

LABORATORY I

1	Course Title:	LABORATORY I
2	Course Code:	İSOS213
3	Type of Course:	Optional
4	Level of Course:	Short Cycle
5	Year of Study:	2
6	Semester:	3
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	1.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	2
11	Prerequisites:	
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:	With this course, it is aimed to teach basic process of the mechanical refrigeration system, duties of main and accessories components, different types of expansion valves, basic troubleshooting and the principle of heat pump cycle
19	Contribution of the Course to Professional Development:	To follow the developments related to the profession and to improve herself continuously
20	Learning Outcomes:	
	1	To able to prepare technical report
	2	To able to explain evaporation, compression, condensation, expansion processes on the mechanical refrigeration system
	3	To able to comprehend accessories such as dryer, accumulator, sight glass, receiver etc.
	4	To able to find basic trouble shootings such as extreme amount and insufficient refrigerant in the system, clogging of metering device and capacity reduction of compressor
	5	To able to explain the heat pump cycle
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Inscription of report writing principles	Experimental study on device

2	Introduction of R632 Refrigeration training device	Experimental study on device
3	Explanation of basic cooling processes on R632 Cooling Training Device	Experimental study on device
4	Explanation of R804 Cooling Training Device test device and its process	Experimental study on device
5	Experimental study on R804 Cooling Training Device test device	Experimental study on device
6	Experimental study on R804 Cooling Training Device test device	Experimental study on device
7	Description of the R801 Cooling Training Device and the processes performed on it	Experimental study on device
8	Experimental study on R801 Cooling Training Device	Experimental study on device
9	Experimental study on R801 Cooling Training Device	Experimental study on device
10	Description of the R514 Mechanical Heat pump training device and the processes performed on it	Experimental study on device
11	Experimental study on R514 Mechanical Heat Pump Experiment Device	Experimental study on device
12	Description of the R808 Cooling Training Device and the processes performed on it	Experimental study on device
13	Experimental study on R808 training Device	Experimental study on device
14	Experimental study on R808 training Device	Experimental study on device

Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	K. Yamankaradeniz, I. Horuz, S. Coşkun, D. A. yayıncılık, 2009.	14	1.00	14.00
Practicals/Labs		14	2.00	28.00
Self study and preperation	Öğretmen tarafından	9	5.00	45.00
Homeworks		1	1.00	1.00
Field Learning Activities	NUMBER	WEIGHT	0.00	0.00
Field Studies		0	0.00	0.00
Midterm Exam	1	10.00		
Midterm exams	0	0.00	2.00	2.00
Quiz	0	0.00		
Others		0	0.00	0.00
Home work project	0	0.00		
Final Exams	1	10.00	0.00	0.00
Final Exam	1	60.00		
Total Work Load				90.00
Total work load/ 30 hr	2	100.00		3.00
Contribution of Term (Year) Learning Activities to ECTS Credit of the Course				3.00

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 principles of Bursa uludag University Associate and Undergraduate Education Regulation.

24 ECTS / WORK LOAD TABLE

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	5	5	5	5	5	5	5	3	4	3	3	0	0	0	0

ÖK2	5	4	4	4	5	3	3	5	2	3	2	2	0	0	0	0
ÖK3	5	3	2	4	5	2	3	5	4	4	3	4	0	0	0	0
ÖK4	4	3	2	3	2	2	5	5	3	4	4	3	0	0	0	0
ÖK5	5	4	5	4	5	3	3	5	2	2	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			