**BİRUNİ UNİVERSİTY**

**“The Future of Science”**

**FACULTY OF PHARMACY**

**…….. DEPARTMENT**

 **COURSE INFORMATION PACKAGE**

|  |  |  |  |  |  |
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| **Course Code** | **Course optic Code**  |  **Theory****hours/week** | **Application****hours/week** | **Credit** | **ECTS** |
|  **ECZ115** |  | **2** | **….** | **2** | **4** |
| **Course Name** | General Chemistry |
| **Semester** | 2016-2017 Fall |
| **Course Type** | Obligatory  |
| **Program** |  | Pharmacy |
| **Course Language** | Turkish |
| **Prerequisite** | None |
| **Teaching Methods:**  | 1: Lecture, 2: Question-Answer, 3: Discussion, 4: Demonstration, 5: Brain Storming, 6: Case Study, 7: Self Study, 8: Exercises |
| **Assessment Methods:** | A: Pre- and Post-Testing, B:Exam, C: Homework Assignment |
| **Disabled Students** | Disabled students, they need information about their own status submitted to the faculty may request the provision of necessary convenience.  |
| **Instructor(s)** | Asst. Prof. Dr. Abdulilah ECE |
| **Course Assistant** | None |
| **Course Objective** | This course teaches important principles and concepts of basic chemistry to pharmacy students. In this context, the course gives information about the topics that a pharmacy student should know such as structure of atoms, chemical bonding, equilibrium, kinetics, solubility and acid-base concepts and it is aimed that the students will acquire reasoning skills. |
| **Learning Outcomes** | Students will have knowledge about;1. Understanding and explaining the basic concepts of chemistry,
2. Understanding intramolecular forces, intermolecular interactions and fundamental properties of chemical bonding,
3. Problem solving in chemistry through systematic and scientific methods,
4. Putting forward ideas about chemical reactions in different conditions,
5. Looking at events via chemistry doctrine.
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|  **Week** **1.****2.****3.****4.****5.****6.****7.** **8.****9.****10.****11.****12.****13.****14.****15.****16.** | **Course Contents and Learning Activities** Introduction to General ChemistryThe structure of atoms, atom modelsMolecules and IonsPeriodic TableChemical Bonding and Lewis StructuresIntermolecular ForcesIntroduction to StoichiometryWriting Chemical formulasGases and Gas LawsReactions in Aqueous Solutions, concentration calculationsMid TermKinetics and reaction mechanismsThermodynamics and Principles of ThermodynamicsAcids-Bases, Buffers - IntroductionAcids-Bases, BuffersChemical Equilibrium, Solubility |

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| **Assessment Methods**  | **Number** | Percentage % |
| **Attendance(a)** | 16 | 5 |
| **Laboratory** | 0 | 0 |
| **Application** | 0 | 0 |
| **Field Activities** | 0 | 0 |
|  **Specific Practical Training**  | 0 | 0 |
| **Assignments and Pre- Post-tests** | 16 | 10 |
| **Presentation** | 0 | 0 |
| **Projects** | 0 | 0 |
| **Seminar** | 0 | 0 |
| **Midterm exam** | 1 | 25 |
| **Final exam** | 1 | 60 |
| **Total** |  |  |  | **100** |

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| **Textbook/****References** |  **Different textbooks from various sources.** |
|  | 1. Theodore E. Brown, H. Eugene H LeMay, Bruce E. Bursten, Catherine Murphy, Patrick Woodward, Matthew E Stoltzfus, Chemistry: The Central Science, 13th Ed., Pearson Education, Inc., 2015.
2. Ralph H. Petrucci, F. Geoffrey Herring, Jeffry D. Madura, Carey Bissonnette, General Chemistry: Principles and Modern Applications, 10th Ed., Pearson Canada Inc., Toronto, Ontario, 2011.
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| No | **Competencies of Pharmacy Program** | **Contribution** |
| 1 | 2 | 3 | 4 | 5 |
| 1 | Implements skills in all areas of occupations obtained from pharmaceutical basic and professional sciences within the scope and framework of rules of ethics, religion, language, race, gender and socio-economic discrimination in collaboration with the relevant professional administrators and regulatory authorities. |  |  | X |  |  |
| 2 | Communicates effectively with community members, health care professionals, policy makers and administrators to transfer information of professional pharmacy applications and usage of pharmaceutical products. | X |  |  |  |  |
| 3 | In the frame of pharmaceutical care and clinical applications, evaluates accuracy and cost-effectiveness of medication treatment, solve the problems and give decisions. |  | X |  |  |  |
| 4 | Acquire the current and evidence-based information by using relevant information technologies to apply the rational use of natural, synthetic and biotechnological drugs and give education, information and consultation to community members, other health-care providers and constitutions.  | X |  |  |  |  |
| 5 | Experienced the basic and professional knowledge to manage, apply and make decision of the entire process related to design, handling and consumption of natural, synthetic and biotechnological pharmaceuticals. |  | X |  |  |  |
| 6 | Possess cultural competency and consciousness to design, implement, and monitor patient-oriented pharmacy practice for the improvement of the quality of heath care by making joint cooperation. |  | X |  |  |  |
| 7 | Raise consciousness to application of modern scientific and technological developments in pharmaceutical field by the awareness of lifelong learning. |  |  | X |  |  |
| 8 | Experienced to research and development, quality control, good manufacturing practices and has knowledge to manage and apply the license process of pharmaceutical products.  |  | X |  |  |  |
| 9 | As a pharmacist with the universal norms, has foreign language proficiency to follow professional developments, conduct research and developments and competent to communicate patients and other healthcare professionals. | X |  |  |  |  |
| 10 | Gather patient histories, determine needs and priorities of patients, prevent individual diseases, know, define and apply the planning and management process of treatment.  | X |  |  |  |  |

WORKLOAD AND ECTS CALCULATION

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| **Activities** | **Number** | **Duration (hour)** | **Total Work Load** |
| **Course Duration (x16)** |  16 |  2 | 32  |
| **Laboratory** |  |  |  |
| **Application** |  |  |  |
| **Specific practical training** |  |  |  |
| **Field activities** |  |  |  |
| **Presentation / Seminar Preparation** |  |  |  |
| **Project** |  |  |  |
| **Homework assignment** | 13 | 1 | 13 |
| **Pre-post Test (Study duration)** | 16 | 1 | 16 |
| **Midterms (Study duration)** | 1 | 20 | 20 |
| **Final Exam (Study duration)**  | 1 | 19 | 19 |
| Total Workload | **47** | **63** | **100** |
| **ECTS Credit of Course (Total Workload/25)** |  |  | **4** |