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| **PhD** | | | | | |
| Course Code | Course Name | ECTS | T+P+L | C/E | Language |
| Fall Semester | | | | | |
| 521703301 | [EXPERIMENTAL PHARMACOLOGY I](#DERS521701301) | 7,5 | 1+4+0 | ELECTİVE | TURKISH |
| 521703302 | [PHARMACOLOGICAL DRUG INTERACTION](#DERS521701302) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521703303 | [AUTONOMIC NERVOUS SYSTEM I](#DERS521701303) | 7,5 | 3+0+0 | COMPULSORY | TURKISH |
| 521703304 | [USE OF MEDICINES IN OLD PEOPLE](#DERS521701304) | 7,5 | 2+2+0 | ELECTİVE | TURKISH |
| 521703305 | [AUTACOIDS](#D13) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521703307 | [CARDIOVASCULAR PHARMACOLOGY I](#DERS521701307) | 7,5 | 3+0+0 | COMPULSORY | TURKISH |
| 521703308 | [MOLECULAR PHARMACOLOGY](#DERS521701308) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521703309 | [ADVANCED PHARMACOKINETICS](#DERS521701309) | 7,5 | 1+4+0 | ELECTİVE | TURKISH |
| 521703310 | [PHYTOCHEMICAL BASED DRUGS](#DERS521701310) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521703311 | [BASIC PRINCIPLES IN PHARMACOLOGY](#DERS521701311) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521704303 | [PHARMACOLOGY OF](#DERS521702303)  [CENTRAL NERVOUS SYSTEM I](#DERS521702303) | 7,5 | 3+0+0 | COMPULSORY | TURKISH |
| 521101600 | SPECIALIZATION FIELD COURSE | 5 | 3+0+0 | COMPULSORY | TURKISH |
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| 521704301 | [AGENTS AFFECTING VOLUME AND COMPOSITION OF BODY FLUIDS](#DERS521702301) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521704302 | [EXPERIMENTAL PHARMACOLOGY II](#DERS521702302) | 7,5 | 1+4+0 | COMPULSORY | TURKISH |
| 521704304 | [MEDICAL TREATMENT DURING PREGNANCY](#DERS521702304) | 7,5 | 2+2+0 | ELECTİVE | TURKISH |
| 521704305 | [PHARMACOLOGY OF](#DERS521702305)  [CENTRAL NERVOUS SYSTEM II](#DERS521702305) | 7,5 | 3+0+0 | COMPULSORY | TURKISH |
| 521703306 | [AUTONOMIC NERVOUS SYSTEM II](#D17) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521704306 | [ENDOCRINE PHARMACOLOGY](#DERS521702306) | 7,5 | 3+0+0 | COMPULSORY | TURKISH |
| 521704307 | [CHEMOTHERAPEUTICS](#DERS521702307) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521704308 | [CHEMOTHERAPY OF NEOPLASTIC DISEASES](#DERS521702308) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521704309 | [PHARMACOGENETICS](#DERS521702309) | 7,5 | 2+2+0 | ELECTİVE | TURKISH |
| 521704310 | [CARDIOVASCULAR PHARMACOLOGY II](#DERS521702310) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521704311 | [ADVANCEDCLINICAL PHARMACOLOGY](#DERS521702311) | 7,5 | 2+2+0 | COMPULSORY | TURKISH |
| 521704312 | [ADVANCED THERAPEUTIC DRUG MONITORING (TDM)](#DERS521702312) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521704313 | [The pharmacological basis of pain](#DERS521702313) | 7,5 | 3+0+0 | ELECTİVE | TURKISH |
| 521701600 | SPECIALIZATION FIELD COURSE | 5 | 3+0+0 | COMPULSORY | TURKISH |
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| **COURSE CODE:** | **521703301** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **EXPERİMENTAL PHARMACOLOGY I** | | | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Kevser EROL | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | | x |  |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **x** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring  Autumn **x** | 1 | 4 | |  | 3 | 7,5 | COMPULSORY ELECTIVE  **x ** | |
|  | | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | | |
| **MID-TERM** | | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | | |  | | | | |
| **COURSE CONTENT** | | | | Pharmacodynamics, pharmacokinetics, therapeutic evaluation, rational prescribing, official regulation of medicines social aspects like that pharmacoeconomics.Good clinical practise. | | | | |
| **COURSE AIMS** | | | | General information about experimental animals, ,ethical laws, principles of proper laboratory animals, manipulation of animals, routes of drug administration, methods of injection, collection of blood, methods of anesthesia, antinociceptive acivity tests, motor acivity, plus maze tests (for anxiolytic activity and learrning test, anticonvulsant activity tests and indirect measurement of blood pressure in rats | | | | |
| **COURSE OBJECTIVES** | | | | To teach the general aspects of technical information and ethical laws about laboratory animal use and in vivo methods used in pharmacological study | | | | |
| **TEXTBOOK(S)** | | | | 1. Başaran A., Deney Hayvanları,Nisan Kitabevi,Eskişehir,2003; | | | | |
| **REFERENCES** | | | | 1. Waynforth HB, Flecknell PA, Experimental and Surgical Tecnique in the rat, Academic Press, London (Second ed.) 1994.  2. Harkness JE, Wagner JE, The Biology and Medicine of Rabbits and Rodents Wlliams and Wilkins ,Philadelphia, (Fourth ed.)1995. | | | | |
|  | **COURSE SYLLABUS** | | | | | | | | |
| **WEEK** | **DATE** | | **SUBJECTS/TOPICS** | | | | | | |
| 1 |  | | Information of laboratory animals | | | | | | |
| 2 |  | | Manipulation of rodents | | | | | | |
| 3 |  | | Ethical laws | | | | | | |
| 4 |  | | Oral and parenteral drug administration technics to rodents | | | | | | |
| 5 |  | | Technics of collecting blood | | | | | | |
| 6 |  | | Technics of anesthesia | | | | | | |
| 7 |  | | Antinociceptive activity tests (tail flick, tail clip, hot plat and writhing tests | | | | | | |
| 8 |  | | **Mid term exam** | | | | | | |
| 9 |  | | Motor activity tests (Rot a rod test) | | | | | | |
| 10 |  | | Plus maze tests (for anxiolytic activity and learning) | | | | | | |
| 11 |  | | Forced swimming tests for antidepressant activity in mice and rats | | | | | | |
| 12 |  | | Anticonvulsant activity tests | | | | | | |
| 13 |  | | Indirect measurement of blood pressure in rats | | | | | | |
| 14 |  | | Eutanasia of laboratory animals | | | | | | |
| 15 |  | | Autopsy of laboratory animals | | | | | | |
| 16 |  | | **Final exam** | | | | | | |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **x** |  |
| 2 | ask scientific questions and form hypothesis |  | **x** |  |
| 3 | search and interpret scientific literature |  | **x** |  |
| 4 | design and conduct experiments as well as analyze and interpret the data |  |  | **x** |
| 5 | learn how to use the experimental equipment effectively |  |  | **x** |
| 6 | function on multi-disciplinary teams |  |  | **x** |
| 7 | identify, formulate, and solve medical problems |  | **x** |  |
| 8 | use computer effectively both in conducting the experiments and analyzing the data | **x** |  |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **x** |
| 10 | use effective written and oral communication/presentation skills |  |  | **x** |
| 11 | get an understanding of professional and ethical responsibility |  |  | **x** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  | **x** |  |

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| **Instructor Name**  Prof. Dr. Kevser EROL  **Sign** | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521703302** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **PHARMACOLOGİCAL DRUG INTERACTİON** | | | | | |
| **INSTRUCTOR NAME**  Assoc. Prof. Dr. Mahmut OZDEMIR | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

