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

COURSE INFORMATION FORM

SEMESTER	Spring

COURSE CODE	151818474	COURSE NAME	Defense Industry Materialss

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

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

ASSESSMENT CRITERIA			
	Evaluation Type	Quantity	%
MID-TERM	Mid-Term	1	10
	Quiz		
	Homework	1	60
	Project		
	Report		
	Others (……)		
FINAL EXAM		1	30

PREREQUIEITE(S)	---
COURSE DESCRIPTION	*While introducing the materials used in Derste Defense Industry, firstly all defense industry products and technologies used on land, in the air and in the sea are introduced. For this purpose, the material group is first considered and its application in the sector is introduced.*
COURSE OBJECTIVES	*Considering today's technology as the engine of the locomotive and space and aviation as the sector,* *• Introduction of newly developed materials* *• These materials "Defense Industry Practices"* *• recognize the technological developments reflected in the civilian sector through these applications* *• As an engineer, to be able to design new designs in this light of development and to be able to perceive existing developments* *• To have knowledge about the industrial facilities in the sector and to have information about their possibilities so that they can establish relations between the topics seen and learned and the topics in the sector.*
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUCATION	If a contemporary mechanical engineer reaches the ball in today's information age and the importance of sharing information is considered, students who take this course will make a valuable contribution to their vocational training by getting the most up-to-date information on the topic of locomotives. This up-to-date is about both engineering materials and Defense Industry Technologies.
COURSE OUTCOMES	Through this course, because it is the fastest growing technology, aerospace, professional literature, is considered to be updated very often.
TEXTBOOK	• Defense Industry Material Lecture Notes (Kuşhan M.C.) • Composite Materials for Aircraft Applications (Deo R.B.)

	A'dan Z'ye Dünya Uçakları ve Helikopterleri, KUŞHAN M.C.
OTHER REFERENCES	• Recent Advantages in Aircraft Technology, AGARWAL K. • Uçaklar ve Helikopterler, ŞAHİN K. • Uçak Ana Elemanları, ÖZŞAHİN E.
TOOLS AND EQUIPMENTS REQUIRED	Equipment of PPT presentation

COURSE SYLLABUS	
WEEK	**TOPICS**
1	Defense Industry Material and Classification in General
2	Metals as Defense Industry Materials
3	Composites as Defense Industry Materials
4	Composites as Defense Industry Ceramics
5	Composites as Defense Industry Plastics
6	RAM
7	Vehicle Armour
8	Mid-Term Examination
9	Mid-Term Examination
10	Personal Ballistic Protection Products
11	Pyrotechnic
12	Fuselage of aircraft and helicopters
13	Fuselage of tank
14	Fuselage of ship and submarine
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: Assoc. Prof. Dr. Melih Cemal Kushan **Date:**

Signature(s):