



Pharmacy (Pharm.D.) Undergraduate Program (Pharm.D., 6 Years)

Semester 1

General Chemistry (CHEM105)

Credit: 5 | Lecture Hour (hrs/week): 4 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 6
Matter and measurements; Atoms and elements; Molecules, compounds and chemical equations; Chemical quantities and aqueous reactions; Gases, Thermochemistry; The quantum-mechanical model of the atom; Periodic properties of the elements; Chemical bonding; Liquids, solids, intermolecular forces, Solutions, Acids and bases

Mathematics (MATH155)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 1 | ECTS: 4
Sets, numbers, continuity in functions, limit and derivatives, proportion and function graphics, kinds of function, integral, methods of taking an integral, area between the curves, volume calculations, exponential numbers, logarithmic calculations

Principles of Physics (PHYS111)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 6
Physics and Measurement; Vectors; Motion in One Direction; The Laws of Motion; Circular Motion and Other Applications of Newton's Laws; Energy of a System; Fluid Mechanics; Electric Fields; Magnetic Fields; Nuclear Structure (Radioactivity); X-Rays

COMPUTER 1 (ITEC105)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 5
This course is an introduction to the world of Computing and Information Technology (IT). Today, we are all part of an exploding Information Society and in this dynamic new society people at homes, schools, institutions and businesses are engaged in an ever-growing partnership with computers. Computers and Information Technology are part of just about everything we do at work and at home. And the fact is that, computers will play an even greater role in our lives in the years to come. The course presents the basic description of information technology concepts, basic computer system hardware and software components, common terminology in information technology, application areas, and integration of computer system components.

Communication in English - I (ENGL191)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 1 | ECTS: 5
ENGL191 is a first-semester freshman academic English course. It is designed to help students improve the level of their English to B1+ level, as specified in the Common European Framework of Reference for Languages. The course connects critical thinking with language skills and incorporates learning technologies such as IQ Online. The purpose of the course is to consolidate students' knowledge and awareness of academic discourse, language structures, and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

Academic English - I (ENGL181)

Credit: 3 | Lecture Hour (hrs/week): 5 | Lab (hrs/week): 1 | Tutorial (hrs/week): 1 | ECTS: 5
ENGL 181 is a first-semester freshman academic English course. It is designed to help students improve the level of their English to B1+ level, as specified in the Common European Framework of Reference for Languages. The course connects critical thinking with language skills and incorporates learning technologies such as IQ Online. The purpose of the course is to consolidate students' knowledge and awareness of academic discourse, language structures, and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

Turkish as a Second Language (TUSL181)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 4

Atatürk İlkeleri ve İnkılap Tarihi (HIST280)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 4

Semester 2

Introduction to Molecular Biology and Genetics (BIOL124)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 3 | ECTS: 6

This course aims to increase awareness of molecular basis of modern genetics. It covers basic structure of DNA, RNA and their functions. It covers transmission of hereditary material, gene expression and regulation, and protein synthesis. Importance of the Human Genome Project is highlighted.

Biostatistics (MATH212)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): 1 | Tutorial (hrs/week): - | ECTS: 5

Introduction to statistics and biostatistics, usage of statistics in health sciences and related investigations, data collection, descriptive statistics, tables and graphs, probability and probability distributions, sampling, hypothesis testing, regression and correlation analysis, basic concepts of statistics and descriptive statistics, statistical comparison methods, statistical analyses, research design, data collection tools, inspection of sufficiency and reliabilities, scaling and preparation of scientific reports

Introduction to Psychological Sciences (PSYC108)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 3

This course is designed for non-psychology majors interested in psychology. It provides a general introduction to the main sub fields within psychology and its practical applications. Topics discussed are drawn from cognitive, developmental, clinical and social psychology.

First Aid and Medical Devices (MDCN140)

Credit: 1 | Lecture Hour (hrs/week): 1 | Lab (hrs/week): - | Tutorial (hrs/week): 1 | ECTS: 3

Introduction to first aid, the patient's general examination and evaluation, vital signs (blood pressure, pulse, fever, respiratory), medical first aid, cardiac, pulmonary, basic life support, airway, respiratory, circulatory, gastrointestinal emergencies, endocrine, immunological emergencies, pediatric emergencies, first aid surgery, gynecology and obstetrics, fractures and injuries, trauma, shock, wound care, and bleeding control, emergencies related to environmental factors, chemical and physical agents, poisoning, legal aspects of emergency care, introduction to devices used for medical purposes in patients, in diagnosis, therapy or surgery and introduction of medical devices

Anatomy and Histology (MDCN142)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 3

General information about human anatomy, systematic anatomy, digestive system, circulation-excretion system, urogenital system, respiration system, and nervous system in anatomy education, histological methods and microscopy, cytology, histology of connective tissues, bone, muscle, and body systems

Nutrition and Dietary Treatment (NUTD223)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 2

The aim of this course is to identify the nutrients such as carbohydrates, proteins, fats, vitamins and minerals, their food sources, amounts needed and use by the body. It also aims to give information about food and drug interaction and the use of nutritional supplements. Introduction to the basic concepts of nutrition. Identification of the nutrients, their food sources, amounts needed and use by the body.

