CSL201
Data Structures

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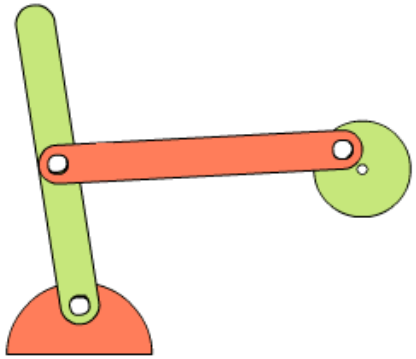
Consulting: by appointment

Teaching Assistants

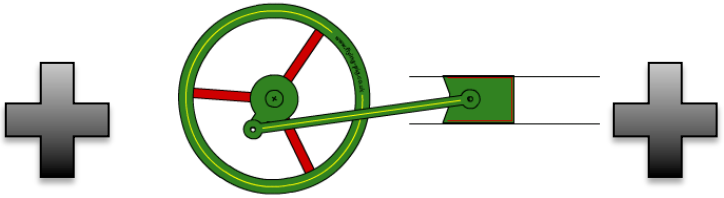
Amit- 2016csz0003@

Why do we study data structures?

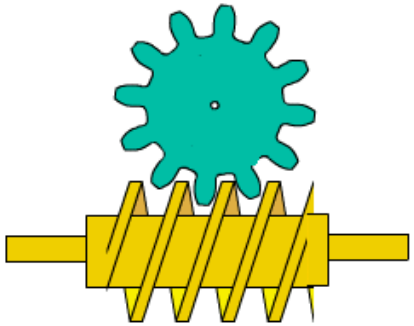
Crank



Piston



Gear

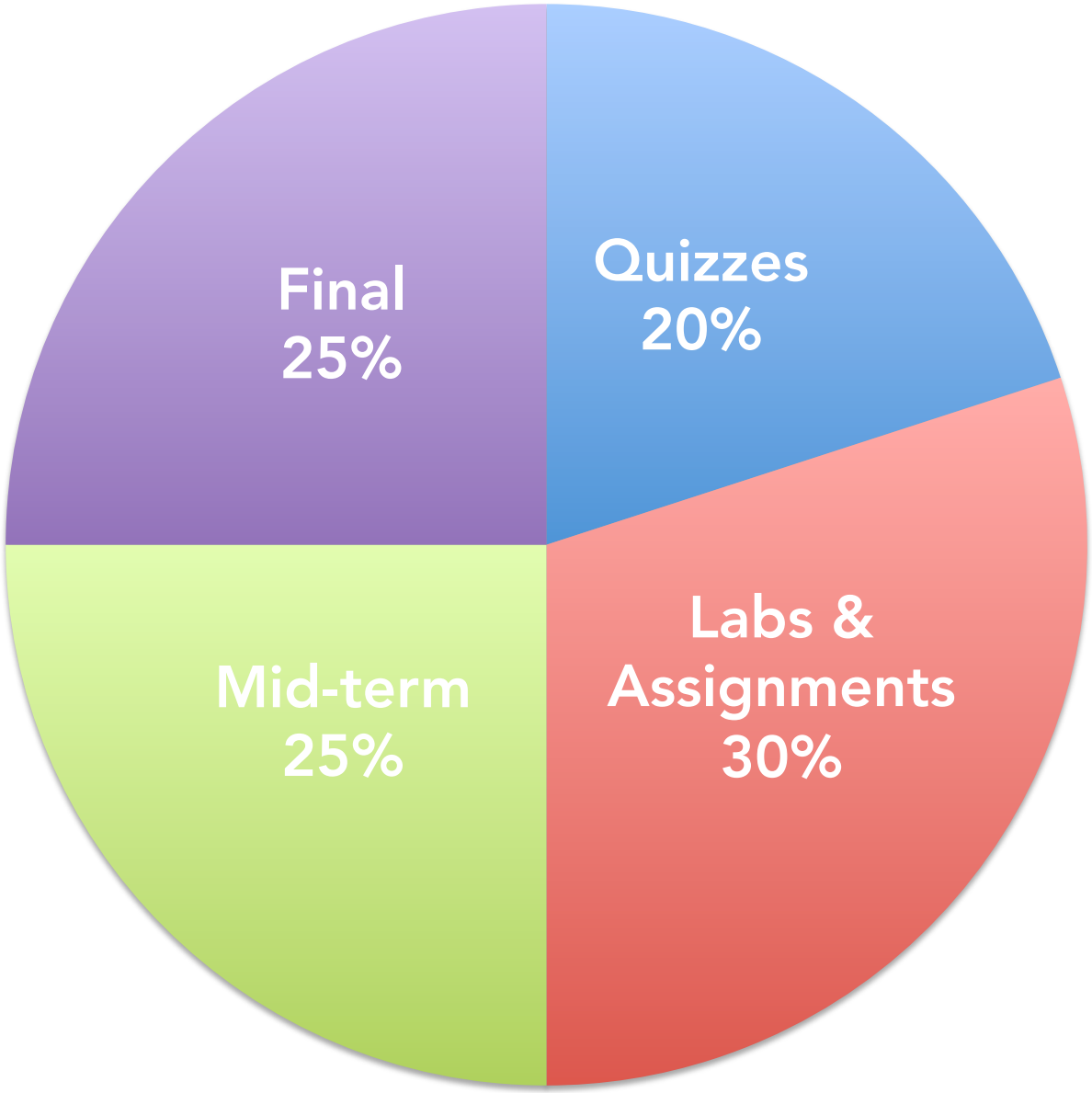


Data structures are the fundamental building blocks of computer science!