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| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **x** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring****  Autumn **x** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Pharmacodinamic interactions, pharmacokinetic interactions | | | | |
| **COURSE AIMS** | | | Learn, types of interaction appeared when two or more drugs used together | | | | |
| **COURSE OBJECTIVES** | | | Learn, pharmacological interaction which can cause of increase or decrease of drug effects | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Pharmacodinamic, pharmacokinetic and pharmaceutics interactions |
| 2 |  | Pharmacodinamic interactions and antagonism |
| 3 |  | Chemical antagonism and antidotes |
| 4 |  | Physiologic antagonism |
| 5 |  | Pharmacologic antagonism |
| 6 |  | Synergism |
| 7 |  | Mid-term exam |
| 8 |  | Pharmacokinetics interactions |
| 9 |  | Drug interactions in the course of absorption |
| 10 |  | Drug interactions in the course of distribution |
| 11 |  | Drug interactions in the course of biotransformation |
| 12 |  | Drug interactions in the course of excretion |
| 14 |  | Final exam |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

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| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  |  | **X** |
| 2 | ask scientific questions and form hypothesis |  |  | **X** |
| 3 | search and interpret scientific literature |  | **X** |  |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **X** |  |
| 5 | learn how to use the experimental equipment effectively |  | **X** |  |
| 6 | function on multi-disciplinary teams |  |  | **X** |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **X** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  | **X** |  |
| 11 | get an understanding of professional and ethical responsibility |  |  | **X** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **X** |

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| **Instructor Name**  Assoc. Prof. Dr. Mahmut ÖZDEMIR  **Sign** | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521703303** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **AUTONOM NERVOUS SYSTEMS I** | |  | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Kevser EROL | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

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| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **x** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring****  Autumn **x** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  **x ** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | General information about the autonomous nerve system and providing information about autonomic ganglions | | | | |
| **COURSE AIMS** | | | Overseeing the information about autonomus nerve systems | | | | |
| **COURSE OBJECTIVES** | | | Informing the students about endications, counterendications and effects of the medicines of this system: | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Introduction to Autonomic Nervous Systems |
| 2 |  | Introduction to Autonomic Nervous Systems |
| 3 |  | Neurohumoral Transmission of Autonom Nervous System |
| 4 |  | Neurohumoral Transmission of Autonom Nervous System |
| 5 |  | Biosynthesis and Biotransformation of Acetylcholine |
| 6 |  | Cholinergic receptors |
| 7 |  | **Mid-Term Exam** |
| 8 |  | Biosynthesis and Biotransformation of Catecholamines |
| 9 |  | Biosynthesis and Biotransformation of Catecholamines |
| 10 |  | Adrenergic receptors |
| 11 |  | Adrenergic receptors |
| 12 |  | Structures and neurotransmitters of autonomic ganglia |
| 14 |  | Ganglionic stimulatory drugs |
| 15 |  | Ganglionic blocker drugs |
| 16 |  | **Final exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **X** |  |
| 2 | ask scientific questions and form hypothesis |  |  | **X** |
| 3 | search and interpret scientific literature |  |  | **X** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **X** |  |
| 5 | learn how to use the experimental equipment effectively |  | **X** |  |
| 6 | function on multi-disciplinary teams |  | **X** |  |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **X** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  |  | **X** |
| 11 | get an understanding of professional and ethical responsibility |  |  | **X** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **X** |

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| **Instructor Name**  Prof. Dr. Kevser EROL  **Sign** | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521703304** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **USE OF MEDİCİNES İN THE OLD PEOPLE** | | | | | |
| **INSTRUCTOR NAME**  Prof.Dr.Fatma Sultan KILIÇ | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

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| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring ****  Autumn **x** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Speciality of elderness; determination of medicines preferred to be used during illness and elderness | | | | |
| **COURSE AIMS** | | | Correct choice of medical treatment during elderness | | | | |
| **COURSE OBJECTIVES** | | | Satisfying the use of medicines which do not harm the elder person. | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Factors affecting the absorption of medicines in the elder person |
| 2 |  | Factors affecting the metabolites of medicines in the elder person |
| 3 |  | Factors affecting the distributions of medicines in the elder person |
| 4 |  | Itrah of medicines in the elder person |
| 5 |  | Antihipertensives, diuretics and anticoagulans used in the elder person |
| 6 |  | Antiarrhythmias , Cardiyotonic glycosides used in the elder person |
| 7 |  | Respiratory Systems drugs used in the elder person |
| 8 |  | **Mid-Term Exam** |
| 9 |  | Gastrointestinal System Drugs used in the elder person |
| 10 |  | Neuropsychotic Drugs used in the elder person |
| 11 |  | Analgesics and antiinflammatuar drugs used in the elder person |
| 12 |  | Antibiotics used in the elder person |
| 13 |  | Hormones used in the elder person |
| 14 |  | Polipharmacy in the elder person |
| 15 |  | General rules of medical treatment for the elder people. |
| 16 |  | **Final Exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **X** |  |
| 2 | ask scientific questions and form hypothesis |  |  | **X** |
| 3 | search and interpret scientific literature |  |  | **X** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **X** |  |
| 5 | learn how to use the experimental equipment effectively |  | **X** |  |
| 6 | function on multi-disciplinary teams |  | **X** |  |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **X** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  |  | **X** |
| 11 | get an understanding of professional and ethical responsibility |  |  | **X** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **X** |

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| **Instructor Name**  Prof.Dr.Fatma Sultan KILIÇ  **Sign** | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521703305** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **AUTACOİDS** | |  | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Kevser EROL | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring****  Autumn **X** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | General characteristics of autacoids, histamine, serotonine, peptide autacoids and eicosanoids. | | | | |
| **COURSE AIMS** | | | To teach the detailed mechanisms of the drugs which affect autacoids | | | | |
| **COURSE OBJECTIVES** | | | To be able to realize the groups of the drugs which affect autacoids | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman.  8. Hardman JG, Limbird LE, Gilman AG, The Pharmacological Basis of Therapeutics,McGraw-Hill, New York, (10th ed.)2001.  9. Lüllmann H, Mohr K, Ziegler A.Atlas de Poche de Pharmacologie ,Medecine-Sciences Flammarion, Paris (2. baskı),1996 | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Introduction, |
| 2 |  | Histamine |
| 3 |  | Antihistaminic drugs |
| 4 |  | Serotonine |
| 5 |  | Serotonine antagonists |
| 6 |  | Peptide autacoids, angiotensins |
| 7 |  | Endothelins |
| 8 |  | **Mid term exam** |
| 9 |  | Kinins |
| 10 |  | Products of cycloxygenase |
| 11 |  | Products of lypoxygenase |
| 12 |  | Drugs effective in the synthesis and receptors of eicosanoids |
| 13 |  | Nitric oxide |
| 14 |  | Platellet acivating factor, EpDRF, EDHF |
| 15 |  | Drugs effective in the therpy of Gout and asthma |
| 16 |  | **Final exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  |  | **x** |
| 2 | ask scientific questions and form hypothesis |  |  | **x** |
| 3 | search and interpret scientific literature |  |  | **x** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  |  | **x** |
| 5 | learn how to use the experimental equipment effectively |  | **x** |  |
| 6 | function on multi-disciplinary teams |  |  | **x** |
| 7 | identify, formulate, and solve medical problems |  | **x** |  |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **x** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **x** |
| 10 | use effective written and oral communication/presentation skills |  | **x** |  |
| 11 | get an understanding of professional and ethical responsibility |  |  | **x** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **x** |

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| **Instructor Name**  Prof. Dr. Kevser EROL | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521703306** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **AUTONOM NERVOUS SYSTEMS II** | |  | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Kevser EROL | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

