**BİRUNİ UNİVERSİTY**

**“The Future of Science”**

**FACULTY OF PHARMACY**

**…….. DEPARTMENT**

 **COURSE INFORMATION PACKAGE**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Course Code** | **Course optic Code**  |  **Theory****hours/week** | **Application****hours/week** | **Credit** | **ECTS** |
|  **ECZ229** |  | **4**  |  |  **4** |  **6** |
| **Course Name** | Organic Chemistry |
| **Semester** | 2016-2017 Fall |
| **Course Type** | Obligatory  |
| **Program** |  | Pharmacy |
| **Course Language** | Turkish |
| **Prerequisite** | General Chemistry |
| **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** | The main objective is to teach students basic concepts of organic chemistry, structural properties of organic compounds, their synthesis and fundamental reactions. The information about nomenclature of organic compounds and functional groups are given to the students and through teaching basic reactions, it is aimed that the students will have an idea about how to synthesize organic compounds. It also provides information regarding intermolecular interactions that plays important role in the interaction of active pharmaceutical ingredient with the target receptor. |
| **Learning Outcomes** | Students will have knowledge about;1. Identifying structural properties of organic compounds,
2. Writing characteristic reactions and mechanisms of organic compounds,
3. Using acquired knowledge of organic chemistry in both their educational and professional life.
 |

|  |  |
| --- | --- |
|  **Week** **1.****2.****3.****4.****5.****6.****7.** **8.****9.****10.****11.****12.****13.****14.****15.****16.** | **Course Contents and Learning Activities** Introduction to Functional Groups and Intermolecular ForcesAn Introduction to Organic Reactions and Their MechanismsAlkanes and CycloalkanesStereochemistryIonic Reactions: Nucleophilic Substitution and Elimination Reactions of Alkyl HalidesAlkenes and Alkynes I: Properties and SynthesisAlkenes and Alkynes II: ReactionsMid TermAlcohols and Ethers: Synthesis and ReactionsAlcohols from Carbonyl Compounds: Oxidation–ReductionAromatic CompoundsReactions of Aromatic CompoundsAldehydes and KetonesReactions of Aldehydes and KetonesCarboxylic Acids and Their DerivativesAmines, Phenols |

|  |  |  |
| --- | --- | --- |
| **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** |

|  |  |
| --- | --- |
| **Textbook/****References** |  **Different textbooks from various sources.** |
|  | 1. T. W. Graham Solomons, C. B. Fryhle, Organic Chemistry, 11th Ed., , John Wiley & Sons, Toronto, 2014.
2. T. W. Graham Solomons, C. B. Fryhle, Organic Chemistry, 7th Ed., (Çeviri Editörleri: Gürol Okay, Yılmaz Yıldırır, Literatür Yayıncılık, 2002), John Wiley & Sons, Toronto, 2000.
3. K. Peter C. Vollhardt, Neil E. Schore, Organik Kimya - Yapı ve İşlev, (Çeviri editörleri: Tahsin Uyar, Fatma Sevin Düz, Palme Yayınevi, 2011), 6th Ed., Macmillan, NY, USA, 2011.
4. O, Tadashi, M. Howard, Organic Chemistry A mechanistic approach, OXFORD University Press, November 2013.
 |

|  |  |  |
| --- | --- | --- |
| 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

|  |  |  |  |
| --- | --- | --- | --- |
| **Activities** | **Number** | **Duration (hour)** | **Total Work Load** |
| **Course Duration (x16)** |  16 |  4 | 64  |
| **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 | 32 | 32 |
| **Final Exam (Study duration)**  | 1 | 25 | 25 |
| Total Workload | **47** | **63** | **150** |
| **ECTS Credit of Course (Total Workload/25)** |  |  | **6** |