

CS 0445: Data Structures (Fall 2019)  
Department of Computer Science, University of Pittsburgh  
Course Reference Number: 10136 (CS0445)

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**When:** Fall 2019

**What & Where:**

Lectures: Tuesday & Thursday, 8:00am – 9:15 am @ Benedum Hall G31  
Recitations: Monday 01:00 – 01:50pm @ 6110 Sennott Square  
Monday 5:00 – 5:50pm @ 5502 Sennott Square

**Instructor:** Dr. Constantinos Costa

Email: [costa.c@cs.pitt.edu](mailto:costa.c@cs.pitt.edu)

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Office hours: Tuesday, 09:30 – 10:30 am  
Thursday, 09:30 – 10:30 am

**Course Description:** There are two principle objectives for this course. First, to introduce the fundamental concepts necessary for the design and use of a database. Second, to provide practical experience in applying these concepts using commercial database management systems.

**Prerequisites:** A grade of C or better in CS 0401 or COE 0401 or 0422 or CIST 0150 is required. Working knowledge of Java and familiarity with Unix are assumed.

**Class Web Page:** <http://db.cs.pitt.edu/courses/cs0445/current.term>

All handouts and class notes will be published on the class web page. You are expected to check this page frequently (at least twice a week).

**Textbook:** *Data Structures and Abstractions with Java (5th Edition)*. Frank M. Carrano and Timothy M. Henry, Pearson (c) 2016, 5th Edition (ISBN-10: 0-13-483169-1)

**Note on Email & Communication:** The instructor and TA will periodically post announcements to the course website. It is every student's responsibility to regularly monitor these announcements. The instructor and TA will periodically email enrolled students with announcements. Students must check their Pitt email at least once per day to ensure these announcements are received. When contacting the course staff via email, messages must be addressed to (or CC) both the instructor and the TA. Email subject should be prefaced with the appropriate prefix (e.g., "[CS15XX]").

**Course Grading:**

Homework Assignments	20%	
2 x Quizzes	20%	
Midterm Exam	25%	Oct 22
Final Exam	30%	TBD
Recitation & Class Participation	5%	

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**Grading Policy:** The grade scaling will be computed based on the performance of the undergraduate students only. Graduate students will then be graded on this undergraduate scale.

Attendance and participation in lecture and recitation may be used to decide borderline grades.

Unless explicitly noted otherwise, the work in this course is to be done independently. Discussions with other students on the assignments should be limited to understanding the statement of the problems. Cheating in any way, including giving your work to someone else will result in an F for the course and a report to the appropriate University authority.

**Marks can be appealed up to two weeks after they have been posted, after that no appeals will be considered.**

**Submission & Late Policy:** All written assignments must be submitted electronically and **there is no late submission**. An assignment which is late will be accepted *only* under special circumstances with the instructor's permission prior to its deadline. In such a case, the instructor will determine any penalty in a fair manner.

**Make-up Policy:** Students are expected to take both midterm and final exams. Make-up exams will only be given in the event of a medical situation or an emergency, and only if this is documented and the instructor is notified *immediately if in advance is not possible*. Missing an exam will result in a zero for the exam.

**Students with Disabilities:** If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services, 140 William Pitt Union, 412-648-7890 or 412-383-7355 (TTY) as early as possible in the term.

**Religious Observance:** In order to accommodate the observance of religious holidays, students should inform the instructor of any such days within the first two weeks of the term by email (**Sep 9**).

**Audio/Video Recording - Use of Cell Phones** To ensure the free & open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use. Also, any use of Cell Phones during lectures is disruptive and is not permitted.

**Copyrighted Material** All material provided through this web site is subject to copyright. This applies to class/recitation notes, slides, assignments, solutions, project descriptions, etc.

You are allowed (and expected!) to use all the provided material for personal use. However, you are strictly prohibited from sharing the material with others in general and from posting the material on the Web or other file sharing venues in particular.

**Outline:** Tentative Syllabus

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| 1. What are data structures/Java Recap | 7. Sorting            |
| 2. JAVA Recap & generics               | 8. Hashing            |
| 3. The Efficiency of Algorithms        | 9. Trees              |
| 4. Linked lists & Iterators            | 10. Heaps             |
| 5. Stacks & Queues                     | 11. Graphs            |
| 6. Recursion                           | 12. More Graphs, Sets |