



ESOGÜ Mechanical Engineering Department

COURSE INFORMATION FORM

SEMESTER	Fall
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COURSE CODE	151817428	COURSE NAME	PRINCIPLES OF CASTING
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SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAGE
7	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							
MID-TERM				Evaluation Type		Quantity	%
				1 st Mid-Term		1	20
				2 nd Mid-Term		1	30
				Quiz			
				Homework			
				Project			
				Report			
Others (.....)							
FINAL EXAM					1	50	
PREREQUIEITE(S)							
COURSE DESCRIPTION				Patterns, testing of molding sands, molding processes, design of gating system, design of feeder, flaskless automatic molding, vacuum molding, shell molding, investment casting, plaster mold casting, ceramic mold casting, permanent mold casting (gravity die casting), pressure die casting, centrifugal casting, continous casting			
COURSE OBJECTIVES				Course of productions, general knowledge of casting and learning the elements of casting, teaching of how to test the mold and core sands, determining of the most suitable mold to produce parts with casting methods, identifying the advantages and disadvantages of different casting methods and developing the most suitable casting method.			
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION				It explains how to control the necessary molding, feeder, designing gating system and casting time in order to produce defectless casting parts.			
COURSE OUTCOMES				Definition of moulding procedure, classification of casting sands, interpretation of casting methods, designing of feeder and flask, apply of theoretical knowledge to practical applications, evaluation of castings methods according to working conditions			
TEXTBOOK				1.Döküm Teknolojisi, Çavuşoğlu, E. İTÜ Yayını.			
OTHER REFERENCES				2.Principles of Metal Casting, Heine, R.W., Loper, C.R, Rosenthal, P.C., A.F.S, Mc.Graw-Hill Book Co. 3.Fundamentals of Metal Casting, Flinn, Addison-WesleyPub.Co.			
TOOLS AND EQUIPMENTS REQUIRED							

COURSE SYLLABUS	
WEEK	TOPICS
1	Fundamental steps in foundry, patterns
2	Testing of molding sands
3	Testing of molding sands
4	Molding
5	Molding
6	Mid-Term Examination 1
7	Molding
8	Molding, Design of gating system
9	Casting time, design of feeders and coolers
10	Flaskless Automatic molding, vacuum molding, shell molding
11	Mid-Term Examination 2
12	Investment casting, plaster mold casting
13	Ceramic mold casting, permanent mold casting (Gravity die casting)
14	Pressure die casting, centrifugal casting, continuous casting
15,16	Final Exam

NO	PROGRAM OUTCOMES	3	2	1
1	Sufficient knowledge of engineering subjects related with mathematics, science and mechanical engineering ; an ability to apply theoretical and practical knowledge on solving and modeling of mechanical engineering problems.		x	
2	Ability to determine, define, formulate and solve complex mechanical 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 mechanical engineering applications; ability to effective use of information technologies.	x		
5	In order to investigate mechanical 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: Prof.Dr.Y.Macit YAMAN

Date: 18.11.2012

Signature(s):