INDUSTRIAL FRUIT WINES TECHNOLOGY

1	Course Title:	INDUSTRIAL FRUIT WINES TECHNOLOGY
2	Course Code:	GMB5029
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	2
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. OZAN GÜRBÜZ
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi Ziraat Fakültesi Gıda Mühendisliği Bölümü 16059 Görükle/Bursa Tel: 0224 2941500 Fax: 0224 2941402 e-posta: ozang@uludag.edu.tr
17	Website:	
18	Objective of the Course:	Informing about fundamental principles of fruit wine production technology, importance of wine technology in food industry, winery, and possible problems in wineries
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	The students will be able to learn wine production in a detail way
	2	The students will be able to learn importance of wine economy
	3	The students will be able to learn properties of a winery
	4	The students will be able to learn materials and equipments used in a winery
	5	The students will be able to learn latest developments in wine technology
	6	The students will be able to learn wine analysis methods
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Explanation of objective and content of the lecture	Introduction to fruit juice analysis

2	Wine raw material (structure of grape, composition of skin, pulp and seed)	Introduction to fruit juice analysis
3	Departments of winery	Introduction to wine analysis
4	Mechanic treatments applied for grape	Introduction to wine analysis
5	Control and standardization of must	Isolation and identification of wine yeasts
6	Alcoholic fermentation and maceration	Isolation and identification of wine yeasts
7	Effective yeasts for fermentation, separation of must, pressure of residue	Identification of wine bacteria and wine quality problems
8	Malolactic fermentation	Identification of wine bacteria and wine quality problems
9	Wine conditioning, clarifying and packaging	Cider production
10	Red wine production	Cider production
11	White wine production	Analysis methods of wine aroma
12	Lux wine production (liquor, cider etc.)	Analysis methods of wine aroma
13	Wine diseases and faults	Instrumental analysis methods for phenolic compounds
14	Fruit wines	Instrumental analysis methods for phenolic compounds + Final

22	Textbooks, References and/or Other Materials:	• Powerpoint presentations • Kılıç, O, 1996,Alkollü İçkiler Teknolojisi, U.Ü Basımevi • Vine R.P., Harkness E.M., Linton S.J., Wine Making, 2002, Kluwer Academic NY. • Kılıç, O, 1996,Alkollü Gçkiler Teknolojisi, U.Ü Basımevi. • Aktan, N., Kalkan, H., 2000. Şarap Teknolojisi. Kavaklıdere Eğitim Yayınları No:4, Ankara.

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	1.00	14.00
Homeworks	1	80.00	80.00
Projects	0	0.00	0.00
Quiz	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	50.00	0.00
Final Exam	1	50.00	0.00
Others	0	0.00	0.00
Final Exams	1	85.00	85.00
Contribution of Term (Year) Learning Activities to	50.00		
Total Work Load			235.00
Total work load / 30 hr			7.83
Contribution of Final Exam to Success Grade	50.00		
ECTS Credit of the Course			6.00

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Quiz	0	0.00
Midterm exams	1	50.00
Final Exams	1	50.00

Measurement and Evaluation Techniques Used in the Course	

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	4	3	4	4	5	3	5	3	2	4	0	0	0	0	0	0
ÖK2	4	4	2	3	4	2	3	5	3	3	0	0	0	0	0	0
ÖK3	2	3	2	4	5	2	4	4	3	5	0	0	0	0	0	0

ÖK4	4	5	4	5	3	3	5	3	4	3	0	0	0	0	0	0
ÖK5	2	5	5	4	2	4	5	3	3	4	0	0	0	0	0	0
ÖK6	5	3	3	5	4	2	4	4	4	5	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

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