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| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  **x ** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | General information about the autonomous nerve system and providing information about sympathetic and parasympathetic system definitions of mechanisms: | | | | |
| **COURSE AIMS** | | | Overseeing the information about autonomus nerve systems | | | | |
| **COURSE OBJECTIVES** | | | Informing the students about endications, counterendications and effects of the medicines of this system: | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Introduction to Autonomic Nervous Systems |
| 2 |  | Introduction to Autonomic Nervous Systems |
| 3 |  | Introduction to Autonomic Nervous Systems |
| 4 |  | Sympathomimetisc |
| 5 |  | Sympathomimetisc |
| 6 |  | Sympatholitics |
| 7 |  | Sympatholitics |
| 8 |  | **Mid-Term Exam** |
| 9 |  | Parasympathomimetisc |
| 10 |  | Parasympathomimetisc |
| 11 |  | Parasympatholitics |
| 12 |  | Parasympatholitics |
| 13 |  | Drugs that effect to ganglions |
| 14 |  | Drugs that effect to ganglions |
| 15 |  | General Revise |
| 16 |  | **Final Exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **X** |  |
| 2 | ask scientific questions and form hypothesis |  |  | **X** |
| 3 | search and interpret scientific literature |  |  | **X** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **X** |  |
| 5 | learn how to use the experimental equipment effectively |  | **X** |  |
| 6 | function on multi-disciplinary teams |  | **X** |  |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **X** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  |  | **X** |
| 11 | get an understanding of professional and ethical responsibility |  |  | **X** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **X** |

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| **Instructor Name**  Prof. Dr. Kevser EROL | **Date:** 25.01.2018  25.01.2018 |

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| **COURSE CODE:** | **521703307** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME: CARDİOVASCULAR PHARMACOLOGY I** | | |  | | | |
| **INSTRUCTOR NAME**  Prof.Dr. Basar SIRMAGUL | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring****  Autumn **X** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  **x ** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Cardiovascular physiology and disorders, pharmacological theraphies, major drug class and their protective and treatment properties. Additionaly this course include that principles of CVS therapy and briefly cardiovascular medicine framework will given. | | | | |
| **COURSE AIMS** | | | The objectives of this course are to gain familiarity with the different classes of CVS drugs. To provide students with an understanding of the pharmacology of the essential elements of the cardiovascular system like that i] blood volume-blood pressure, ii] vascular tone, iii] heart rate and iv] force of contraction. These principles are then applied to a number of clinical conditions, i] myocardial ischaemia (angina pectoris), ii] heart failure and iii] hypertension. In addition, the students discuss the practical application of this knowledge in the clinical management of hypertension and other CVS disorders | | | | |
| **COURSE OBJECTIVES** | | | To provide instruction concerning the actions and mechanisms of action ofdrugs that influence the activity of the heart and blood vessels. Such drugs are relevant to many types of disease. In order to understand how the pharmacology of drugs leads to real or potential therapeutic benefit it is necessary to consider normal cardiovascular homeostasis and how this is affected by disease. Therefore we focus on homeostasis and disease in the course, with a view to providing some context for the pharmacology | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman.  8. Hardman JG, Limbird LE, Gilman AG, The Pharmacological Basis of Therapeutics,McGraw-Hill, New York, (10th ed.)2001.  9. Lüllmann H, Mohr K, Ziegler A.Atlas de Poche de Pharmacologie ,Medecine-Sciences Flammarion, Paris (2. baskı),1996 | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | The pathophysiological signs of the cardiovascular system |
| 2 |  | Introduction to the pharmacological therapies of the CVS |
| 3 |  | Diuretics |
| 4 |  | Drugs affecting renin and angiotensin systems |
| 5 |  | Drugs used for the treatment of myocardial ischemia |
| 6 |  | CVS simulations( spesific drugs effects on the hemodynamic parameters) |
| 7 |  | CVS’s drugs interactions and adverse effects |
| 8 |  | **Mid-term exam** |
| 9 |  | Antihypertensive agents |
| 10 |  | Pharmacological treatment of heart failure |
| 11 |  | Antiaggregan , anticoagülants, antiarrhythmic drugs |
| 12 |  | Drugs used in the treatment of hyperlipoproteinemias |
| 13 |  | Calcium channel antagonists and vasodilators |
| 14 |  | Beta adrenergic receptor antagonists |
| 15 |  | Centrally acting CVS agents |
| 16 |  | **Final exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **x** |  |
| 2 | ask scientific questions and form hypothesis |  | **x** |  |
| 3 | search and interpret scientific literature |  | **x** |  |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **x** |  |
| 5 | learn how to use the experimental equipment effectively |  | **x** |  |
| 6 | function on multi-disciplinary teams |  | **x** |  |
| 7 | identify, formulate, and solve medical problems |  |  | **x** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **x** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  | **x** |  |
| 10 | use effective written and oral communication/presentation skills |  | **x** |  |
| 11 | get an understanding of professional and ethical responsibility |  | **x** |  |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  | **x** |  |

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| **Instructor Name**  Prof.Dr. Basar SIRMAGUL | **Date:**25.01.2018 |

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| **COURSE CODE:** | **521703308** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **MOLECULAR PHARMACOLOGY** | |  | | | |
| **INSTRUCTOR NAME**  Assoc. Prof. Dr. Engin YILDIRIM | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

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| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring****  Autumn **X** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| COURSE CONTENT | | | Cell structure, organelles, drugs that affect these structures, receptors, ion channels, mitochondria, protein synthesis, cell nucleus, drug effects on DNA, RNA, The effects of drugs on subcellular structures, the basic elements of the relationship between biological structure-drug, molecular basis of major events related to subcelular components and replacing it by drugs and substances, signal transduction systems, receptor isolation studies. | | | | |
| **COURSE AIMS** | | | To get an understanding of drug action on molecular and cellular levels. | | | | |
| **COURSE OBJECTIVES** | | | To be able to use modern molecular pharmacological techniques to solve medical pharmacological problems | | | | |
| **TEXTBOOK(S)** | | | 1.Bruce Alberts, Alexander Johnson , Molecular Biology of Thecell  2. KAYAALP, S O. (2012); Akılcıl Tedavi Yönünden Tıbbi Farmakoloji. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Macromolecules: structure, shape and function |
| 2 |  | How cells are studied |
| 3 |  | Protein function |
| 4 |  | Basic genetic mechanisms |
| 5 |  | Recombinant DNA technology |
| 6 |  | PCR |
| 7 |  | Midterm examination |
| 8 |  | General principles of cell signalling |
| 9 |  | Signalling via G-protein –linked cell surface receptors |
| 10 |  | Signaling via Enzyme-linked cell surface receptors |
| 11 |  | Target cell adaptation |
| 12 |  | Western blotting |
| 13 |  | Southern blotting |
| 14 |  | Northern blotting |
| 15 |  | Paper discussion |
| 16 |  | Final examination |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **X** |  |
| 2 | ask scientific questions and form hypothesis |  | **X** |  |
| 3 | search and interpret scientific literature |  |  | **X** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  |  | **X** |
| 5 | learn how to use the experimental equipment effectively |  |  | **X** |
| 6 | function on multi-disciplinary teams |  | **X** |  |
| 7 | identify, formulate, and solve medical problems |  | **X** |  |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  |  | **X** |
| 9 | understand the impact of experimental solutions on national and international sciences |  | **X** |  |
| 10 | use effective written and oral communication/presentation skills |  | **X** |  |
| 11 | get an understanding of professional and ethical responsibility | **X** |  |  |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  | **X** |  |

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| **Instructor Name**  Assoc. Prof. Dr. Engin YILDIRIM |  |

