# MILK TECHNOLOGY

| | | | |
|---|---|---|---|
| 1 | Course Title: | MILK TECHNOLOGY | |
| 2 | Course Code: | GMD3206 | |
| 3 | Type of Course: | Compulsory | |
| 4 | Level of Course: | First Cycle | |
| 5 | Year of Study: | 3 | |
| 6 | Semester: | 6 | |
| 7 | ECTS Credits Allocated: | 3.00 | |
| 8 | Theoretical (hour/week): | 2.00 | |
| 9 | Practice (hour/week): | 0.00 | |
| 10 | Laboratory (hour/week): | 2 | |
| 11 | Prerequisites: | Non | |
| 12 | Language: | Turkish | |
| 13 | Mode of Delivery: | Face to face | |
| 14 | Course Coordinator: | Prof. Dr. TÜLAY ÖZCAN | |
| 15 | Course Lecturers: | Prof. Dr. Lütfiye YILMAZ-ERSAN | |
| 16 | Contact information of the Course Coordinator: | Prof. Dr. Tülay ÖZCAN<br>Bursa Uludag University Faculty of Agriculture Department of Food Engineering<br>16059 Görükle/Bursa<br>Phone: 0224 2941498<br>Fax: 0224 2941402<br>e-mail: tulayozcan@uludag.edu.tr | |
| 17 | Website: | | |
| 18 | Objective of the Course: | The main purpose of this course is informing the students about the formation and the basic principles and concepts about the composition and quality characteristics of milk. | |
| 19 | Contribution of the Course to Professional Development: | The course provides students with knowledge about the dairy industry. | |
| 20 | Learning Outcomes: | | |
| | | **1** | Informing about formation of milk |
| | | **2** | Informing about composition and nutrition properties of milk |
| | | **3** | Informing about chemistry and biochemistry of milk |
| | | **4** | Informing about milk microbiology |
| | | **5** | Informing about quality properties of milk |
| | | **6** | |
| | | **7** | |
| | | **8** | |
| | | **9** | |
| | | **10** | |
| 21 | Course Content: | | |
| | **Course Content:** | | |

| Week | Theoretical | Practice |
|---|---|---|
| **1** | History of Milk , Milk Production in the World and Turkey | |
| **2** | Formation of Milk | |
| **3** | Milk Composition and Factors Affecting Yield and Composition of Milk | |
| **4** | Properties of the Milks of Various Animals | |
| **5** | Physical Properties of Milk | |
| **6** | Chemical Properties of Milk | |
| **7** | Milk Microbiology | |
| **8** | Biochemistry of Milk and Milk Gels | |
| **9** | Functional and Antimicrobial Components of Milk and Their Mechanisms | |
| **10** | Hygiene and Sanitation in Dairy Plants | |
| **11** | Heating of milk, pasteurization and sterilization methods | |
| **12** | Non-Thermal Processing of Milk and Milk Products | |
| **13** | Ice cream Technology | |
| **14** | Textbooks, References and/or Other Materials: | Kurdal, E., Ozcan, T., Yilmaz, E. 2010. Milk Technology, Uludag University Faculty of Agriculture Textbook, No 99, Milk Technology: Composition of Milk and Processing (Prof. Dr. Mustafa Metin) |
| **15** | | Dairy Chemistry and Biochemistry (Edited by P.F. Fox, |
| **16** | Assesment | |

| 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 | 0 | 0.00 | 0.00 |
| Homeworks | 0 | 0.00 | 0.00 |
| Projects | 0 | 0.00 | 0.00 |
| Field Studies | 0 | 0.00 | 0.00 |
| Midterm exams | 1 | 15.00 | 15.00 |
| Others | 0 | 0.00 | 0.00 |
| Final Exams | 1 | 20.00 | 20.00 |
| Total Work Load | | | 91.00 |
| Total work load/ 30 hr | | | 3.03 |
| ECTS Credit of the Course | | | 3.00 |

| | | |
|---|---|---|
| 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 | In this course, teaching models and methods such as inquiry-based learning, argumentation, different lab approaches, problem-based learning, cooperative learning are used.The course is evaluated with 1 homework, 1 midterm, 1 final exam. As a result of the evaluation, success is made in the form of relative evaluation. |

| 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 | 4 | 4 | 4 | 5 | 5 | 4 | 5 | 4 | 5 | 5 | 0 | 0 | 0 | 0 | 0 |
| **ÖK2** | 5 | 3 | 4 | 3 | 5 | 5 | 4 | 5 | 4 | 5 | 5 | 0 | 0 | 0 | 0 | 0 |
| **ÖK3** | 5 | 3 | 3 | 3 | 5 | 5 | 4 | 5 | 4 | 5 | 4 | 0 | 0 | 0 | 0 | 0 |
| **ÖK4** | 5 | 3 | 4 | 4 | 5 | 5 | 4 | 5 | 4 | 5 | 5 | 0 | 0 | 0 | 0 | 0 |
| **ÖK5** | 5 | 4 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 5 | 5 | 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** | | | | |