

Algorithm Design
Course Code: IVB364AN
Semester: Fall 2018/2019 1.

Course Syllabus
Time: L Friday 9:30-11:00
Location: PTE MIK,L A-205

General Information:

Name of Course:

ALGORITHM DESIGN

Course Code:

IVB364AN

Semester:

1st

Number of Credits:

2

Allotment of Hours per Week:

2 lectures

Evaluation:

Exam (with grade)

Prerequisites:

-

Instructors:

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Introduction, Learning Outcomes

The presentations give an introduction to important methods and techniques of algorithm design.

General Course Description and Main Content:

Brief Syllabus: This lecture based course aims to give computer science engineering students a solid basis in designing algorithms through covering the following topics:

Programming theorems, data structures, array, queue, stack, lists, recursion, tree, graph, hash

Methodology:

The presentations give an introduction to important techniques of designing efficient algorithms.

Schedule:

1. Programming theorems, summation, counting, decision, selection
2. Search, logarithmic search, maximum selection, picking out
3. Classify, intersection, union, sorting
4. Sorting with minimum selection, bubble sorting
5. Data structures, pointers, array, set **Homework1**
6. **Test 1**
7. Record, queue (FIFO), stack
8. Llist, linked list, double linked list, circular lists, list without pointers
9. *Fall break*
10. Llist, linked list, double linked list, circular lists, list without pointers
11. Recursion **Homework2**
12. **Test 2**
13. Trees, binary tree, graphs
14. Hash tables **Homework3**
15. **Test 3**

Correction period: Januar (2019)

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Attendance:

Attending is required all classes, and will impact the grade (max. 10%). Unexcused absences will adversely affect the grade, and in case of absence from more than 30% of the total number of lesson will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness of more than 20 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

Evaluation + Grading

Grading will follow the course structure with the following weight:

1. Class participation, class activity 10 %
2. Homeworks 10 %.
3. Tests 80 %
4. Offered exam grade: over 65 % during the study and correction period.
5. Written exam in the exam period. A minimum of 55% is required to pass the exam.

Grading scale

Numeric Grade:	5	4	3	2	1
Evaluation in points:	87%-100%	75%-86%	63%-74%	51%-62%	0-50%

Students with special needs:

Students with special physical needs and requiring special assistance must first register with the Dean of the Students Office. All reasonable requests to provide an equal learning environment for all students is to be assured.

Required Reading and other Materials will be equivalent to:

PROF. DR. IVÁNYI'S EXCELLENT PRESENTATIONS (CAN BE FOUND ON WITCH SERVER)

JON KLEINBERG, ÉVA TARDOS: ALGORITHM DESIGN, WESLEY, 2006

http://www.cs.sjtu.edu.cn/~jiangli/teaching/CS222/files/materials/Algorithm_Design.pdf