Medical Terminology (PHAR206)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 3

Terms used in medical and pharmaceutical areas, their detailed definition, medical abbreviations, terminology used in prescriptions

Academic English - II (ENGL182)

Credit: 3 | Lecture Hour (hrs/week): 5 | Lab (hrs/week): - | Tutorial (hrs/week): 1 | ECTS: 5

ENGL182 is a second-semester freshman academic English course. It is designed to help students improve the level of their English to B2 level, as specified in the Common European Framework of Reference for Languages (CEFR). The course connects critical

thinking with language skills and incorporates learning technologies such as IQ Online. The purpose of the course is to consolidate students' knowledge and awareness of academic discourse, language structures, and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

Communication in English - II (ENGL192)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): 1 | Tutorial (hrs/week): - | ECTS: 5

ENGL192 is a second-semester freshman academic English course. It is designed to help students improve the level of their English to B2 level, as specified in the Common European Framework of Reference for Languages. The course connects critical thinking with language skills and incorporates learning technologies such as IQ Online. The purpose of the course is to consolidate students' knowledge and awareness of academic discourse, language structures, and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

Semester 3

Organic Chemistry - I (CHEM243)

Credit: 4 | Lecture Hour (hrs/week): 4 | Lab (hrs/week): - | Tutorial (hrs/week): 1 | ECTS: 6

Structure and bonding, alkanes, alkenes and alkynes, reactions of alkenes and alkynes, aromatic compounds, stereochemistry, organohalides, nucleophilic substitutions and eliminations, alcohols, phenols, ethers

Analytical Chemistry - I (CHEM247)

Credit: 4 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 6

Calculations used in analytical chemistry, chemical equilibrium, acids, bases, buffer solutions, the classical methods of analysis, gravimetric and titrimetric methods (neutralization, complexometry, nitritometry and redox titrations), introduction to electrochemistry, potentiometry, spectrochemical methods, atomic absorption spectroscopy, introduction to analytic separations and gas chromatography, qualitative analysis applications of a variety of chromatographic techniques (TLC, paper, column), titrimetric methods in quantitative analysis of drugs

Medical Microbiology (MDCN241)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 1 | ECTS: 5

Introduction to Microbiology, introduction to bacteriology, bacteria that cause disease, cell structure, virulence factors, antimicrobial drugs, mechanisms of action of pharmaceutical agents and antibiotic resistance, anaerobic bacteria, introduction to mycology, Mycobacteria, mycoplasma, Rickettsia, Chlamidiae, Spirochetes, treatments, classification of fungi, metabolites, fungal infections, antifungal chemotherapy, microbial genetic, genetic transfer in bacteria, genetics of antimicrobial resistance, microbial metabolism, Infection

control in the hospital, normal microbial flora of the human body, role of resistant flora, normal flora of the skin, normal flora of the mouth-upper respiratory tract-intestine

Public Health (MDCN243)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 2

Public health information, protective medicine, health administration, family planning, birth control, epidemic diseases, protection methods of personal and public health, immunization, environmental sanitation, promotion techniques for healthy lifestyle and improvement of well-being

Physiology - I (MDCN245)

Credit: 4 | Lecture Hour (hrs/week): 4 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 5

Introduction to physiology, functional organization of human body, cell physiology, neurophysiology, membrane and muscle physiology, cardiovascular system and blood physiology

Virology and Parasitology (MDCN247)

Credit: 4 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 6

Classification of viruses and parasites, introduction of pathogenic species of these microorganisms, virological diseases, parasitological diseases, anti-viral and anti-parasite drugs

Semester 4

Organic Chemistry - II (CHEM246)

Credit: 4 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 4

Aldehydes and ketones, carboxylic acids and derivatives, carbonyl alpha substitution and condensation reactions, amines, spectroscopy, biomolecules, carbohydrates, amino acids, peptides and proteins

Biochemistry (CHEM254)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 6

Protein structure, enzymes, carbohydrates and lipids, cell membranes, channels, pumps and receptors, transducing and storing energy, nucleic acid structure and DNA replication, RNA synthesis, processing and regulation, gene expression, protein synthesis, techniques in protein biochemistry, immunological and recombinant DNA techniques

Immunology (BIOL412)

Credit: 4 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 3 | ECTS: 5

The course is designed to discuss the basic concepts of immune system and immune response. The main aim is to teach the use of immunology knowledge in the field of molecular biology and genetics and in pharmaceutical industry. Components and function

of immune system, natural immunity, adaptive immunity, molecular basics of immunology, importance of recombination in immune system and diversity in cells of the immune system, antibody and vaccine development and molecular level control of immune system is discussed.