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| **COURSE CODE:** | **521703309** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **PHARMACOKİNETİCS II** | |  | | | |
| **INSTRUCTOR NAME**  Assoc. Prof. Dr. Mahmut OZDEMIR | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring ****  Autumn **x** | 1 | 4 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | The course will examine processes of absorbtion, distribution and elimination of drugs as these relate to how rapidly, in what concentration and for how long the drug will appear at the target organ | | | | |
| **COURSE AIMS** | | | To be able to determine the dose of a drug that most closely achives a desired beneficial effect with minimal adverse effects in a selected patient | | | | |
| **COURSE OBJECTIVES** | | | To be able to apply pharmacokinetic principles to achieve improvement in therapeutic efficacy and reduction in toxicity | | | | |
| **TEXTBOOK(S)** | | | 1.Atkinson, Principles of Clinical Pharmacology | | | | |
| **REFERENCES** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti.  1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Clinical Pharmacokinetics |
| 2 |  | Clinical Pharmacokinetics |
| 3 |  | Drug absorbtion and bioavalibility |
| 4 |  | Drug absorbtion and bioavalibility |
| 5 |  | Effect of liver disease on pharmacokinetics |
| 6 |  | Effect of liver disease on pharmacokinetics |
| 7 |  | Midterm examination |
| 8 |  | Effect of renal disease on pharmacokinetics |
| 9 |  | Effect of renal disease on pharmacokinetics |
| 10 |  | Pharmacokinetics in patients with renal replacement therapy |
| 11 |  | Population pharmacokinetics |
| 12 |  | Population pharmacokinetics |
| 13 |  | Compartmental analysis of drug distribution |
| 14 |  | Noncompartmental versus compartmental pharmacokinetics |
| 15 |  | Distributed models of drug kinetics |
| 16 |  | Final examination |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  |  | **X** |
| 2 | ask scientific questions and form hypothesis |  | **X** |  |
| 3 | search and interpret scientific literature |  |  | **X** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  |  | **X** |
| 5 | learn how to use the experimental equipment effectively |  | **X** |  |
| 6 | function on multi-disciplinary teams |  | **X** |  |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  |  | **X** |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  | **X** |  |
| 11 | get an understanding of professional and ethical responsibility |  | **X** |  |
| 12 |  |  | **X** |  |

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| **Instructor Name**  Assoc. Prof. Dr. Mahmut OZDEMIR  **Sign** | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521703310** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **PHYTOCHEMİCAL BASED DRUGS** | |  | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Kevser EROL | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

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| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring****  Autumn **X** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x ** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | |  | | | | |
| **COURSE AIMS** | | |  | | | | |
| **COURSE OBJECTIVES** | | |  | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Overview to folk medicine |
| 2 |  | From folk medicine to modern therapy |
| 3 |  | Salicylates |
| 4 |  | Cardiac glycosides |
| 5 |  | Belladonna alcaloids |
| 6 |  | Vinca alcaloids |
| 7 |  | Opioids |
| 8 |  | Mid-Term Exam |
| 9 |  | Food supplements |
| 10 |  | Food supplements |
| 11 |  | Interaction of Food supplements and drugs |
| 12 |  | Interaction of Food supplements and drugs |
| 13 |  | Interaction of Food supplements and drugs |
| 14 |  | Interaction of Food supplements and drugs |
| 15 |  | General overview |
| 16 |  | Final Exam |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **X** |  |
| 2 | ask scientific questions and form hypothesis |  | **X** |  |
| 3 | search and interpret scientific literature |  |  | **X** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  |  | **X** |
| 5 | learn how to use the experimental equipment effectively |  |  | **X** |
| 6 | function on multi-disciplinary teams |  | **X** |  |
| 7 | identify, formulate, and solve medical problems |  | **X** |  |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  |  | **X** |
| 9 | understand the impact of experimental solutions on national and international sciences |  | **X** |  |
| 10 | use effective written and oral communication/presentation skills |  | **X** |  |
| 11 | get an understanding of professional and ethical responsibility | **X** |  |  |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  | **X** |  |

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| **Instructor Name**  Prof. Dr. Kevser EROL | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521703311** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **BASİC PRİNCİPLES İN PHARMACOLOGY** | | | | | |
| **INSTRUCTOR NAME**  Prof.Dr.Fatma Sultan KILIÇ | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

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| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring ****  Autumn **x** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Description of pharmacology, description of medicine, effects of medicines on human body. Reaction of human body to medicines, toxication and its treatment. Undesired, basic and toxic effects of medicines. Providing information about wise usage of medicines. | | | | |
| **COURSE AIMS** | | | 1-What is pharmacology?  2-Pharmacokinetics of medicines,  3-Pharmadynamics of medicines,  4-Effects of medicines and factors changing these effects,  5-Receptors and theories of medicine-receptor effects,  6-Dose-response relationships of medicines,  7-Agonist - antiagonist - partial agonist concepts,  8-Secestration, redistribution, virtual distribution, ionic trap concepts,  9-Bioadvantage, bioequivalance, pharmacologic equivalance concepts,  10-Efficasy- Power concepts | | | | |
| **COURSE OBJECTIVES** | | |  | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | What is pharmacology? |
| 2 |  | Pharmacokinetics of medicines, |
| 3 |  | Pharmadynamics of medicines, |
| 4 |  | Mid-term Exam |
| 5 |  | Effects of medicines and factors changing these effects, |
| 6 |  | Receptors and theories of medicine-receptor effects, |
| 7 |  | Dose-response relationships of medicines, |
| 8 |  | Final |
| 9 |  |  |
| 10 |  |  |
| 11 |  |  |
| 12 |  |  |
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**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NO |  | 1 | 2 | 3 |
| 1 | gather as well as apply knowledge of health sciences |  | X |  |
| 2 | ask scientific questions and form hypothesis |  |  | X |
| 3 | search and interpret scientific literature |  |  | X |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | X |  |
| 5 | learn how to use the experimental equipment effectively |  | X |  |
| 6 | function on multi-disciplinary teams |  | X |  |
| 7 | identify, formulate, and solve medical problems |  |  | X |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | X |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | X |
| 10 | use effective written and oral communication/presentation skills |  |  | X |
| 11 | get an understanding of professional and ethical responsibility |  |  | X |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | X |

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| Instructor Name  Prof.Dr.Fatma Sultan KILIÇ  Sign | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521704303** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **PHARMACOLOGY OF CENTRAL NERVOUS SYSTEM I** | | | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Fatma Sultan KILIÇ | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring  Autumn **X** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  **x ** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Neurotransmitter systems in central nervous system, amine neurotransmittres, amino acide neurotransmitters, peptide neurotransmitters, adenosinergic system, nitrergic system, neurosteroid system | | | | |
| **COURSE AIMS** | | | To teach the neurotransmitter systems in central nervous system | | | | |
| **COURSE OBJECTIVES** | | | To be able to realize the basic neurotransmitters | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | History and introduction |
| 2 |  | Neuromediators, synaps amd interactions |
| 3 |  | Dopaminergic system |
| 4 |  | Epinephrine and norepinephrine |
| 5 |  | Serotonine |
| 6 |  | Acetylcholine |
| 7 |  | Histamine |
| 8 |  | **Mid term exam** |
| 9 |  | GABA and glycine |
| 10 |  | Aspartate and glutamate |
| 11 |  | Opioide peptides |
| 12 |  | Substance P, other kinines and neuropeptides |
| 13 |  | Nitrergic system |
| 14 |  | Adenosinergic system |
| 15 |  | Neurosteroides |
| 16 |  | **Final exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  |  | **x** |
| 2 | ask scientific questions and form hypothesis |  |  | **x** |
| 3 | search and interpret scientific literature |  |  | **x** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  |  | **x** |
| 5 | learn how to use the experimental equipment effectively |  | **x** |  |
| 6 | function on multi-disciplinary teams |  |  | **x** |
| 7 | identify, formulate, and solve medical problems |  | **x** |  |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **x** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **x** |
| 10 | use effective written and oral communication/presentation skills |  | **x** |  |
| 11 | get an understanding of professional and ethical responsibility |  |  | **x** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **x** |

