REFRIGERATION BASICS

1	Course Title:	REFRIGERATION BASICS
2	Course Code:	İSOZ109
3	Type of Course:	Compulsory
4	Level of Course:	Short Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Öğr. Gör. AHMET ATAMAN
15	Course Lecturers:	Meslek Yüksekokulları Yönetim Kurullarının görevlendirdiği öğretim elemanları.
16	Contact information of the Course Coordinator:	ahmetataman@uludag.edu.tr 02242942395-42394 Bursa Uludağ Üniversitesi Görükle Yerleşkesi Teknik Bilimler MYO
17	Website:	
18	Objective of the Course:	Teaching the basic concepts of cooling, cooling methods and cooling cycles.
19	Contribution of the Course to Professional Development:	To follow the developments related to her profession and to improve herself continuously.
20	Learning Outcomes:	

	1	Understanding the basic concepts of refrigeration
	2	Understanding cooling methods and techniques
	3	Learning the cooling cycles
	4	Practicing theoretical and practical applications about refrigeration cycles
	5	Learning the main components of refrigeration cycles
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21 Course Content:

Course Content:

Week	Theoretical	Practice
1	History of refrigeration and basic concepts of refrigeration	Practicing basic concepts of refrigeration
2	Basic concepts of refrigeration cycles	Practicing cooling cycles
3	Vapor compression refrigeration cycle and its working principles	Practicing vapor compression refrigeration cycle

4	Thermodynamic analysis of vapor compression refrigeration cycle	Practicing vapor compression refrigeration cycle
5	Absoption refrigeration cycle and its working principles	Practicing absoption refrigeration cycle
6	Thermodynamic analysis of absorption refrigeration cycle	Practicing absoption refrigeration cycle
7	Refrigerants	Practicing refrigerant
8	Midterm exam	Midterm exam
9	Basic concepts of condensers and types of condencer	Practicing condencers
10	Basic concepts of evaporators and types of evaporator	Practicing evaporators
11	Basic concepts of compressorsand types of compressor	Practicing compressors
12	Basic concepts of expansion valves	Practicing expansion valves
13	Basic concepts of special refrigerant components	Practicing special refrigerant components
14	Basic concepts of special refrigerant components	Practicing special refrigerant components

22	Textbooks, References and/or Other Materials:	Cooling Technique and Heat Pump Applications Recep Yamankaradeniz, Salih Coşkun, İlhami Horuz, Ömer Kaynaklı, Nurettin Yamankaradeniz
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		Measurement and evaluation is carried out according to the priciples of Bursa uludag University Associate and Undergraduate Education Regulation.

24	**ECTS / WORK LOAD TABLE**

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	14	4.00	56.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	3.00	3.00
Others	0	0.00	0.00
Final Exams	1	3.00	3.00
Total Work Load			118.00
Total work load/ 30 hr			3.93
ECTS Credit of the Course			4.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	5	4	4	2	1	1	2	4	5	3	2	2	0	0	0	0
ÖK2	5	5	3	4	3	1	3	3	4	2	1	3	0	0	0	0
ÖK3	5	5	3	4	3	2	2	3	4	2	2	2	0	0	0	0
ÖK4	5	3	2	2	2	1	1	2	3	1	1	1	0	0	0	0
ÖK5	5	5	4	2	4	2	2	4	5	3	1	1	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**