COMP 305 (01) ALGORITHMS&COMPLEXITY

Spring 2021

1. Course Information

Instructor:	Deniz Yüret, dyuret@ku.edu.tr
KU Credits:	3.00
ECTS Credits:	6.00
Prerequisite(s):	COMP 202 and ENGR 200
Class Location & Meeting Times:	- Tuesday, Thursday 13:00-14:15
PS (Yes/No):	Yes
DS (Yes/No):	No
Lab (Yes/No):	No
Language of Instruction:	English
Office Hours:	Mo 9:45-10:45, Tu 19:00-20:00, We 10:00-11:00, We 13:30-14:30, Th 11:00-12:00, Th 16:00-17:00 (See course website for Zoom links)

Teaching Assistant(s):

	E-Mail	Phone	Office - Office Hours
•Amir Mohamad Akhlaghi Gharelar	AGHARELAR20@KU.EDU.TR		
•Barış Batuhan Topal	BARISTOPAL20@KU.EDU.TR		
•Çağhan Köksal	CKOKSAL20@KU.EDU.TR		
•Gürkan Soykan	GSOYKAN20@KU.EDU.TR		
•Müge Kural	MUGEKURAL@KU.EDU.TR		

2. Course Description

Advanced topics in algorithms, and their computational complexity. Amortized complexity analysis. Randomized algorithms. Greedy algorithms. Dynamic programming. Linear programming. Advanced graph algorithms. Turing machines and models of computation. NP-completeness reductions.

3. Course Overview

This course assumes that students know how to analyze simple algorithms and data structures from comp202 and basic probabilistic analysis from engr200. It introduces students to the design of computer algorithms, as well as analysis of sophisticated algorithms.

4. Course Learning Outcomes (CLOs):

CLO #	**Upon successful completion of this course, students will be able to**…
1	Analyze the asymptotic performance of algorithms.
2	Write rigorous correctness proofs for algorithms.
3	Demonstrate a familiarity with major algorithms and data structures.
4	Apply important algorithmic design paradigms and methods of analysis.
5	Synthesize efficient algorithms in common engineering design situations.

5. Assessment Methods

Method	Description	Weight %
Oral Exam	Oral Quizzes	50.00
Attendance	In-class Exercises	20.00
Homework	Problem Sets	10.00
Project	Final Project	20.00
	Total:	100.00

6. Instructional Material and Learning Resources

- Introduction to Algorithms, Edition: 3 (ISBN: 9780262033848)
  Author: Cormen, Thomas, et al.
  Publisher: MIT Press (Year: 2009)
  Material Type: Textbook
  Material Status: Required
  Additional Notes: https://mitpress.mit.edu/books/introduction-algorithms
- Active Use of Course Page on Blackboard: No Service Available
- KOLT Tutoring: No Service Available

7. Course Schedule

Meeting Times	Subject

8. Student Code of Conduct and Academic Grievance Procedure

Student Code of Conduct

Statement on Academic Honesty with Emphasis on Plagiarism

Academic Grievance Procedure

9. Course Policies

Students are encouraged to work together as long as NOTHING WRITTEN GETS EXCHANGED. In-class participation and exercises are very important, in-class work will be collected.

10. Other

Please check the course website at http://courses.ku.edu.tr/comp305 for the course schedule and additional information. Please send class related emails to comp305@ku.edu.tr.