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| **Instructor Name**  Prof. Dr. Fatma Sultan KILIÇ  **Sign** | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521704301** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **AGENTS AFFECTİNG VOLUME AND COMPOSİTİON OF BODY FLUİDS** | | | | | |
| **INSTRUCTOR NAME**  Assoc. Prof. Dr. Engin YILDIRIM | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Diuretics, drugs used in the treatment of disturbances of fluid and electrolyte, drugs used in the treatment of disturbances of acid-base | | | | |
| **COURSE AIMS** | | | Learn, agents that increased the rate of urine, drugs used in the disturbances of sodium, potassium, magnesium and calcium, drugs used in the treatment of acidosis and alkalosis | | | | |
| **COURSE OBJECTIVES** | | | Learn, Agents affecting volume and composition of body fluids | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Basic principles of diuretic effect |
| 2 |  | Inhibitors of carbonic anhydrase |
| 3 |  | Thiazides |
| 4 |  | Loop diuretics |
| 5 |  | Potassium-sparing diuretics |
| 6 |  | Aldosterone antagonists |
| 7 |  | Inhibitors of sodium channel |
| 8 |  | Mid-term exam |
| 9 |  | Osmotic diuretics |
| 10 |  | Clinical pharmacology of diuretics |
| 11 |  | Dehydration, treatment of sodium disturbances |
| 12 |  | Hyperhydration |
| 13 |  | Drugs used in the treatment of hypokalemia and hyperkalemia |
| 14 |  | Drugs used in the treatment of hypocalcemia and hypercalcemia |
| 15 |  | Drugs used in the treatment of hypomagnesemia and hypermagnesemia |
| 16 |  | Drugs used in the treatment of acidosis |
| 17 |  | Drugs used in the treatment of alkalosis |
| 18 |  | Final exam |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  |  | **X** |
| 2 | ask scientific questions and form hypothesis |  |  | **X** |
| 3 | search and interpret scientific literature |  | **X** |  |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **X** |  |
| 5 | learn how to use the experimental equipment effectively |  | **X** |  |
| 6 | function on multi-disciplinary teams |  |  | **X** |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **X** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  | **X** |  |
| 11 | get an understanding of professional and ethical responsibility |  |  | **X** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **X** |

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| **Instructor Name**  Assoc. Prof. Dr. Engin YILDIRIM  **Sign** | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521704302** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **EXPERİMENTAL PHARMACOLOGY II** | | | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Kevser EROL | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 1 | 4 |  | 3 | 7,5 | COMPULSORY ELECTIVE  **x ** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | General information about experimental animals,the organization of an experimental pharmacological research,ethical laws, principles of proper laboratory animals, manipulation of animals, routes of drug administration, methods of injection, collection of blood, methods of anesthesia, methods of euthanasia, cell culturing methods | | | | |
| **COURSE AIMS** | | | To teach the general aspects of technical information and ethical laws about laboratory animal use | | | | |
| **COURSE OBJECTIVES** | | | To be able to realize and plan an experimantal research by using laboratory animals | | | | |
| **TEXTBOOK(S)** | | | 1. Başaran A., Deney Hayvanları,Nisan Kitabevi,Eskişehir,2003; | | | | |
| **REFERENCES** | | | 1. Waynforth HB, Flecknell PA, Experimental and Surgical Tecnique in the rat, Academic Press, London (Second ed.) 1994.  2. Harkness JE, Wagner JE, The Biology and Medicine of Rabbits and Rodents Wlliams and Wilkins ,Philadelphia, (Fourth ed.)1995. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Information of laboratory animals |
| 2 |  | Basic manuplation technics and Ethical laws |
| 3 |  | Dose-response curves and evaluations |
| 4 |  | Preparation of physiological solutions |
| 5 |  | Isolated intestinal preparations |
| 6 |  | Isolated rat gastric fundus preparation |
| 7 |  | Isolated vessel preparations |
| 8 |  | **Mid term exam** |
| 9 |  | Cell Culturing Methods |
| 10 |  | Cell Culturing Methods |
| 11 |  | Biochemical determinations on experimental ulcer models |
| 12 |  | Technics of anesthesia |
| 13 |  | Experimental gastric ulcer models |
| 14 |  | Direct measurement of blood pressure in in situ (anesthetized) rats |
| 15 |  | Direct measurement of blood pressure in conscious rats |
| 16 |  | **Final exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **x** |  |
| 2 | ask scientific questions and form hypothesis |  | **x** |  |
| 3 | search and interpret scientific literature |  | **x** |  |
| 4 | design and conduct experiments as well as analyze and interpret the data |  |  | **x** |
| 5 | learn how to use the experimental equipment effectively |  |  | **x** |
| 6 | function on multi-disciplinary teams |  |  | **x** |
| 7 | identify, formulate, and solve medical problems |  | **x** |  |
| 8 | use computer effectively both in conducting the experiments and analyzing the data | **x** |  |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **x** |
| 10 | use effective written and oral communication/presentation skills |  |  | **x** |
| 11 | get an understanding of professional and ethical responsibility |  |  | **x** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  | **x** |  |

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| **Instructor Name**  Prof. Dr. Kevser EROL  **Sign** | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521704304** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **MEDİCAL TREATMENT DURİNG PREGNANCY** | | | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Fatma Sultan KILIÇ | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

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| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 2 | 2 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Speciality of Pregnancy and Determination of Medicines which are preferred to be used during Illness and Pregnancy | | | | |
| **COURSE AIMS** | | | Selecting correct medicines during Pregnancy | | | | |
| **COURSE OBJECTIVES** | | | Satisfying the use of medicines which do not give harm to the pregnant and the baby | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Factors affecting the metabolism of medicines during pregnancy |
| 2 |  | Factors affecting the metabolism of medicines during pregnancy |
| 3 |  | Transfer of medicines through placenta |
| 4 |  | Distribution of medicines in pheto-placentea unit |
| 5 |  | Antihipertensives, diuretics and anticoagulans used during pregnancy |
| 6 |  | Antiarrhythmias , Cardiyotonic glycosides used during pregnancy |
| 7 |  | Respiratory Systems drugs used during pregnancy |
| 8 |  | **Mid-Term Exam** |
| 9 |  | Gastrointestinal System Drugs used during pregnancy |
| 10 |  | Neuropsychotic Drugs used during pregnancy |
| 11 |  | Analgesics and antiinflammatuar drugs used during pregnancy |
| 12 |  | Antibiotics used during pregnancy |
| 13 |  | Hormones used during pregnancy |
| 14 |  | Medicines used during birth |
| 15 |  | Medicines changing the function of uterus |
| 16 |  | **Final Exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **X** |  |
| 2 | ask scientific questions and form hypothesis |  |  | **X** |
| 3 | search and interpret scientific literature |  |  | **X** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **X** |  |
| 5 | learn how to use the experimental equipment effectively |  | **X** |  |
| 6 | function on multi-disciplinary teams |  | **X** |  |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **X** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  |  | **X** |
| 11 | get an understanding of professional and ethical responsibility |  |  | **X** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **X** |

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| **Instructor Name**  Prof. Dr. Fatma Sultan KILIÇ  **Sign** | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521704305** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **PHARMACOLOGY OF CENTRAL NERVOUS SYSTEM II** | | | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Fatma Sultan KILIC | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  **x ** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Drugs which have selective activity in central nervous system, analgesics, anesthetics, stimulants and depressants of central nervous system, drugs used Parkinson and Alzheimer diseases. | | | | |
| **COURSE AIMS** | | | To teach the detailed mechanisms of the drugs which have selective activity in central nervous system | | | | |
| **COURSE OBJECTIVES** | | | To be able to realize the groups of the drugs which affect the central nervous system | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman.  9. Hardman JG, Limbird LE, Gilman AG, The Pharmacological Basis of Therapeutics, McGraw-Hill, New York.  10.Rang HP, Dale MM, Ritter JM, Pharmacology, Churchill Livingstone, Edinburgh, (3th ed.)1995.  11. Lüllmann H, Mohr K, Ziegler A.Atlas de Poche de Pharmacologie, Medecine- Sciences Flammarion, Paris (2.baskı), 1996.  12. Taner D. Fonksiyonel Nöroanatomi,METU pres. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Introduction,neuromediators ans synaps |
| 2 |  | General anesthetics |
| 3 |  | Local anesthetics |
| 4 |  | Anxiolytic drugs |
| 5 |  | Hypnotics |
| 6 |  | Muscle relaxants |
| 7 |  | Alcohols |
| 8 |  | **Mid term exam** |
| 9 |  | Antipsychotics |
| 10 |  | Drugs effective in the therpy of Parkinson and Alzheimer diseases |
| 11 |  | Antidepressants |
| 12 |  | Stimulants of central nervous system |
| 13 |  | Antiepileptics |
| 14 |  | Antiinflammatory analgesics |
| 15 |  | Opioids |
| 16 |  | **Final exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  |  | **x** |
| 2 | ask scientific questions and form hypothesis |  |  | **x** |
| 3 | search and interpret scientific literature |  |  | **x** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  |  | **x** |
| 5 | learn how to use the experimental equipment effectively |  | **x** |  |
| 6 | function on multi-disciplinary teams |  |  | **x** |
| 7 | identify, formulate, and solve medical problems |  | **x** |  |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **x** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **x** |
| 10 | use effective written and oral communication/presentation skills |  | **x** |  |
| 11 | get an understanding of professional and ethical responsibility |  |  | **x** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **x** |

