

# GENERAL CHEMISTRY

|      |                                                         |                                                                                                                                                       |
|------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Course Title:                                           | GENERAL CHEMISTRY                                                                                                                                     |
| 2    | Course Code:                                            | GIDZ105                                                                                                                                               |
| 3    | Type of Course:                                         | Compulsory                                                                                                                                            |
| 4    | Level of Course:                                        | Short Cycle                                                                                                                                           |
| 5    | Year of Study:                                          | 1                                                                                                                                                     |
| 6    | Semester:                                               | 1                                                                                                                                                     |
| 7    | ECTS Credits Allocated:                                 | 3.00                                                                                                                                                  |
| 8    | Theoretical (hour/week):                                | 2.00                                                                                                                                                  |
| 9    | Practice (hour/week):                                   | 0.00                                                                                                                                                  |
| 10   | Laboratory (hour/week):                                 | 0                                                                                                                                                     |
| 11   | Prerequisites:                                          | none                                                                                                                                                  |
| 12   | Language:                                               | Turkish                                                                                                                                               |
| 13   | Mode of Delivery:                                       | Face to face                                                                                                                                          |
| 14   | Course Coordinator:                                     | Öğr. Gör. ÇİĞDEM GÜCEYÜ                                                                                                                               |
| 15   | Course Lecturers:                                       | Meslek Yüksekokulları Yönetim Kurullarının görevlendirdiği öğretim elemanları.                                                                        |
| 16   | Contact information of the Course Coordinator:          | Öğr.Gör.Çiğdem GÜCEYÜ<br>0224 2942890<br>cguceyu@uludag.edu.tr<br>Teknik Bilimler Meslek Yüksekokulu<br>Gıda İşleme Bölümü /Gıda Teknolojisi Programı |
| 17   | Website:                                                |                                                                                                                                                       |
| 18   | Objective of the Course:                                | To teach chemistry concepts, the basic laws of chemistry, chemical calculations and explain the theory.                                               |
| 19   | Contribution of the Course to Professional Development: | Learning basic chemistry concepts                                                                                                                     |
| 20   | Learning Outcomes:                                      |                                                                                                                                                       |
|      | 1                                                       | Be able to understand the importance and definition of chemistry,                                                                                     |
|      | 2                                                       | There will be information about the structure of chemical substances that may be encountered in food enterprises,                                     |
|      | 3                                                       | Of chemical substances used in business, they have knowledge in the preparation of the solution,                                                      |
|      | 4                                                       | In the context of industrial applications gain problem-solving skills.                                                                                |
|      | 5                                                       | Using theoretical and experimental methods to produce reliable products by removing the risks that may occur after food production.                   |
|      | 6                                                       | To gain life-long learning skills to monitor developments in chemistry subjects.                                                                      |
|      | 7                                                       |                                                                                                                                                       |
|      | 8                                                       |                                                                                                                                                       |
|      | 9                                                       |                                                                                                                                                       |
|      | 10                                                      |                                                                                                                                                       |
| 21   | Course Content:                                         |                                                                                                                                                       |
|      | <b>Course Content:</b>                                  |                                                                                                                                                       |
| Week | Theoretical                                             | Practice                                                                                                                                              |

