nu/java-article422.html	Machine Problem Practical Exam Hands-on Activity



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

Week 9	Overloading	and inheritance.	MIDTERM EXAMINATION		
Week 10	Exception and Assertion <ul style="list-style-type: none"> • Importance of Exceptions in Java • Customizing a Java Exception • Importance of Assertions in Java programs • Writing Java programs that implements exceptions handling and assertions 	Understand the significance and the concepts of exception in Java. Learn how to create a customized exception. Understand the concepts of using Assertion in Java. Differentiate the Exception and Assertion. Create Java program to solve problems that require handling exceptions and assertion.	Lecture/Discussion Program Demonstration Recitation/Board work	Wu, Thomas C. <i>An Introduction to Object-Oriented Programming,</i> http://www.javafaq.nu/java-article562.html	Short Quiz Machine Problem Practical Exam Assignment
Week 11	Collections Framework <ul style="list-style-type: none"> • Collection • Set • List • Map 	Enumerate the different Collection Frameworks Understand the concepts of collection Frameworks	Lecture/Discussion Program Demonstration Recitation/Board work	Wu, Thomas C. <i>An Introduction to Object-Oriented Programming,</i> http://www.javafaq.nu/java-article673.html	Peer Programming Recitation Practical Exam Quiz
Week 12	Input and Output Streams <ul style="list-style-type: none"> • InputStream/ OutputStream Classes • Reader/Writer Classes • File Handler Classes 	Comprehend the applications of I/O streams with Java Apply the Input and Output Streams with Java	Lecture/Discussion Program Demonstration Recitation/Board work	http://www.javafaq.nu/java-article680.html	Group Work Oral Participation Hands-On Activity Assignment



**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT**

Week 13	GUI Development <ul style="list-style-type: none"> • AWT Graphical Components • Event Handling • Anonymous Classes 	Evaluate the AWT Graphical Components and Event handling Create a Graphical User Interface (GUI)	Lecture/Discussion Program Demonstration Recitation/Board work	http://www.javafaq.nu/java-article672.html Wu, Thomas C. <i>An Introduction to Object-Oriented Programming</i>	Long Quiz Machine Problem Practical Exam
Week 14	Thread <ul style="list-style-type: none"> • Thread Lifecycle • Thread Synchronization • Critical Sections 	Understand the concepts of threading in Java. Create Java program to solve problems that require multi-threading in Java.	Lecture/Discussion Program Demonstration Recitation/Board work	http://www.javafaq.nu/java-article673.html Malik, D. S. <i>Java Programming</i>	Short Quiz Machine Problem Program Tracing
Week 15	Other Java Classes <ul style="list-style-type: none"> • Abstract Class • Interfaces 	Evaluate Classes used in Java Create an Abstract Class and Interfaces	Lecture/Discussion Program Demonstration Recitation/Board work	http://www.javafaq.nu/java-article422.html Malik, D. S. <i>Java Programming</i>	Oral Participation Hands-On Activity Practical Exam
Week 16	APPLICATION PROJECT PRESENTATION	Culminating activity given to the grouped students to test their mastery of the course by developing application programs utilizing all the theories and concepts acquired	Project Presentation System Walk-through Simulation	<i>Application Project Documentation</i> <i>Developed System</i>	Project Deliberation
Week 17	APPLICATION PROJECT PRESENTATION	Culminating activity given to the students to test their mastery of the course by developing application programs utilizing all the theories and concepts acquired	Project Presentation System Walk-through Simulation	<i>Application Project Documentation</i> <i>Developed System</i>	Project Deliberation
Week 18	FINAL EXAMINATION				

(02) 8713 5968 | dcoe_chair@gmail.com
 RM322 CEA BLDG. NDC COMPOUND,
 ANONAS COR. PUREZA STREETS, STA. MESA, MANILA





**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT**


COURSE GRADING SYSTEM:

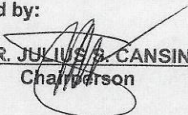
Midterm Grade		Final Grade	
Lecture: 70%		Lecture: 70%	
Midterm Grade		Final Grade	
✓ Class Standing (60%)		✓ Class Standing (60%)	
45% Long Quiz (Average of 3 Quizzes)		40% Long Quiz (Average of 3 Quizzes)	
25% Seatwork, Assignments, Recitations (Class Participation)		25% Seatwork, Assignments, Recitations (Class Participation)	
35% Short Quizzes		35% Short Quizzes	
✓ Midterm Examination (40%)		✓ Final Examination (40%)	
Lab: 30%		Lab: 30%	
Midterm Grade		Final Grade	
✓ Class Standing (60%)		✓ Class Standing (60%)	
40% Laboratory Exercises / Machine Problems		40% Laboratory Exercises / Machine Problems	
35% Project		35% Project	
25% Practical Exam		25% Practical Exam	
Midterm Examination (40%)		✓ Final Examination (40%)	
Passing Mark: 75%		Passing Mark: 75%	




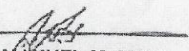
**POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT**

REVISION HISTORY			
Rev. No.	Description of Change	Approved by	Effective Date
1	Format to OBE	Engr. Julius S. Cansino	SY 2017-2018

Prepared by:

DR. ARVIN R. DE LA CRUZ
Name of Faculty

Noted by:

ENGR. JULIUS S. CANSINO
Chairperson

Approved by:

ENGR. GUILLERMO O. BERNABE
Dean


DR. MANUEL M. MUHI
Vice President for Academic Affairs



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

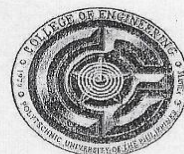
Syllabus 2012-2013



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT



Republic of the Philippines
Polytechnic University of the Philippines
COLLEGE OF ENGINEERING
Sta. Mesa, Manila
Tel. No. 716-78-32 to 45



COURSE SYLLABUS
DATA STRUCTURE AND ALGORITHM ANALYSIS
Revised AY 2011-2012
2nd Semester, AY 2012-2013

VISION

The College of Engineering envisions itself to be a center of excellence in engineering education.

MISSION

The College of Engineering is committed to produce competitive engineers who will serve as catalyst for sustainable growth and development in national and international levels.

GOALS

1. Provide Quality education through instruction, advance research and extension services;
2. Produce worldclass professionals as potential industry leaders and job providers
3. Develop and improve facilities through the use of adapted technology and indigenous materials and;
4. Maintain, upgrade and improve facilities through the adaptation of engineering techniques.

OBJECTIVES

1. Strengthen the CE program consistent with global trends;
2. Develop faculty as competent mentors and quality researchers, through advanced studies and other facets of continuing Professional education;
3. Develop the critical thinking and Communication skills of students, giving emphasis to research and extension services;
4. Equip graduates with appropriate knowledge and technical skills imbued with desirable work attitudes and moral values, through enhanced teaching/learning process by using multimedia facilities on top of traditional methods;
5. Create a conducive teaching and learning atmosphere with emphasis to faculty and students' growth and academic freedom;
6. Establish network with educational institutions, Industries, GO's and NGO's, local and international, which could serve as:
 - a. Funding sources and/or partners of researches,
 - b. Sources of new technology,
 - c. Centers for faculty and students' exchange programs and on-the-job trainings, and
 - d. Grantees of scholarships/ additional facilities and;
7. Continuously conduct action researches on the Needs of laboratory and other facilities that could Be locally produced or innovated using local Materials and adapted technology

Engr. Engr. Noli Sibayan

CE Chair

Engr. Remedios Ado

COE Chair

Engr. Mariano Gallego

ECE Chair

Engr. Cesar Buenavidez

EE Chair

Prof. Adelio Sulit

IE Chair

Engr. Jesus Esperanza

ME Chair

Engr. Antonio Velasco

RnD Coordinator

Engr. Carmelita Durias

ES Chair

Engr. Guillermo Bernabe

College Dean

- I. COURSE CODE: COEN 3054
- II. COURSE TITLE: Data Structures and Algorithms Analysis
- III. PRE-REQUISITE: Computer Fundamentals and Programming
- IV. CREDIT UNITS: 4
- V. COURSE DESCRIPTION:

The course includes linear data structures such as arrays, stacks, queues, linked-lists; nonlinear data structures such as generalized lists, trees, and graphs; operations on these using algorithms such as insertions, deletions, and traversals

VI. OBJECTIVES: At the end of the course the students are expected to:

- 1.) explore a variety of data structures and their implementation in a high-level language.
- 2.) learn relatively sophisticated programming techniques such as recursion, and examine applications.
- 3.) progress to another level of programming sophistication by developing programs to implement the data structure and algorithm.