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| **Instructor Name**  Prof. Dr. Fatma Sultan KILIC | **Date:**  25.01.2018 |

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| --- | --- | --- | --- | --- | --- | --- |
| **COURSE CODE:** | **521704306** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **ENDOCRİNE PHARMACOLOGY** | |  | | | |
| **INSTRUCTOR NAME**  Assoc. Prof. Dr. Mahmut OZDEMIR | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  **x ** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Informing about the hormonal mechanism of body and the related hormones: | | | | |
| **COURSE AIMS** | | | Explanation of how the endocrine system works and informing about hypofisis,hipotalamus and the hormonal communication mechanisms of end-organs: | | | | |
| **COURSE OBJECTIVES** | | | Treatment with hormones in this system and informing students about the medicines: | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Introduction to endocrine systems |
| 2 |  | Introduction to endocrine systems |
| 3 |  | Hyphosis and hypothalamus hormones |
| 4 |  | Hyphosis and hypothalamus hormones |
| 5 |  | Tyroid hormones |
| 6 |  | Tyroid hormones |
| 7 |  | General Revise |
| 8 |  | **Mid-term Exam** |
| 9 |  | Agents that affect bone mineral homeositasis |
| 10 |  | Corticosteroids |
| 11 |  | Corticosteroids |
| 12 |  | Insuline |
| 13 |  | Oral Antidiabetics |
| 14 |  | The gonadal hormones and Inhibitors |
| 15 |  | The gonadal hormones and Inhibitors |
| 16 |  | **Final Exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **X** |  |
| 2 | ask scientific questions and form hypothesis |  |  | **X** |
| 3 | search and interpret scientific literature |  |  | **X** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **X** |  |
| 5 | learn how to use the experimental equipment effectively |  | **X** |  |
| 6 | function on multi-disciplinary teams |  | **X** |  |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **X** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  |  | **X** |
| 11 | get an understanding of professional and ethical responsibility |  |  | **X** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **X** |

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| **Instructor Name**  Assoc. Prof. Dr. Mahmut OZDEMIR | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521704307** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **CHEMOTHERAPEUTİCS** | |  | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Basar SIRMAGUL | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Providing information about antibiotics spectra, the illnesses they are used, the effect mechanisms, responses and contrendications and the development of resistance. | | | | |
| **COURSE AIMS** | | | Satisfying the selection of correct antibiotics for illnesses. | | | | |
| **COURSE OBJECTIVES** | | | Informing the student at a maximum level. | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Introduction to Chemotheropotics |
| 2 |  | Introduction to Chemotheropotics |
| 3 |  | Penicillines |
| 4 |  | Cephalosphorines |
| 5 |  | Quinolones |
| 6 |  | Lincosamides |
| 7 |  | Sulfonamides,Trimethoprine |
| 8 |  | **Mid-Term Exam** |
| 9 |  | Tetracyclines |
| 10 |  | Chloramphenicoles |
| 11 |  | Amynoglycosides |
| 12 |  | Antiviral agents |
| 13 |  | Antifungal agents |
| 14 |  | Ectoparasites , antiprotozoals, antihelmintics |
| 15 |  | Polypeptides antibiotics |
| 16 |  | **Final Exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **X** |  |
| 2 | ask scientific questions and form hypothesis |  |  | **X** |
| 3 | search and interpret scientific literature |  |  | **X** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **X** |  |
| 5 | learn how to use the experimental equipment effectively |  | **X** |  |
| 6 | function on multi-disciplinary teams |  | **X** |  |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **X** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  |  | **X** |
| 11 | get an understanding of professional and ethical responsibility |  |  | **X** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **X** |

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| **Instructor Name**  Prof. Dr. Basar SIRMAGUL | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521704308** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **CHEMOTHERAPY OF NEOPLASTİC DİSEASES** | | | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Kevser EROL | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Principles of chemotherapy of neoplastic diseases, alkylating agents, antimetabolites, vinca alkaloids and other natural plant products, cytotoxic antibiotics, cisplatin and other platinum derivatives, L-asparaginase, hormones and hormone antagonists, clinical pharmacology of cancer chemotherapy, immunotherapy | | | | |
| **COURSE AIMS** | | | Learn, basic concepts of cancer, types of drugs which used for chemotherapy of antineoplastic diseases, side effects of antineoplastic agents. | | | | |
| **COURSE OBJECTIVES** | | | Learn, the importance of drug therapy on treatment of neoplastic diseases, toxic effects of antineoplastic agents | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Principles of cancer and cancer chemotherapy |
| 2 |  | Limiting factors of activity of drugs in antineoplastic therapy |
| 3 |  | Cell cycles |
| 4 |  | Common side effects of antineoplastic agents |
| 5 |  | Alkylating agents |
| 6 |  | Antimetabolites |
| 7 |  | Mid-term exam |
| 8 |  | Vinca alkaloids and other natural plant products |
| 9 |  | Cytotoxic antibiotics |
| 10 |  | Cisplatin and other platinum derivatives, amiphostine |
| 11 |  | L-asparaginase |
| 12 |  | Hormones and hormone antagonists |
| 13 |  | Other antineoplastic agents |
| 14 |  | Clinical pharmacology of antineoplastic agents |
| 15 |  | Immunotherapy |
| 16 |  | Final exam |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  |  | **X** |
| 2 | ask scientific questions and form hypothesis |  |  | **X** |
| 3 | search and interpret scientific literature |  | **X** |  |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **X** |  |
| 5 | learn how to use the experimental equipment effectively |  | **X** |  |
| 6 | function on multi-disciplinary teams |  |  | **X** |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **X** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  | **X** |  |
| 11 | get an understanding of professional and ethical responsibility |  |  | **X** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **X** |

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| **Instructor Name**  Prof. Dr. Kevser EROL | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521704309** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **PHARMACOGENETİCS** | |  | | | |
| **INSTRUCTOR NAME**  Assoc. Prof. Dr. Engin YILDIRIM | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 2 | 2 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Deals with the changes of drug kinetics and drug response of the patients to drugs based on the genetic structure of ethnic groups and individuals. | | | | |
| **COURSE AIMS** | | | To get an understanding of impact of genetics on drug action . | | | | |
| **COURSE OBJECTIVES** | | | To be able to use pharmacogenetic principles to increase the theraupetic efficacy while decreasing toxicity. | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti.  2. Atkinson, Principles of Clinical Pharmacology | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Mechanisms of Inherited Genetic Variability |
| 2 |  | Methods in Pharmacogenetics |
| 3 |  | Genetics and Drug Absorption |
| 4 |  | Genetics and Drug Elimination |
| 5 |  | Article presentation |
| 6 |  | Article discussion |
| 7 |  | Midterm examination |
| 8 |  | Ethical and Legal Issues Within Pharmacogenetics |
| 9 |  | PCR |
| 10 |  | RFLP analysis |
| 11 |  | Receptor Pharmacogenetics |
| 12 |  | Current Methods for genetic testing |
| 13 |  | Phenotyping |
| 14 |  | Article presentation |
| 15 |  | Article discussion |
| 16 |  | Final examination |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  |  | **X** |
| 2 | ask scientific questions and form hypothesis |  | **X** |  |
| 3 | search and interpret scientific literature |  | **X** |  |
| 4 | design and conduct experiments as well as analyze and interpret the data |  |  | **X** |
| 5 | learn how to use the experimental equipment effectively |  |  | **X** |
| 6 | function on multi-disciplinary teams |  | **X** |  |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **X** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  |  | **X** |
| 11 | get an understanding of professional and ethical responsibility | **X** |  |  |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning | **X** |  |  |

