ESOGÜ Mechanical Engineering Department
Course Information Form

	SEMESTER	Spring

COURSE CODE	151818xxx	COURSE NAME	HVAC Systems

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

ASSESSMENT CRITERIA

	Evaluation Type	Quantity	%
MID-TERM	1st Mid-Term	1	50
	2nd Mid-Term		
	Quiz		
	Homework		
	Project		
	Report		
	Others (………)		
FINAL EXAM		1	50

PREREQUIEITE(S)	-
COURSE DESCRIPTION	basic concepts of air conditioning and psychometric diagram, basic of psychometric processes, psychometric examination of air conditioning appliances, calculation of heating and cooling loads, heat recovery system
COURSE OBJECTIVES	basic concepts of air conditioning and the psychrometric diagram, calculation of ,heating and cooling loads, to gain the ability to calculate the subject of air conditioning systems and air-conditioning elements.
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	Air conditioning is one of the most important branches of Mechanical Engineering. This course will form the basis for graduates who need to work in this branch.
COURSE OUTCOMES	To learn basic information about the humid air To learn to psychometric chart To learn calculation methods of heating and cooling loads To learn the account of the air conditioning system.
TEXTBOOK	Psikrometri I teori ve uygulama İMEKSAN Akademi Yayınları M. Haluk Sevel Psikrometri II prosesler ve çözümleri İMEKSAN Akademi Yayınları M. Haluk Sevel
OTHER REFERENCES	1. Klima Tesisatı, MMO Yayını 2. İklimlendirme Esasları, Çeviren Prof.Dr.Osman F.Genceli 3. Klima Tesisatı, Isısan Yayını 4. Heating Ventilating, And Air Conditioning Face, C. McQuiston, Jerald, D. Parker, 5. Howell, R.H., Sauer, H.J., Coad W.J.: Principles of Heating, Ventilating and Air Conditioning, ASHRAE, 1998. 6. ASHRAE Handbook: Fundamentals, 2001.
TOOLS AND EQUIPMENTS REQUIRED	-

COURSE SYLLABUS

WEEK	TOPICS
1	Psychrometry definition
2	Thermodynamic features of dry and moist air
3	Psychometric terms
4	Psychrometric chart
5	Heating of air
6, 7	Midterm
8	Cooling of air
9	Humidifying of air
10	Psychometric examination of the air conditioning applications
11	Heat recovery
12	Heat recovery
13	Receiving of air humidity
14	Receiving of air humidity
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			
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: Yrd. Doç. Dr. Nihal Uğurlubilek   **Date:** 13/07/2015

Signature(s):