|                            |                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------|
| 1                          | Definition of kim and related topics.<br>structure and properties of matter.<br>Element, compound, mixture, definition and properties. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| 2                          | Measurement and measurement units.<br>Atomic structure and atomic theories.                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| 3                          | Periodic table and its properties.<br>Chemical event.<br>Nomenclature of compounds.                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| 4                          | The concept of mole.<br>Basic chemistry laws.<br>Finding formulas                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| 5                          | Chemical equations.<br>Gases and important gas laws.                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| 6                          | Solutions and properties.<br>Solubility and factors affecting solubility.                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| 7                          | Solution types (% solutions, Molarity, normality)                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| 8                          | Solution types (Molality, ppm solutions).<br>Acids and bases.<br>The concept of pHve pOH.                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| 9                          | Course recitation and midterm exam                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| 10                         | Organic chemistry.<br>Structure and basic properties of hydrocarbons                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| 11                         | Alkanes, alkyl groups, alkenes, nomenclature, properties and methods of obtaining                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| Activites                  |                                                                                                                                        | Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Duration (hour) | Total Work Load (hour) |
| 13                         | Theoretical<br>Alcohols, ethers, aldehydes and ketones, nomenclature, properties and methods of obtaining                              | 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2.00            | 28.00                  |
| Practicals/Labs            |                                                                                                                                        | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.00            | 0.00                   |
| Self study and preparation |                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| 14                         | Organic acids, esters, amines, nomenclature, properties and methods of obtaining                                                       | 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1.00            | 14.00                  |
| Homeworks                  |                                                                                                                                        | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.00            | 0.00                   |
| Projects                   |                                                                                                                                        | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.00            | 0.00                   |
| 22                         | Textbooks, References and/or Other                                                                                                     | • C.E. MORTIMER, ( Çeviren: Prof.Dr. Turhan Altınata), (2004)                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0.00            | 0.00                   |
| Field Studies              |                                                                                                                                        | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.00            | 0.00                   |
| Midterm exams              |                                                                                                                                        | • Petrucci,Harwood, ( Çeviren: Tahsin Uyar), Genel Kimya I (2004)                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 24.00           | 24.00                  |
| Others                     |                                                                                                                                        | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.00            | 0.00                   |
| Final Exams                |                                                                                                                                        | • Prof.Dr.Cemil Şenar, Temel Kimya, Hacettepe Yayımlı NO. 105, Ankara, 1994.                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 24.00           | 24.00                  |
| Total Work Load            |                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 | 90.00                  |
| Total work load/ 30 hr     |                                                                                                                                        | • Prof.Dr.Doğan SÜMENGEN. Organik Kimya Cilt I. (2016).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 | 3.00                   |
| ECTS Credit of the Course  |                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 | 3.00                   |
|                            |                                                                                                                                        | Prof.Dr.Doğan SÜMENGEN. Organik Kimya Cilt II. Hakan Ofset, İstanbul, 1986<br>• Ömer BAYIN, Çözümleriyle Kimya Problemleri.Ankara.1964<br>• Chang,R.,Goldsby, K.A. 2014. Genel Kimya. Çeviri Editörleri:R.İnam, S.Aksoy. Palme Yayıncılık. İstanbul.<br>• Wertheim,J., Oxlade,C.,Stockley, C.2013. Şekli Kimya Sözlüğü.Çeviri:Z.Gürsoy.TÜBİTAK Popüler Bilim Kitapları 352. Ankara.<br>• Sayısal 2 Modern Fen, Yıldırım Yayınları, Ankara<br>• ÖSS Kimya, Güvender Yayınları, Temmuz, 2000<br>• ÖSS Kimya, Güvender Yayınları, Kasım, 2006 |                 |                        |
| 23                         | Assesment                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                        |
| TERM LEARNING ACTIVITIES   |                                                                                                                                        | NUMBE R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 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 principles of Bursa Uludağ University Associate and 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                                                | 1                                                             | 1   | 4     | 1   | 1        | 1   | 1      | 1   | 1           | 1    | 1    | 1    | 0    | 0    | 0    | 0    |
| ÖK2                                                | 2                                                             | 1   | 3     | 1   | 2        | 1   | 1      | 1   | 1           | 1    | 1    | 1    | 0    | 0    | 0    | 0    |
| ÖK3                                                | 1                                                             | 3   | 4     | 1   | 2        | 3   | 2      | 1   | 1           | 1    | 1    | 1    | 0    | 0    | 0    | 0    |
| ÖK4                                                | 4                                                             | 4   | 4     | 3   | 3        | 4   | 2      | 2   | 1           | 1    | 1    | 1    | 0    | 0    | 0    | 0    |
| ÖK5                                                | 4                                                             | 5   | 5     | 3   | 4        | 4   | 2      | 2   | 2           | 1    | 3    | 1    | 0    | 0    | 0    | 0    |
| ÖK6                                                | 4                                                             | 4   | 5     | 3   | 4        | 3   | 2      | 2   | 1           | 1    | 5    | 3    | 0    | 0    | 0    | 0    |
| LO: Learning Objectives PQ: Program Qualifications |                                                               |     |       |     |          |     |        |     |             |      |      |      |      |      |      |      |
| Contribution Level:                                | 1 very low                                                    |     | 2 low |     | 3 Medium |     | 4 High |     | 5 Very High |      |      |      |      |      |      |      |