



# ESOGÜ Matematik ve Bilgisayar Bilimleri COURSE INFORMATION FORM

<b>SEMESTER</b>	Fall
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<b>COURSE CODE</b>	821615012	<b>COURSE NAME</b>	Functional Programming
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SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Labratory	Credit	ECTS	TYPE	LANGUAGE
5	3	0	0	3	5	COMPULSORY ( ) ELECTIVE ( X )	Turkish

### COURSE CATAGORY

		[if it contains considerable design, mark with (√) ]	
		X	

### ASSESSMENT CRITERIA

	Evaluation Type	Quantity	%
MID-TERM	1st Mid-Term	1	40
	2nd Mid-Term		
	Quiz		
	Homework		
	Project		
	Report		
	Others (.....)		
FINAL EXAM		1	60
PREREQUIEITE(S)	None		
COURSE DESCRIPTION	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.		
COURSE OBJECTIVES	Haskell working system and understanding programming language and development.		
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	To have upper level knowledge about mathematics and computer science..		
COURSE OUTCOMES	1. to understand and apply the Haskell programming language objects, 2. to apply and figure out Haskell modules, 3. skill about the writing Haskell packages, 4.to understand the Notion of Functional programming.		
TEXTBOOK	Real World Haskell, Bryan O'Sullivan, J. Goerzen, Donald Bruce Stewart, O'Reilly Media (2008), ISBN 9780596514983.		
OTHER 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.		
TOOLS AND EQUIPMENTS REQUIRED	Laptop and desktop computer.		

COURSE SYLLABUS	
WEEK	TOPICS
1	Haskell programming language
2	Type and type classes
3	Type and type classes
4	Writing program
5	Writing program
6	recursion
7	Recursion
8	Midterm
9	Haskell modules
10	Haskell modules
11	Input and output functions
12	Input and output functions
13	Solving functional problem
14	Functor, monoid and monads
15,16	Final exam

**DİKKAT!...** Aşağıdaki PROGRAM ÇIKTILARI Mühendislik için yazılmıştır. BÖLÜM kendi eğitim amaç ve hedeflerini destekleyen Program Çıktılarını belirledikten sonra bu kısım hazırlanmalıdır. **ŞABLON OLARAK KULLANMAYINIZ**

NO	PROGRAM OUTCOMES	3	2	1
1	Sufficient knowledge of engineering subjects related with mathematics, science and own branch; an ability to apply theoretical and practical knowledge on solving and modeling of engineering problems.	X		
2	Ability to determine, define, formulate and solve complex engineering problems; for that purpose an ability to select and use convenient analytical and experimental methods.		X	
3	Ability to design a complex system, a component and/or an engineering process under real life constraints or conditions, defined by environmental, economical and political problems; for that purpose an ability to apply modern design methods.	X		
4	Ability to develop, select and use modern methods and tools required for engineering applications; ability to effective use of information technologies.	X		
5	In order to investigate engineering problems; ability to set up and conduct experiments and ability to analyze and interpretation of experimental results.		x	
6	Ability to work effectively in inner or multi-disciplinary teams; proficiency of interdependence.	X		
7	Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language.	X		
8	Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement.		x	
9	Understanding of professional and ethical issues and taking responsibility		x	
10	Awareness of project, risk and change management; awareness of entrepreneurship, innovativeness and sustainable development.	X		
11	Knowledge of actual problems and effects of engineering applications on health, environment and security in global and social scale; an awareness of juridical results of engineering solutions.			x

1:None. 2:Partially contribution. 3: Completely contribution.

**Instructor(s):** PhD. Elis Soylu Yılmaz

**Signature:**

**Date:**