Меѓународен Универзитет Визион - International Vision University
Universiteti Ndërkombëtar Vizion - Uluslararası Vizyon Üniversitesi

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SYLLABUS

COURSE NAME	COURSE CODE	SEMESTER	COURSE LOAD	ECTS
DATA STRUCTURES AND ALGORITHMS	**CEN -2001**	**3**	**210**	**7**

Prerequisite(s)	None

Course Language	Macedonian, Turkish, English
Course Type	Required
Course Level	First Cycle
Course Lecturer	
Course Assistants	
Classroom	
Extra-Curricular Office Hours and Location	

Course Goals	It is aimed to teach the storing information in computer memory and present basic data which is designed for accessing this information.
Program Outcomes	Conception of datum and types of datum, lists, Queues, Stacks, Data compression algorithms, Sorting methods, Searching methods, Hash tables
Course Contents	Learns designing data structures Compare recursive and recursion resolution Know to measure algorithms performance job. Solve problems with the list and linked list data structures Performing more effective writing program with a stack structure. With the queue structure can carry out effective programs on current problems Analyze the performance of the heap tree Search, sort and take advantage of the tree structure for special purposes Know the different applications of binary trees. Know the benefits of balanced and unbalanced tree. RB trees can use the application and problem solving. RB trees can use the application and problem solving. It is aware of the contribution brought by B Wood. B, RB, you can use the application and problem solving AVL tree. Know applications of the hash table. Students may define new data structures.

WEEKLY SUBJECTS AND RELATED PREPARATION STUDIES

Week	Subjects	Related Preparation
1	Fundamental data types, concepts of data analysis and algorithms	Related Chapters of Course Sources
2	The concept of recursion and recursive algorithms	Related Chapters of Course Sources
3	List data structure, static and dynamic arrays	Related Chapters of Course Sources
4	Linked list, linked lists unidirectional, bidirectional lists, circular lists	Related Chapters of Course Sources
5	Stack data structure and applications	Related Chapters of Course Sources
6	Queuing data structures, linear tail circular queue	Related Chapters of Course Sources
7	Mid-term Exam	Related Chapters of Course Sources
8	Priority queues and account tree	Related Chapters of Course Sources
9	Tree of data structure	Related Chapters of Course Sources
10	Binary tree, binary search tree and Expression tree	Related Chapters of Course Sources
11	AVL trees	Related Chapters of Course Sources
12	RB Trees	Related Chapters of Course Sources
13	B Trees	Related Chapters of Course Sources
14	General Wood applications	Related Chapters of Course Sources
15	Final Exam	Related Chapters of Course Sources

ECTS / WORKLOAD TABLE

Presentation / Seminar			
Hours for off-the-classroom study (Pre-study, practice)	14	3	42
Midterm Exam	1	12	12
Final examination	1	14	14
Total Work Load			
ECTS	**6**		

GENERAL PRINCIPLE RELATED WITH COURSE

Dear students,

You need to be included in the flow, please follow the course of learning and using that to achieve our success you deserve, you need to practice every day on topics that are covered by the course. It takes practice reading basic and auxiliary literature that is strictly recommended. You should visit classes course I need to make an effort to visit all the professors' lectures. Your activity on the session will be assessed by your professors and the Battle active participant in the discussions that will take place during the time. Students visiting lectures for all at the end if an additional 15 points.

SOURCES

COMPULSORY LITERATURE		
No	**Name of the book**	**Author's Name, Publishing house, Publication Year**
1	"C/C++ ile Veri Yapıları ve Çözümlü Uygulamalar"	Nejat YUMUŞAK, M. Fatih ADAK, Seçkin yayıncılık, 2014
2		
3	Algorithms and Data Structures	Niklaus Wirth, Hardcover – November, 1985

ADDITIONAL LITERATURE		
No	**Name of the book**	**Author's Name, Publishing house, Publication Year**
1	Veri yapıları ve algoritmalar	Dr.Rifat ÇÖLKESEN, Papatya yayıncılık, 2002.
2		
3		

EVALUATION SYSTEM

Underlying the Assessment Studies	**NUMBER**	**PERCENTAGE OF GRADE**
Attendance/Participation	15	%10
Project / Event	1	%20
Mid-Term Exam	1	%35
Final Exam	1	%35
TOTAL	**17**	**%100**

ETHICAL CODE OF THE UNIVERSITY

In case students are cheating on exams or preparation the same, it is not making reference to the source to be used in studies, as for example in assignments, projects and presentation (plagiarism), in accordance with legislations by Ministry of Education and Science of the Republic of Macedonia and İnternational Vision University, apply relevant disciplinary rules. İnternational Vision University students are expected never attempts in this kind of behavior.