Lectures

Wed – 4:45 to 5:35 PM
Thu – 2:00 to 2:50 PM
Fri – 2:55 to 3:45 PM

Pass≥40%



Lab

Fri 9 AM - 12.35 PM

Platform: g++

Assignments

-Use Makefile to compile

-Add documentation

-Code should run on lab 2 machines

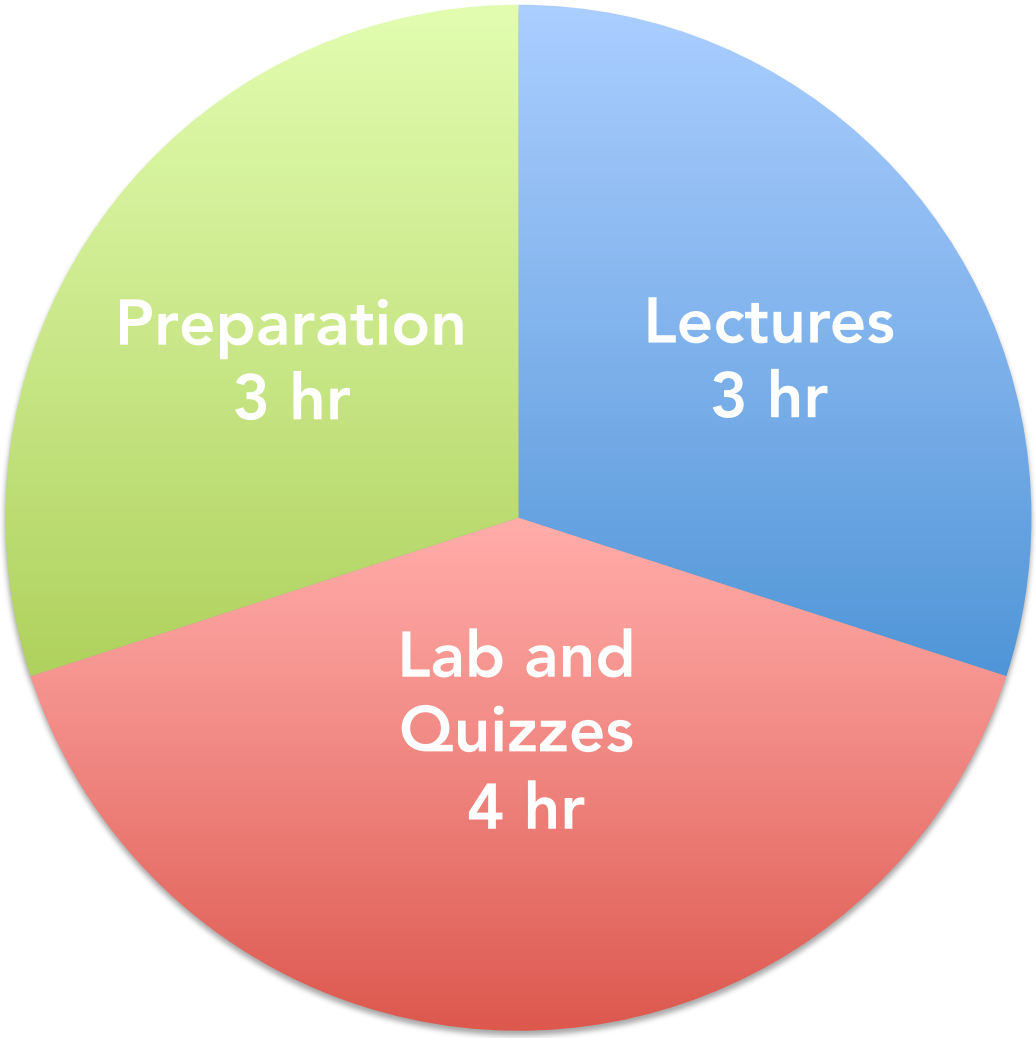
Exams

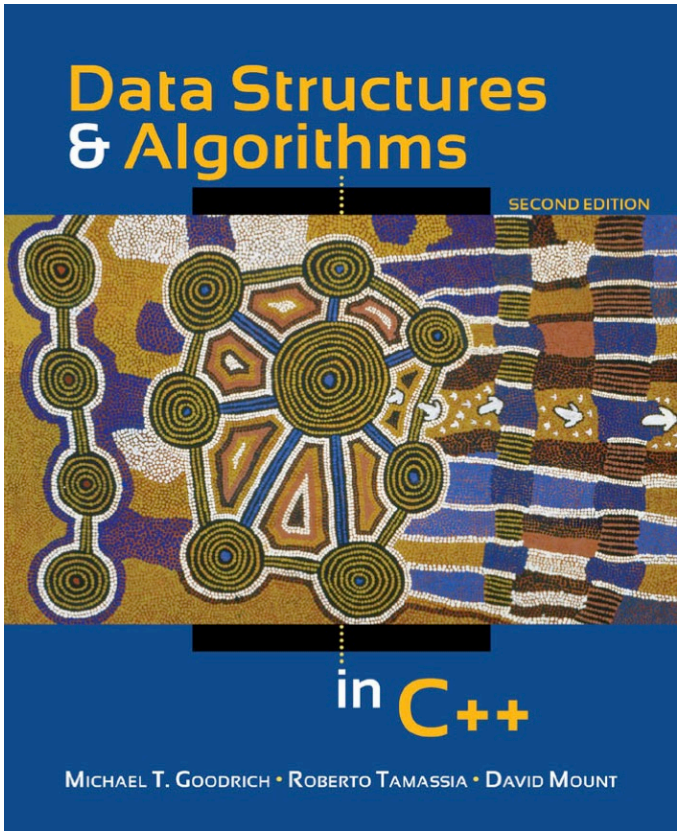
Mid-term – 3rd-9th Oct

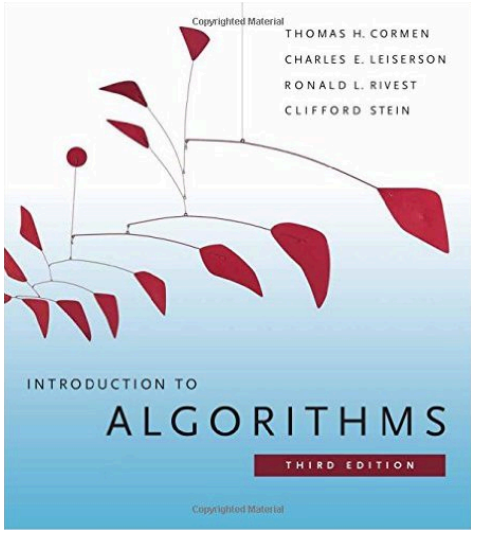
Final – 29th Nov - 8th Dec

Quizzes in alternate weeks!
Friday: 9:30-11 AM
Computer Lab 2

Expected Weekly Workload




Data Structures
& Algorithms
SECOND EDITION
in C++
