T.C. ESKİŞEHİR OSMANGAZİ UNIVERSITY
ARCHITECTURE AND ENGINEERING FACULTY
MECHANICAL ENGINEERING DEPARTMENT

COURSE INFORMATION FORM

SEMESTER	Spring

COURSE CODE	151818479	COURSE NAME	CASTING TECHNOLOGY

SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAGE
8	3	0	0	3	5	COMPULSORY ( ) ELECTIVE (x)	Turkish

COURSE CATAGORY			
Basic Science	Basic Engineering	Mechanical Engineering [if it contains considerable design, mark with (√)]	Social Science
		(√)	

ASSESSMENT CRITERIA			
	Evaluation Type	Quantity	%
MID-TERM	Mid-Term	1	50
	Quiz		
	Homework		
	Project		
	Report		
	Others (……)		
FINAL EXAM		1	50

PREREQUIEITE(S)	
COURSE DESCRIPTION	Cast Iron, Production to classify and characteristics, Charge calculations, Cast design considerations, To determine the most suitable molding and casting methods, Casting Defects (shrinkage, hot tears and cold cracks, gas porous, inclusion, impurity, segregation, crust defects)
COURSE OBJECTIVES	Teaching of production methods and properties of cast irons, determining the defects which can occur with the casting parts, developing the suitable technics to cast defectless products.
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	By identifying the defects with casting parts, it explains the critical points in order to produce a defectless casting parts.
COURSE OUTCOMES	Knowledge of casting materials, classification of cast defects, explanation of cast defects, apply of theoretical knowledge to practical applications, design of casting products, evaluation of castings methods according to working conditions
TEXTBOOK	Döküm Teknolojisi, Çavuşoğlu, E., İTÜ Yayını
OTHER REFERENCES	1.Principles of Metal Casting, Heine, R.W., Loper, C.R, Rosenthal, P.C., A.F.S, Mc.Graw-Hill Book Co. 2.Fundamentals of Metal Casting, Flinn, R.A, Addison-Wesley Pub.Co. 3.Cast Metals Technology, Sylvia, S.G., Addison-Wesley Pub.Co.
TOOLS AND EQUIPMENTS REQUIRED	

COURSE SYLLABUS	
WEEK	**TOPICS**
1	Cast Irons
2	Cast Irons
3	Charge calculations
4	Principles of casting parts design
5	Prevention of gas porosity defects
6	Prevention of Shrinkage defects
7	Prevention of surface defects
8	Mid-Term Examination
9	Mid-Term Examination
10	Solidification Techniques
11	Casting Methods to metal moulds
12	Pressure Casting, Centrifuge casting
13	Precision Casting
14	Criterion of Casting Design
15,16	Final Exam

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 constrains 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.				

Prepared by: **Date:**

Signature(s):