UNIVERSITY OF THE PHILIPPINES OPEN UNIVERSITY
CMSC 204: DATA STRUCTURES AND ALGORITHMS
COURSE GUIDE

INTRODUCTION

Course Title: Data Structures and Algorithms
(3 units)

Course Description:
Abstract data types, their implementations and use in algorithm design

Course Objective:
1. Identify the abstract data type most appropriate for a programming problem;
2. Discuss the different implementations of different abstract data types and describe the algorithms associated with each implementation;
3. Understand and implement the different sorting and searching algorithms; and
4. Analyze the running time and memory requirements of a computer program

Faculty in Charge (FIC):
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Please refrain from sending me messages through MyPortal. I would appreciate it if you send me an email instead indicating what class you are from. Thanks!

HOUSE RULES

1. CHECK MYPORTAL AND PARTICIPATE IN ACTIVITIES. A student who has not done any work and has no valid excuse for his/her delinquency shall be given a grade of 5.0 at the end of the term.

2. AVOID LATE SUBMISSIONS. Late submissions will incur deductions per late hour/day. Avoid uploading files or documents at the very last minute, as sometimes either the portal or the Internet connection can be buggy.

3. PRACTICE ACADEMIC INTEGRITY. Any student caught cheating will be given a grade of 0 for the activity in the first offense. For the second offense, you will automatically be given a grade of 5.

4. UPHOLD HONOR AND EXCELLENCE. Simply give your best, your 110% if you can.

5. LEARN. Learn from this course, learn from yourself, learn from me and your classmates. I hope we will all have a very fruitful semester!

SCHEDULE

Dates	Topics	Activities	Deadlines
Jan 26 – Jan 31	Welcome	Self-Introduction	
Feb 1 – Feb 7	Introduction to Data Structures		
Feb 8 – Feb 14	Arrays		
Feb 15 – Feb 21	Linked Lists		
Feb 22 – Feb 28	Stacks and Queues	Exercise 1 Overview	March 18
Mar 1 – Mar 7	Binary Trees		
Mar 8 – Mar 14	Binary Search Trees and AVL Trees		
QUIZ 1 – March 15			
Mar 15 – Mar 21	Heaps	Exercise 2 Overview	April 8
Mar 22 – Mar 28	Hashing		
Mar 29 – Apr 4	Data Structures for Graphs		
Apr 5 – Apr 11	Complexity Analysis	Exercise 3 Overview	April 28
QUIZ 2 – April 12			
Apr 12 – Apr 18	Simplifying Summations and Recurrences		
Apr 19 – Apr 25	*HOLY WEEK*		
Apr 26 – May 3	Analysis of Sorting Algorithms		
QUIZ 3 – MAY 4			
May 4	**Last Day of Classes**		

REQUIREMENTS AND GRADING SYSTEM

Programming Exercises 50% Quizzes 40% Participation 10% **TOTAL – 100%**	95-100 1.00 90-94 1.25 85-89 1.50 80-84 1.75 75-79 2.00 70-74 2.25 65-69 2.50 60-64 2.75 55-59 3.00 0-54 5.00

Programming Assignments
You will be given three (3) assignments, with their deadlines indicated in the ***"Deadlines"*** column. You may of course submit them earlier, in their respective submission bins.

Quizzes
You will have three (3) online quizzes, each good for one hour. You can take it on the scheduled quiz date, from 12 AM to 11:59 PM.

Participation
Your participation and activity log in the online classroom will be monitored and graded. Let's make this course interactive so that we can also learn from each other!

RESOURCES

Course Module:
Albacea, E.A. (2005P). *Data Structures and Algorithms*. Philippines: UP Open University.

Have a wonderful semester!