MICHAEL T. GOODRICH • ROBERTO TAMASSIA • DAVID MOUNT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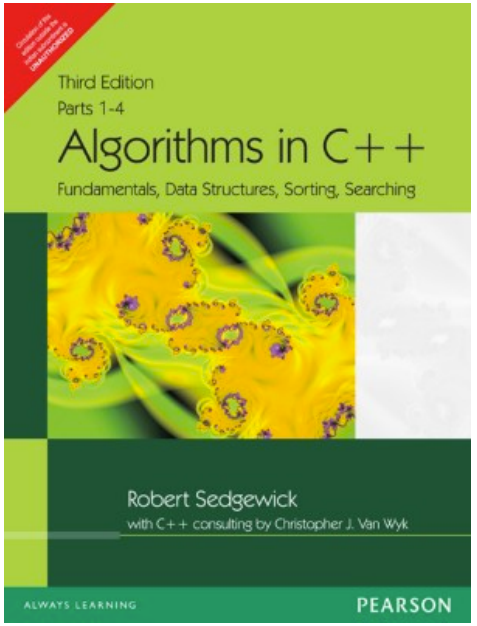
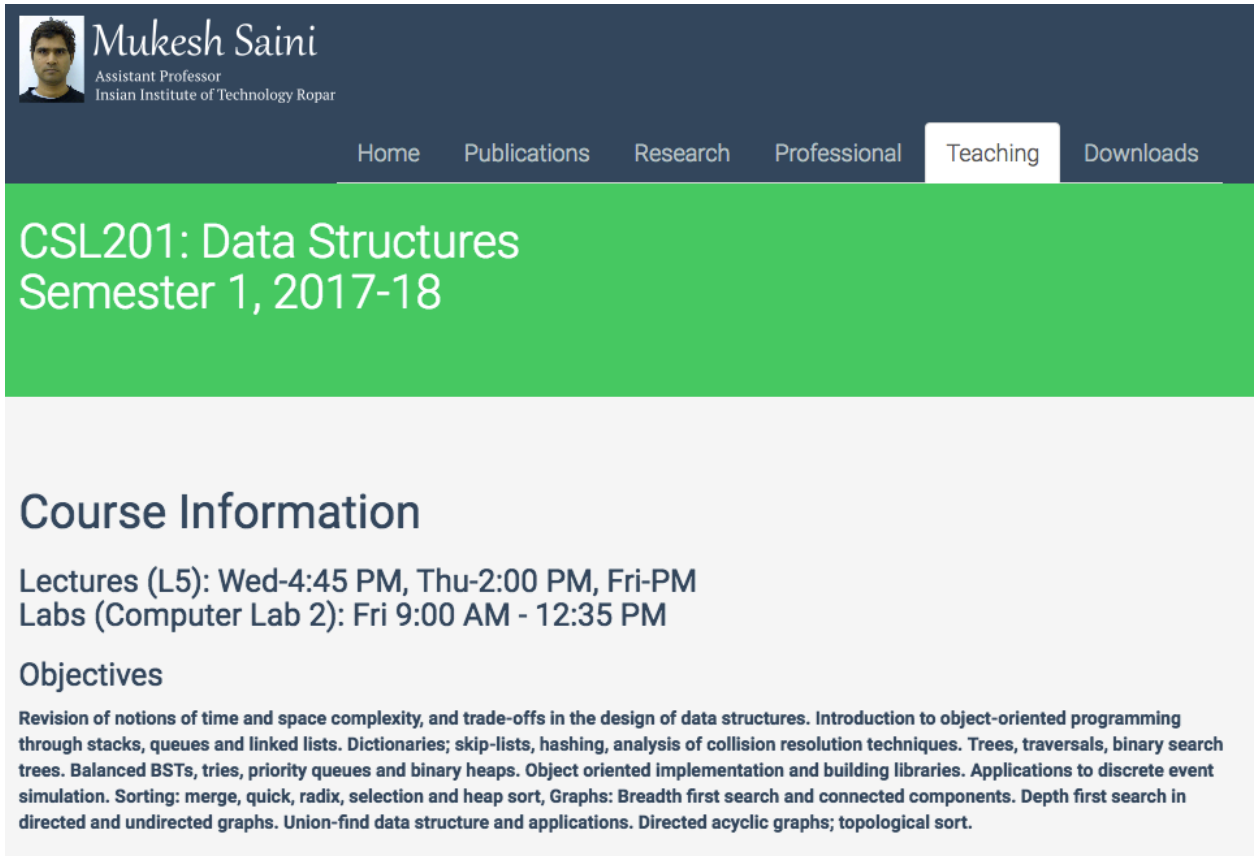

Third Edition
Parts 1-4
Algorithms in C++
Fundamentals, Data Structures, Sorting, Searching
Robert Sedgewick
with C++ consulting by Christopher J. Van Wyk
ALWAYS LEARNING
PEARSON

Course Webpage

http://www.iitrpr.ac.in/mukesh/CSL201-S1-Y1718.html



Prerequisite: Introduction to Computing

Outcomes

-You will be able to tell which data structure is good!

-You will be able to design data structure for a given problem!

Code of Ethics & Professional Responsibility

- Discussions are encouraged
- Submit only original work
- No plagiarism/copying

-slides will be posted online
-students should check the schedule regularly

-take notes in the class

-interact with me and TAs

feedback

Fundamental data structures

- array
- linked list
- string
- stack
- queue
- priority queue
- graph
- tree
- set and dictionary
- map

Algorithm Design Strategies

- Brute force
- Divide and conquer
- Decrease and conquer
- Greedy approach
- Dynamic programming
- Space and time tradeoffs