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| **Instructor Name**  Assoc. Prof. Dr. Engin YILDIRIM | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521704310** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **CARDİOVASCULAR PHARMACOLOGY II** | | | | | |
| **INSTRUCTOR NAME**  Prof. Dr. Basar SIRMAGUL | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 3 | 0 |  | 3 | 7,5 | COMPULSORY ELECTIVE  **x ** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Cardiovascular physiology and disorders, pharmacological theraphies, major drug class and their protective and treatment properties. Additionaly this course include that principles of CVS therapy and briefly cardiovascular medicine framework will given. | | | | |
| **COURSE AIMS** | | | The objectives of this course are to gain familiarity with the different classes of CVS drugs. To provide students with an understanding of the pharmacology of the essential elements of the cardiovascular system like that i] blood volume-blood pressure, ii] vascular tone, iii] heart rate and iv] force of contraction. These principles are then applied to a number of clinical conditions, i] myocardial ischaemia (angina pectoris), ii] heart failure and iii] hypertension. In addition, the students discuss the practical application of this knowledge in the clinical management of hypertension and other CVS disorders | | | | |
| **COURSE OBJECTIVES** | | | To provide instruction concerning the actions and mechanisms of action ofdrugs that influence the activity of the heart and blood vessels. Such drugs are relevant to many types of disease. In order to understand how the pharmacology of drugs leads to real or potential therapeutic benefit it is necessary to consider normal cardiovascular homeostasis and how this is affected by disease. Therefore we focus on homeostasis and disease in the course, with a view to providing some context for the pharmacology | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | The pathophysiological signs of the cardiovascular system |
| 2 |  | Introduction to the pharmacological therapies of the CVS |
| 3 |  | Diuretics |
| 4 |  | Drugs affecting renin and angiotensin systems |
| 5 |  | Drugs used for the treatment of myocardial ischemia |
| 6 |  | CVS simulations( spesific drugs effects on the hemodynamic parameters) |
| 7 |  | CVS’s drugs interactions and adverse effects |
| 8 |  | **Mid-term exam** |
| 9 |  | Antihypertensive agents |
| 10 |  | Pharmacological treatment of heart failure |
| 11 |  | Antiaggregan , anticoagülants, antiarrhythmic drugs |
| 12 |  | Drugs used in the treatment of hyperlipoproteinemias |
| 13 |  | Calcium channel antagonists and vasodilators |
| 14 |  | Beta adrenergic receptor antagonists |
| 15 |  | Centrally acting CVS agents |
| 16 |  | **Final exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  | **x** |  |
| 2 | ask scientific questions and form hypothesis |  | **x** |  |
| 3 | search and interpret scientific literature |  | **x** |  |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **x** |  |
| 5 | learn how to use the experimental equipment effectively |  | **x** |  |
| 6 | function on multi-disciplinary teams |  | **x** |  |
| 7 | identify, formulate, and solve medical problems |  |  | **x** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **x** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  | **x** |  |
| 10 | use effective written and oral communication/presentation skills |  | **x** |  |
| 11 | get an understanding of professional and ethical responsibility |  | **x** |  |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  | **x** |  |

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| **Instructor Name**  Prof. Dr. Basar SIRMAGUL | **Date:**25.01.2018 |

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| **COURSE CODE: 521704311** | | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **CLİNİCAL PHARMACOLOGY II** | |  | | | |
| **INSTRUCTOR NAME**  Assoc. Prof. Dr. Mahmut OZDEMIR | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

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| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 2 | 2 |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Pharmacodynamics, pharmacokinetics, therapeutic evaluation, rational prescribing, official regulation of medicines social aspects like that pharmacoeconomics.Good clinical practise. | | | | |
| **COURSE AIMS** | | | Its objective is to optimise drug therapy and it is justified in so far as it is of practical using. | | | | |
| **COURSE OBJECTIVES** | | | Rational , safe and effective drug therapy. Drug therapy of individual diseases.  İn use of drug,adverse reactions, ethical applications, new drug development and evaluation. | | | | |
| **TEXTBOOK(S)** | | | 1. Clinical pharmacology, D.R Laurence eight edition,Churchill Livingstone  2. Klinik Farmakolojinin esasları ve temel düzenlemeler ,Prof.Dr.S Oğuz Kayaalp | | | | |
| **REFERENCES** | | | 1. Walley T,Clinical pharmacology and therapeutics in undergraduate medical education in the UK  2. Dukes G. Clinical pharmacology and primary health care in Europe. | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Discovery and developments of drugs |
| 2 |  | Preclinical studies in animals |
| 3 |  | Ethics |
| 4 |  | Pharmacological tests |
| 5 |  | Experimental therapeutics |
| 6 |  | Ethics of research in man |
| 7 |  | New drug ( ethical conduct of clinical research) |
| 8 |  | Phases of clinical development |
| 9 |  | **Exam** |
| 10 |  | Official regulatory guidelines and requırements |
| 11 |  | Therapeutic evaluation |
| 12 |  | Statistics |
| 13 |  | Therapeutic trials |
| 14 |  | Double blind-single blind etc. techniques |
| 15 |  | Meta analysis and pharmacoepidemiology |
| 16 |  | **Final exam** |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  |  | **x** |
| 2 | ask scientific questions and form hypothesis |  |  | **x** |
| 3 | search and interpret scientific literature |  |  | **x** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **x** |  |
| 5 | learn how to use the experimental equipment effectively |  | **x** |  |
| 6 | function on multi-disciplinary teams |  |  | **x** |
| 7 | identify, formulate, and solve medical problems |  |  | **x** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  |  | **x** |
| 9 | understand the impact of experimental solutions on national and international sciences |  | **x** |  |
| 10 | use effective written and oral communication/presentation skills |  | **x** |  |
| 11 | get an understanding of professional and ethical responsibility |  |  | **x** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  | **x** |  |

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| **Instructor Name**  Assoc. Prof. Dr. Mahmut OZDEMIR | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521704312** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME: ADVANCED THERAPEUTİC DRUG MONİTORİNG (TDM)** | | | | | | |
| **INSTRUCTOR NAME**  Prof.Dr. Basar SIRMAGUL | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
|  | |  | |  | x |  |

**COURSE LEVEL**

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| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **X** | **** |

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| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | | **COURSE OF** | | | | |
| **Theoric** | **Practice** | | **Laboratory** | **Credit** | **ECTS** | **TYPE** | | |
| Spring **X**  Autumn **** | 3 | 0 | |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | | |
|  | | | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | | | |
| **MID-TERM** | | | | **ACTIVITY** | | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | | 1 | 50 |
| 2 nd Mid- Term | | | |  |  |
| Quiz | | | |  |  |
| Homework | | | |  |  |
| Project | | | |  |  |
| Oral Exam | | | |  |  |
| Other (………) | | | |  |  |
| **FINAL** | | | | Quiz | | | |  |  |
| Homework | | | |  |  |
| Project | | | |  |  |
| Oral Exam | | | |  |  |
| Other(……written………….) | | | | **1** | **50** |
| **MAKE-UP EXAM** | | | | Oral | | Written | | Oral and Written | Multiple Choice |
|  | |  | |  |  |
| **PREREQUISITE(S)** | | | |  | | | | | |
| **COURSE CONTENT** | | | | Theoretical and practical information about fundamentals of therapeutic drug monitoring and drug analysis methods | | | | | |
| **COURSE AIMS** | | | | Learn beasic principles of therapeutic drug monitoring | | | | | |
| **COURSE OBJECTIVES** | | | |  | | | | | |
| **TEXTBOOK(S)** | | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | | |
| **REFERENCES** | | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman. | | | | | |
|  | **COURSE SYLLABUS** | | | | | | | | |
| **WEEK** | **DATE** | | **SUBJECTS/TOPICS** | | | | | | |
| 1 |  | | Fundamentals of therapeutic drug monitoring | | | | | | |
| 2 |  | | Why TDM is necessary? The features and samples of drugs that are monitored | | | | | | |
| 3 |  | | TDM basics | | | | | | |
| 4 |  | | TDM methods for blood samples | | | | | | |
| 5 |  | | FDA and EMA regulations for TDM | | | | | | |
| 6 |  | | Criteria and features of commonly monitored drugs | | | | | | |
| 7 |  | | The importance of TDM | | | | | | |
| 8 |  | | Pharmacokinetic parameters and applications in TDM | | | | | | |
| 9 |  | | Collection, manipulation and storage of data for nTDM | | | | | | |
| 10 |  | | Methods used in TDM | | | | | | |
| 11 |  | | The interpretations of the results | | | | | | |
| 12 |  | | FINAL EXAM | | | | | | |
| 13 |  | |  | | | | | | |
| 14 |  | |  | | | | | | |
| 15 |  | |  | | | | | | |
| 16 |  | |  | | | | | | |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  |  | **x** |
| 2 | ask scientific questions and form hypothesis |  |  | **x** |
| 3 | search and interpret scientific literature |  |  | **x** |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **x** |  |
| 5 | learn how to use the experimental equipment effectively |  | **x** |  |
| 6 | function on multi-disciplinary teams |  |  | **x** |
| 7 | identify, formulate, and solve medical problems |  |  | **x** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  |  | **x** |
| 9 | understand the impact of experimental solutions on national and international sciences |  | **x** |  |
| 10 | use effective written and oral communication/presentation skills |  | **x** |  |
| 11 | get an understanding of professional and ethical responsibility |  |  | **x** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  | **x** |  |