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

VII. COURSE OUTLINE:

TOPICS	NO. OF HOURS	REFERENCE(S) NO.
I. Classroom Orientation <ul style="list-style-type: none"> • PUP VMGO • CE VMGO • Classroom Policies 	3	1,2
II. Programming Strategies <ul style="list-style-type: none"> • Objects and ADTs • Constructors and destructors • Data Structure • Methods • Pre- and post-conditions • Java conventions • Error Handling 	16	
III. Data Structures <ul style="list-style-type: none"> • Arrays • Lists • Stacks • Recursion • Searching <ul style="list-style-type: none"> • Sequential search • Binary search • Trees • Queues • Sorting 	13	
MIDTERM EXAMINATION	3	
IV. Dynamic Algorithms <ul style="list-style-type: none"> • Fibonacci Numbers • Binomial coefficient • Optimal Binary search Tree • Graphs <ul style="list-style-type: none"> • Minimum spanning tree • Weighted graph • Dijkstra's Algorithm * 	4	1,2
V. Advance Sorting Method	6	
FINAL EXAMINATION	3	

VIII. ACTIVITIES

- Lecture
- Group Workshops/ Discussions
- Computer Hands-on
- Seatwork
- Practical Examination



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT


IX. REFERENCES

1. Lambert, Kenneth and Osborne, Martin. (2012). Fundamentals of java. Cengage Learning Asia Pte. Ltd.
2. Weiss, Mark Allen. (2003). Data structures and algorithm analysis in c++ (2nd ed.). Pearson Education International.


X. GRADING SYSTEM

GRADES	PERCENTAGE	/EQUIVALENT
1.0	100-97	Excellent
1.25	96-94	Excellent
1.5	93-91	Very Good
1.75	90-88	Very Good
2.0	87-85	Good
2.25	84-82	Good
2.5	81-79	Satisfactory
2.75	78-76	Satisfactory
3	75	Passing
4.0	74-65	Conditional
5.0		Failure
Inc		Incomplete
W		Withdrawn


Prepared by:


Pedrito W. Tenerife Jr.
Course Instructor

Noted by:


Remedios G. Ado
Chairperson

Approved by:

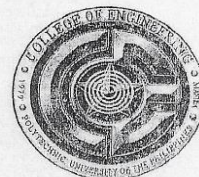

Guillermo O. Bernabe
College Dean



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT



Republic of the Philippines
Polytechnic University of the Philippines
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT
Sta. Mesa, Manila
Tel. No. 713-5968



COURSE SYLLABUS
COMPUTER SYSTEM ARCHITECTURE II
Revised AY 2011-2012
2nd Semester, AY 2012-2013

- I. COURSE CODE: COEN 3414
- II. COURSE TITLE: Computer System Architecture II (Operating System)
- III. PRE-REQUISITE: Computer System Architecture I / Electronics 2
- V. CREDIT UNITS: 4
- VI. COURSE DESCRIPTION:

This course provides an introduction to the concepts, theories and components that serve as the bases for the design of classical and modern operating systems. Topics include operating systems structures, process management, storage management, file systems and distributed system.

- VII. OBJECTIVES: At the end of the course the students are expected to:
 - 1. know the different operating system and its capabilities.
 - 2. describe relationships between system services and application software.
 - 3. compare and contrast different design considerations for major OS components
 - 4. understand the concept of a process, memory management, file and input/output systems, process synchronization and deadlocks.

VISION

The College of Engineering envisions itself to be a center of excellence in engineering education.

MISSION

The College of Engineering is committed to produce competitive engineers who will serve as catalyst for sustainable growth and development in national and international levels.

GOALS

- 1. Provide Quality education through instruction, advance research and extension services;
- 2. Produce worldclass professionals as potential industry leaders and job providers
- 3. Develop and improve facilities through the use of adapted technology and indigenous materials and;
- 4. Maintain, upgrade and improve facilities through the adaptation of engineering techniques.

