Course Information

Course Code  5670441  
Course Section  1  
Course Title  DATA STRUCTURES  
Course Credit  3  
Course ECTS  5.0  

Course Catalog Description  Arrays, stacks, queues, linked lists, trees, hash tables, graphs: Algorithms and efficiency of access. Searching and sorting algorithms.

Prerequisites  Students must complete one of the following sets to take this course.

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<thead>
<tr>
<th>Set</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>1</td>
<td>5710230</td>
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Schedule  
Tuesday, 09:40 - 11:30, EA206  
Thursday, 09:40 - 10:30, EA206

Instructor Information  
Name/Title  Prof. Dr. ŞENAN ECE SCHMIDT  
Office Address  A-402  
Email  eguran@metu.edu.tr  
Personal Website  http://users.metu.edu.tr/eguran/  
Office Phone  210 4405  
Office Hours  None

Course Objectives  
This course primarily aims to acquaint the student with basic data structures frequently used in software engineering and programming practices. Concepts of object-oriented programming, abstract data types, dynamic memory management and algorithm complexity are given. Searching and sorting algorithms are also discussed.

Tentative Weekly Outline  

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
<th>Relevant Reading</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>1</td>
<td>Object-Oriented Programming, Classes</td>
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<tr>
<td>2</td>
<td>Argument passing, references</td>
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<tr>
<td>3</td>
<td>Pointers, arrays</td>
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<tr>
<td>4</td>
<td>Algorithmic Complexity</td>
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<tr>
<td>5</td>
<td>Stacks and Queues</td>
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<tr>
<td>6</td>
<td>Dynamic memory</td>
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<td></td>
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<tr>
<td>7</td>
<td>Linked lists</td>
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<td></td>
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<tr>
<td>8</td>
<td>Trees</td>
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Course Syllabus

Week | Topic | Relevant Reading | Assignments
--- | --- | --- | ---
9 | Graphs |  |  
10 | Sorting |  |  
11 | Hashing |  |  
12 | Computational Complexity |  |  

Course Textbook(s)

Reference books:
(1) Preiss, B.R., Data Structures and Algorithms with Object-Oriented Design Patterns in C++, Wiley, 1999;
(2) Ford&Topp, Data Structures with C++, Prentice-Hall, 1999;

Course Material(s) and Reading(s)

Material(s)
Lecture notes on odtuclass.

Reading(s)
Lecture notes on odtuclass.

Assessment of Student Learning

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Dates or deadlines</th>
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<tbody>
<tr>
<td>Midterm Exam</td>
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<td>Quizes</td>
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<tr>
<td>Final Exam</td>
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<tr>
<td>Programming Assignment I</td>
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<td>Programming assignment II</td>
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<tr>
<td>Programming assignment III</td>
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Course Grading

<table>
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<tr>
<th>Deliverable</th>
<th>Grade Points</th>
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<tbody>
<tr>
<td>Midterm Exam</td>
<td>30</td>
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<tr>
<td>Final Exam</td>
<td>40</td>
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### Course Policies

#### Class Attendance

Class attendance is graded.

#### Late Submission of Assignments

Late submissions of assignments will be penalized according to the following policy:

- 1 day late submission: HW will be evaluated out of 70.
- 2 days late submission: HW will be evaluated out of 50.
- 3 days late submission: HW will be evaluated out of 30.
- 4 or more days late submission: HW will not be evaluated.

It is **NOT** allowed to prepare homeworks as groups. METU honor code is essential.

To **COPY** or **BEING COPIED** will result in grade **ZERO**.

### Make up for Exams and Assignments

Make-ups are to be given to those having medical report approved by METU medical center.

### Final Exam Entrance Conditions

Students who miss all the exams, or who do not submit any HW will be graded as NA.

### Other

- It is not allowed:
  - to use calculators, cell phones or other electronic devices
  - going outside during exams.

### Information for Students with Disabilities

To obtain disability related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the ODTÜ Disability Support Office as soon as possible. If you need any accommodation for this course because of your disabling condition, please contact me. For detailed information, please visit the website of Disability Support Office: [http://engelsiz.metu.edu.tr/](http://engelsiz.metu.edu.tr/)

### Academic Honesty

The METU Honour Code is as follows: "Every member of METU community adopts the following honour code as one of the core principles of academic life and strives to develop an academic environment where continuous adherence to this code is promoted. The members of the METU community are reliable, responsible and honourable people who embrace only the success and recognition they deserve, and act with integrity in their use, evaluation and presentation of facts, data and documents."