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| **Instructor Name**  Prof.Dr. Basar SIRMAGUL | **Date:**  25.01.2018 |

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| **COURSE CODE:** | **521704313** | | **DEPARTMENT: PHARMACOLOGY** | | | |
| **COURSE NAME:** | **THE PHARMACOLOGİCAL BASİS OF PAİN** | | | | | |
| **INSTRUCTOR NAME** | | **COURSE LANGUAGE**  **Turkish: x**  **English: ** | | **Course Catagory** | | |
| Technical | Medical | Other(……) |
| Assoc. Prof. Dr. Engin YILDIRIM | |  | |  | x |  |

**COURSE LEVEL**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROPAEDEUTIC** | **M.SC.** | **Ph.D.** | **COURSE OF PROVINCE** |
| **** | **** | **x** | **** |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **SEMESTER** | **WEEKLY COURSE PERIOD** | | | **COURSE OF** | | | |
| **Theoric** | **Practice** | **Laboratory** | **Credit** | **ECTS** | **TYPE** | |
| Spring **X**  Autumn **** | 3 |  |  | 3 | 7,5 | COMPULSORY ELECTIVE  ** x** | |
|  | | | | | | | |
| **ASSESMENT CRITERIA** | | | | | | | |
| **MID-TERM** | | | **ACTIVITY** | | | **Quantity** | **Percentage (%)** |
| 1st Mid-Term | | | 1 | 50 |
| 2 nd Mid- Term | | |  |  |
| Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other (………) | | |  |  |
| **FINAL** | | | Quiz | | |  |  |
| Homework | | |  |  |
| Project | | |  |  |
| Oral Exam | | |  |  |
| Other(……written………….) | | | **1** | **50** |
| **MAKE-UP EXAM** | | | Oral | | Written | Oral and Written | Multiple Choice |
|  | |  |  |  |
| **PREREQUISITE(S)** | | |  | | | | |
| **COURSE CONTENT** | | | Definition and classification of pain, physiopathogenesis of pain, experimental pain models, drugs that are used in the treatment of pain. | | | | |
| **COURSE AIMS** | | | 1-To learn the classification and identification of pain  2- To learn the pathogenesis of pain  3- To learn the pain transmission pathways  4- To learn the pain theories  5- To learn the Central and peripheral pain mechanisms  6- To learn the experimental pain models that are used in pain resaearch.  7- To learn the drugs that are esed in pain treatment. | | | | |
| **COURSE OBJECTIVES** | | | Identification of pain, to learn the types of pain,to learn the esperimental pain models that are used in pain research. To gain the knowledge about the drugs that are used in the treatment of pain. | | | | |
| **TEXTBOOK(S)** | | | 1. KAYAALP, S O. 2012; Akılcıl Tedavi Yönünden Tıbbi Farmakoloji.Pelikan Yayıncılık, Ltd. Şti. | | | | |
| **REFERENCES** | | | 1. CİNGİ, I; EROL, K. 1996; Anadolu Üniversitesi Açık Öğretim Fakültesi Sağlık Personeli Önlisans Eğitimi, Farmakoloji.  2. DÖKMECİ, I. 2007; M.Y. Okulları için Farmakoloji Dersleri. Nobel Tıp Kitapevleri.  3. SÜZER, Oner. Farmakolojinin Temelleri. 2005. 3. Baskı.. Nobel Tıp Kitapevleri.  4. GOODMAN AND GİLLMAN‘S . 2011. The Pharmacological basis of Therapeutics.  12th edition.  5. Goodman ve Gillman’ın Farmakoloji ve Tedavi El Kitabı. 2017.2. Baskı. Güneş Tıp Kitabevleri.  5. Temel ve Klinik Farmakoloji: Bertram G. Katzung, 2014. Nobel Tıp Kitapevleri  6. Pharmacology: H.P.Rang, M.M Dale, J.M.Ritter,  7. Lippincott’sPharmacology: Richard Harvey, Pamela Champe.  8.Human Pharmacology, Molecular toClinical: Brody,Larner,Mınneman.  9. The Pharmacology of Pain (1997). **Dickenson**, A., **Besson**, J.-M. (Eds.) | | | | |

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|  | **COURSE SYLLABUS** | |
| **WEEK** | **DATE** | **SUBJECTS/TOPICS** |
| 1 |  | Definition and classification of pain |
| 2 |  | Pathogenesis Of Pain |
| 3 |  | Pain Transmission Pathways |
| 4 |  | Theories Of Pain |
| 5 |  | Peripheral mechanisms of pain |
| 6 |  | Central mechanisms of pain |
| 7 |  | Perception Of Pain |
| 8 |  | Mid-term exam |
| 9 |  | Animal Models Used In Pain Research |
| 10 |  | Tests of nociception and analgesia  (The tests that thermal stimuli is used) |
| 11 |  | Tests of nociception and analgesia  (The tests that mechanical stimuli is used) |
| 12 |  | Tests of nociception and analgesia  (The tests that chemical stimuli is used) |
| 13 |  | Neuropathic pain and neuropathic pain Models (the models that central applications are used) |
| 14 |  | Neuropathic pain and neuropathic pain Models (the models that systemic  applications are used) |
| 15 |  | Neuropathic pain and neuropathic pain Models (the models that total denervation models are used) |
| 16 |  | Pharmacology of Pain |
| 17 |  | Final exam |

**PROGRAM QUTCOMES**

Place choose never(1), few(2) or many(3) regarding your course

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** |  | **1** | **2** | **3** |
| 1 | gather as well as apply knowledge of health sciences |  |  | **X** |
| 2 | ask scientific questions and form hypothesis |  |  | **X** |
| 3 | search and interpret scientific literature |  | **X** |  |
| 4 | design and conduct experiments as well as analyze and interpret the data |  | **X** |  |
| 5 | learn how to use the experimental equipment effectively |  | **X** |  |
| 6 | function on multi-disciplinary teams |  |  | **X** |
| 7 | identify, formulate, and solve medical problems |  |  | **X** |
| 8 | use computer effectively both in conducting the experiments and analyzing the data |  | **X** |  |
| 9 | understand the impact of experimental solutions on national and international sciences |  |  | **X** |
| 10 | use effective written and oral communication/presentation skills |  | **X** |  |
| 11 | get an understanding of professional and ethical responsibility |  |  | **X** |
| 12 | get a recognition of the need for, and an ability to engage in lifelong learning |  |  | **X** |

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| **Instructor Name**  **Sign**  Assoc. Prof. Dr. Engin YILDIRIM | **Date:**  25.01.2018 |