OBJECTIVES

- 1. Strengthen the CE program consistent with global trends;
- 2. Develop faculty as competent mentors and quality researchers, through advanced studies and other facets of continuing professional education;
- 3. Develop the critical thinking and Communication skills of students, giving emphasis to research and extension services;
- 4. Equip graduates with appropriate knowledge and technical skills imbued with desirable work attitudes and moral values, through enhanced teaching/learning process by using multimedia facilities on top of traditional methods;
- 5. Create a conducive teaching and learning atmosphere with emphasis to faculty and students' growth and academic freedom;
- 6. Establish network with educational institutions, Industries, GO's and NGO's, local and international, which could serve as:
 - a. Funding sources and/or partners of researches,
 - b. Sources of new technology,
 - c. Centers for faculty and students' exchange programs and on-the-job trainings, and
 - d. Grantees of scholarships/ additional facilities and;
- 7. Continuously conduct action researches on the Needs of laboratory and other facilities that could be locally produced or innovated using local Materials and adapted technology

Engr. Engr. Noli Sibayan

CE Chair

Engr. Remedios Ado

COE Chair

Engr. Mariano Gallego

ECE Chair

Engr. Cesar Buenavidez

EE Chair

Prof. Adelio Sulit

IE Chair

Engr. Jesus Esperanza

ME Chair

Engr. Antonio Velasco

RnD Coordinator

Engr. Carmelita Durias

ES Chair

Engr. Guillermo Bernabe

College Dean



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

VIII. COURSE OUTLINE:

TOPICS	NO. OF HOURS	REFERENCE(S) NO.
I. Classroom Orientation <ul style="list-style-type: none"> • PUP VMGO • CE VMGO • Classroom Policies 	3	1,2,3,4
II. Introduction to Operating System <ul style="list-style-type: none"> • Purpose • Goals • Components of a computer system • Historical review of operating system 	2	
III. Computer System Structures <ul style="list-style-type: none"> • Computer system operation • Interrupts • Direct Memory Access structure • Storage structure • Hardware protection • I/O protection • Memory protection • CPU protection 	3	
IV. Process <ul style="list-style-type: none"> • Process concept • Process state • Concurrent process • Scheduling concept 	5	
IV. CPU Scheduling <ul style="list-style-type: none"> • First-Come-First - Served • Shortest Job First • Priority • Round Robin 	12	
MIDTERM EXAMINATION	3	
V. Memory Management <ul style="list-style-type: none"> • Address Binding • Swapping • Multiple Partition 	6	1,2,3,4
VI. Virtual Memory <ul style="list-style-type: none"> • Paging • Segmentation • Page Replacement Algorithm 	6	



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

VII. Mass Storage Structure <ul style="list-style-type: none">• Disk structure• Allocation method• Disk scheduling• Disk management	6	
VIII. Deadlocks <ul style="list-style-type: none">• Prevention• Avoidance• Detection and Recovery	5	
FINAL EXAMINATION	3	

VIII. ACTIVITIES

- Lecture
- Group Workshops/ Discussions
- Computer Hands-on Laboratory
- Seatwork
- Practical Examination
- Written Examinations

IX. REFERENCES

1. Silberchatz, A., Galvin, P.B. & Gagne, G. Operating Systems Concepts (2010). Operating system concepts (8th Ed.). John Wiley and Sons(Asia) Pte. Ltd..
2. Rajkumar, D. & Davis, W. S. (2001). Operating systems a systematic view (5th Ed.). Addison-Wesley Publishing Company, Inc.
3. Stallings, W. (2001). Operating systems (4th Ed.). Prentice-Hall Inc.
4. Tanenbaum, A. S.(2001). Modern operating systems (2nd Ed.). Pearson Education Inc,



POLYTECHNIC UNIVERSITY OF THE PHILIPPINES
COLLEGE OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT


X. GRADING SYSTEM

GRADES	PERCENTAGE	/EQUIVALENT
1.0	100-97	Excellent
1.25	96-94	Excellent
1.5	93-91	Very Good
1.75	90-88	Very Good
2.0	87-85	Good
2.25	84-82	Good
2.5	81-79	Satisfactory
2.75	78-76	Satisfactory
3	75	Passing
4.0	74-65	Conditional
5.0		Failure
Inc		Incomplete
W		Withdrawn


Prepared by:


Pedrito M. Tenerife Jr.
Course Instructor

Noted by:


Remedios G. Ado
Chairperson

Approved by:


Guillermo O. Bernabe
College Dean