

COMP 314: Algorithms and Complexity
June 2020 - August 2020
Course plan

Instructor: Rajani Chulyadyo, PhD
Level: CE III / II

Week	Learning Unit	Activities	Due
1	Chapter 1: Introduction to algorithms	<ul style="list-style-type: none">• Introduction• Course overview• Rules and regulations• Course delivery and discussion	
2		<ul style="list-style-type: none">• Course delivery and discussion	
3	Chapter 1: Introduction to algorithms, Chapter 2: Data structures revisited	<ul style="list-style-type: none">• Course delivery and discussion• Lab works 1	
4	Chapter 2: Data structures revisited	<ul style="list-style-type: none">• Course delivery and discussion	Lab 1
5	Chapter 2: Data structures revisited, Chapter 3: Algorithm strategies	<ul style="list-style-type: none">• Course delivery and discussion• Lab works 2• Long assignment 1• Quiz 1 (at the end of Chapter 2)	
6	Chapter 3: Algorithm strategies	<ul style="list-style-type: none">• Course delivery and discussion	Lab 2
7		<ul style="list-style-type: none">• Course delivery and discussion• Lab works 3	Assignment 1

8	Chapter 4: Dynamic programming	<ul style="list-style-type: none"> • Course delivery and discussion 	Lab 3
9		<ul style="list-style-type: none"> • Course delivery and discussion • Lab works 4 • Long assignment 2 	
10	Chapter 5: Graph algorithms	<ul style="list-style-type: none"> • Course delivery and discussion • Quiz 2 	Lab 4
11		<ul style="list-style-type: none"> • Course delivery and discussion • Lab works 5 	Assignment 2
12	Chapter 6: NP-completeness	<ul style="list-style-type: none"> • Course delivery and discussion • Long assignment 3 	Lab 5
13		<ul style="list-style-type: none"> • Revision • Quiz 3 	Assignment 3

Readings

Chapter	Suggested Readings
Chapter 1: Introduction to algorithms	Chapter 1-4, 6-8, Cormen et al., 3rd edition Chapter 1 and 3, Horowitz et al.
Chapter 2: Data structures revisited	Chapter 10- 13, Cormen et al., 3rd edition Chapter 2, Horowitz et al.
Chapter 3: Algorithm strategies	Chapter 4, 16, Cormen et al., 3rd edition Chapter 3,4, 7, 8, Horowitz et al.
Chapter 4: Dynamic programming	Chapter 15, Cormen et al., 3rd edition Chapter 5, Horowitz et al.
Chapter 5: Graph algorithms	Chapter 22-26, Cormen et al., 3rd edition Chapter 6, Horowitz et al.
Chapter 6: NP-completeness	Chapter 34-35, Cormen et al., 3rd edition Chapter 11, Horowitz et al.