COURSE INFORMATION FORM

Course Name	Course Code
Functional Programming	

Semester	Number of Course Hours per Week		Credit	ECTS
	Theory	**Practice**		
7	3	0	-	5

Course Category (Credit)				
Basic Sciences	**Engineering Sciences**	**Design**	**General Education**	**Social**
	x			

Course Language	Course Level	Course Type
Turkish	Undergraduate	Elective

Prerequisite(s) if any	
Objectives of the Course	Haskell working system and understanding programming language and development.
Short Course Content	Haskell Programming language, Type and type classes, designing program, recursion, higher order functions, Haskell modules, input-output functions, solve functional problems, functor and monoids, monads, Haskell and category theory.

	Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1	To understand and apply the Haskell programming language objects	1,4,5	1,2	A
2	To apply and figure out Haskell modules	9,13,15	1,10	D
3	skill about the writing Haskell packages	9,13,15	1,13	D
4	to understand the Notion of Functional programming	13,14	1,14	A
5				
6				
7				
8				

*Teaching Methods 1:Expression, **2:**Discussion, **3:**Experiment, **4:**Simulation, **5:**Question-Answer, **6:**Tutorial, **7:**Observation, **8:**Case Study, **9:**Technical Visit, **10:**Trouble/Problem Solving, **11:**Induvidual Work, **12:**Team/Group Work, **13:**Brain Storm, **14:**Project Design / Management, **15:**Report Preparation and/or Presentation

Measuring Methods A:Exam, **B:Quiz, **C:**Oral Exam, **D:**Homework, **E:**Report, **F:**Article Examination, **G:**Presentation, **I:**Experimental Skill, **J:**Project Observation, **K:**Class Attendance; **L:**Jury Exam

Main Textbook	Real World Haskell, Bryan O'Sullivan, J. Goerzen, Donald Bruce Stewart, O'Reilly Media (2008), ISBN 9780596514983.
Supporting References	1.Real World Haskell, Bryan O'Sullivan, J. Goerzen, Donald Bruce Stewart, O'Reilly Media (2008), ISBN 9780596514983. 2. Haskell, The Craft of Functional Programming, Simon Thompson Addison-Wesley, ISBN 0-201-34275-8.
Necessary Course Material	Laptop and desktop computer.

Course Schedule	
1	Introduction
2	Type and type classes
3	Type and type classes
4	Writing program
5	Writing program
6	Recursion
7	Recursion
8	Mid-Term Exam
9	Haskell modules
10	Haskell modules
11	Input and output functions
12	Input and output functions
13	Solving functional problem
14	Solving functional problem
15	Solving functional problem
16,17	Final Exam

Calculation of Course Workload			
Activities	**Number**	**Time (Hour)**	**Total Workload (Hour)**
Course Time (number of course hours per week)	14	3	42
Classroom Studying Time (review, reinforcing, prestudy,….)	14	3	42
Homework	5	3	15
Quiz Exam			
Studying for Quiz Exam			
Oral exam			
Studying for Oral Exam			
Report (Preparation and presentation time included)			
Project (Preparation and presentation time included)			
Presentation (Preparation time included)			
Mid-Term Exam	1	2	2
Studying for Mid-Term Exam	1	20	20
Final Exam	1	2	2
Studying for Final Exam	1	30	30
	Toplam iş yükü		**153**
	Toplam iş yükü / 30		**5,1**
	Dersin AKTS Kredisi		**5**

Evaluation	
Activity Type	**%**
Mid-term	40
Quiz	10
Homework	
Bir öğe seçin.	
Bir öğe seçin.	
Final Exam	50
Total	100

RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)		
NO	**PROGRAM OUTCOME**	**Contribution**
1	The ability to apply knowledges of Mathematics and Computer Sciences,	4
2	To have sufficient theoretical and practical knowledge of Mathematics at international level,	2
3	The ability of describing, modelling and solving of mathematical problems at Mathematics and related subjects,	5
4	The skill to solve and design a problem process in accordance with a defined target,	5
5	Skills to analyze data, interpret and apply to other datum and using these data on computer,	5
6	The skill to use the modern techniques and computational tools needed for mathematical applications,	4
7	The skill to make team work within the discipline and interdisciplinary,	5
8	The ability to improve oneself by following the developments on other modern, scientific and technological subjects as well as Mathematics and Computer Sciences,	4
9	The skill to communicate orally and in written way, in a clear and concise manner by having individual work skills and ability to independently decide and analytical thinking,	3
10	The skill to have professional and ethical responsibility,	4
11	The skill to have consciousness for quality issues and scientific research,	3
12	The skill to be sensitive to environmental issues related with problems and development of living area and consistent in the social relations,	2
13	Ability to solve problems in the working life faced to find an appropriate algorithms via mathematical modeling and to write computer programs,	4
14	The skill to developed design of software systems at different complex levels,	5
15	The credence of necessity of life-long learning and ability to apply the formation long-life learning.	4

LECTUTER(S)				
Prepared by	Assoc. Prof. Elis SOYLU YILMAZ			
Signature(s)				

Date:06.06.2024