MARMARA UNIVERSITY - FACULTY OF ENGINEERING

2017-2018 Fall

CSE4040 Cloud Computing

COURSE DESCRIPTION FORM

Offering Department	Department of Computer Engineering		Technical Elective
Course Code	CSE4040		
Course Name	Cloud Computing		
Language of Instruction	English		
ECTS	5		
Contact Hours	Theoretical (T): 3	Practice (P): 0	Laboratory(L): 0
Pre-requisites			
Instructor	**Name**		
	E-mail		
Course Materials	**Mandatory**	Architecting the Cloud: Design Decisions for Cloud Computing Service Models (SaaS, PaaS and IaaS), Michael J. Kavis, Wiley 2014.	
	Recommended	Cloud Computing: Concepts, Technology & Architecture, Thomas Erl, Ricardo Puttini, Zaigham Mahmood, Prentice Hall, 2013.	
Course Objectives	The objective of this course is to have comprehensive and deep knowledge about Cloud Computing concepts, technology, architecture and application. The course also introduces concepts and components necessary to build up cloud computing environment		
Course Content	Basics of cloud computing, Advantages of cloud computing, Elements of cloud computing, technical fundamentals of cloud computing, Data management in Cloud, standards, cloud service management and security, virtualization, service based architecture, cloud environment management.		
Learning Outcomes	**LO1**	To have knowledge about basic terms and concepts about Cloud computing	
	LO2	To know Cloud computing architecture, storage and services	
	LO3	To have knowledge about Cloud management	
	LO4	To have knowledge about basic problems of cloud computing like security, privacy and interoperability	
	LO5	To provide suggestion and solutions of cloud computing based on used applications	

Program Outcomes		**LO1**	**LO2**	**LO3**	**LO4**	**LO5**
PO1	Adequate knowledge in mathematics, science (a) and computer engineering subjects (b) pertaining to the relevant discipline (1); ability to use theoretical and applied information in these areas to model and solve engineering problems (2).	1b	1b	1b	1b	
PO3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way so as to meet the desired result (a); ability to apply modern design methods for this purpose (b).					a, b
PO4	Ability to devise (a), select, and use (b) modern techniques and tools needed for engineering practice (1); ability to employ information technologies effectively (2).					1b, 2

	No	**Week**	**Subjects**	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**
Subjects (Knowledge, Skills and Behaviours),	**S1**	1 -2	Fundamentals of Cloud computing	MF				
	S2	3	Cloud Architecture	MF	MF			
Contributions of Subjects to Learning Outcomes,	**S3**	4	Cloud Services and applications		MF			P
	S4	5	Abstraction and Virtualization	MF				
	S5	6	Amazon web services		MF			
	S6	7	Platform as a Service		MF			
	S7	8 - 9	Cloud Development: MapReduce		MF			
	S8	10 - 11	Cloud Security				MF	
Assessment Methods	**S9**	12	Service based architecture and cloud computing		MF			
	S10	13	Cloud Management			MF		
	S11	14	Moving applications to Cloud					P

	No	**Type**	**Weight**	**Implementation Rule**	**Make-up Rule**
Assessment Methods and Weights	**MF**	Midterm Final	70%	There will be a midterm and a final exam. Exams will be taken as closed books and course materials.	Marmara University regulations will be followed for make-up exams.
	P	Project	30%	A design project implemented by selecting appropriate cloud computing solutions according to field specific application	
	TOTAL		100%		

Determining Letter Grades

- The letter grades will be determined based on the midterm and final exams and project.
- In order to determine the letter grade, a curve or catalog based method will be followed based on the total average scores of the students.
- The final exam score and the total average score of the student must be at least 35 to pass the course.
- According to Marmara University Undergraduate regulations, the weight of the final exam must be at least 40 out of 100.

Assessment	Midterm	Project	Final	TOTAL
Weight	30	30	40	100

Teaching Method, Student Work Load

Tme Applied by Instructor

No	Method	Explanation	Hours
1	Lectures	Lectures are given in class using the board or via presentations. Example questions are solved to enhance the concepts.	14x3=42
2	Problem Session/ Practice	Problems related to the course topics are solved on the board.	-
3	Laboratory	Experiments are done in the laboratory or theoretical concepts covered during the lectures are practiced using computer exercises.	-
4	Interactive Courses	Questions are asked to students during lectures and they are encouraged to guess the answers (peer learning is also in this category)	-
5	Field Work	Students attend activities outside the campus.	-
6	Midterm	Midterm exam is given during the midterm week.	2
7	Final	Final exam is given during the final exam week.	2
Estimated Time to be Allocated by a Student			
8	Project	The students carry out research about the problem given in the project, design and implement their solution and prepare a report.	40
9	Homeworks	The students solve the problems given as homework.	
10	Pre-class learning of Course Material	The students study and learn the new subjects from course materials.	
11	Review of Course Material	Students review the course subjects from course materials to prepare for the exams and homeworks.	35
12	Office Hour	Students ask questions to the instructor or the assistant during office hours.	2
TOTAL			123

Academic Honesty

Violations of scholastic honesty include, but are not limited to cheating, plagiarizing, fabricating information or citations, facilitating acts of dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students.

In case academic dishonesty is observed, the first authority is the instructor of the course. The instructor may decide to give the student zero for the homework(s)/lab(s)/exam(s), give the letter grade FF, or may take disciplinary action.