Pathology (MDCN144)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 2

Description, causes, distinction, indications and diagnostic methods of pathology of diseases, treatment, response to treatment and various diseases including different systems

Physiology - II (MDCN244)

Credit: 4 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 6

"Cell structure and function, action potentials, muscle contraction (skeletal muscle, smooth muscle and heart muscle), peripheral and central nervous system, deep cutaneous and visceral sensations, vision, hearing, smell and taste, the blood and the body's defense systems, cardiovascular system, respiratory system, gastrointestinal system, urinary system, endocrinology, reproductive system "

Pharmaceutical Botany (PHAR204)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 6

Classification of plant kingdom, schema and presentation of its sections (Gymnospermae and Angiospermae), primitive plant families, advanced plant families, important micro and macroalgae species in pharmacy, bacteriophyta, micro and macrofungi, important plant families with medicinal potential, plant species used in preparation of herbal medicines and in traditional medicine

Analytical Chemistry - II (CHEM248)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): 1 | Tutorial (hrs/week): - | ECTS: 4

Classification of analytical methods, instrumental methods and samples, selection of analytical method, accuracy, certainty, variation range, the concepts of selectivity, confidence interval, probability level problems, introduction to separation methods, extraction and extraction problems, introduction to chromatographic methods, mechanisms of chromatography, classification of chromatographic methods, high-pressure liquid chromatography, introduction to spectrochemical methods, device presentation for optical spectrometry, qualitative and quantitative applications of molecular absorption spectrophotometry, atomic spectroscopic techniques, introduction to electroanalytical methods, potentiometric and conductometric analysis methods, voltammetric analysis methods

Semester 5

Pharmacology - I (PHAR301)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 6

Basic principles of pharmacology, the dynamics of drug absorption, distribution, metabolism and excretion (ADME), the routes of drug administration, drug receptors and drug-receptor interactions, the mechanisms of drug action, drug interactions, and adverse/side effects, basic and clinical evaluation of new drugs, drugs affecting autonomic nervous system, autacoids

Pharmaceutical Chemistry - I (PHAR303)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 5

Introduction to pharmaceutical chemistry and general concepts, drug-receptor interactions, theoretical applications in drug development, drug metabolism, chemotherapeutic agents, antiseptics and disinfectants, antibiotics, antiviral and anti-neoplastic drugs, drugs affecting cholinergic system; drugs affecting cardiovascular system (cardiac glycosides, antianginal and antiarrhythmic drugs), ACE inhibitors, ARA drugs and diuretics, density, melting and boiling point, definition of some physical terms such as refractive index and optical rotation and their practical implementation, quantitative analysis of drugs with spectral methods such as UV and colorimeter, HPLC and capillary electrophoresis and their applications

Pharmacognosy - I (PHAR305)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 5

General definitions and concepts of Pharmacognosy, biosynthesis of natural products, qualitative and quantitative analysis methods of plant chemicals, carbohydrates, oses and osides, oligoholosides, polyholosides and their natural resources, introduction to heterosides, cardioactive heterosides, triterpene and steroidal saponosides, flavonoids and phenol heterosides, coumarins, tannins, anthraquinones, naphtaquinones, cyanogenetic heterosides, glycyogenetic heterosides, senevol heterosides

Pharmaceutical Technology - I (PHAR307)

Credit: 4 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 6

Introduction to drug carrier systems and dosage forms, preparation of dosage forms in drug and pharmacy and introduction to formulation conception, developing new drug formulations and authorization processes necessary for acceptability of dosage forms, conception of dosage form, dosage forms in the form of solutions and dispersed systems, solutions, dispersed systems (colloidal dispersions, suspensions, emulsions, pharmaceutical aerosols), semi-solid dosage forms and transdermal systems, ointments, creams, gels, percutaneous absorption, transdermal drug carrier systems, pharmaceutical inserts (rectal and vaginal suppository and other inserts), formulation of dosage forms, evaluation of stability and bioavailability of pharmaceutical product after industrial scale production

Pharmaceutical Biotechnology and Cell Culture (PHAR309)

Credit: 4 | Lecture Hour (hrs/week): 4 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 5

Introduction and basic principles of pharmaceutical biotechnology, importance of recombinant DNA technology in pharmaceuticals, mechanisms and causes of protein destabilization, methods used to evaluate protein pharmaceuticals, biotechnology-based pharmaceuticals and formulation approaches to protein stabilization, developments in protein drug delivery, regulatory aspects of biotechnology-based pharmaceuticals, principles of cell culture, preparation, selection, and maintenance of cell culture lines

History and Ethics of Pharmacy (PHAR311)

Credit: 1 | Lecture Hour (hrs/week): 1 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 2

Therapy in old ages, European pharmacy in middle age, pharmacy in the Islamic world, old famous pharmacist-physicians, historical process of pharmacy, the cornerstones of pharmacy in the history, pharmacy oath and the deontology guideline teamworks, possible interviews with colleagues

Semester 6

Pharmacology - II (PHAR302)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 4

Asthma and cold therapy, gastrointestinal drugs, water-electrolyte, acid-base balance, antihypertensive drugs,

antianginal drugs and drugs used for congestive heart disease, antiarrhythmics, diuretics, antithrombotics, peripheral vasodilators, antihyperlipidemics, antianemics, hypothalamic and pituitary hormones, thyroid and anti-thyroid drugs, adrenocorticosteroids and adrenocortical antagonists, gonadal hormones and their inhibitors, pancreatic hormones, anti-diabetic drugs, drugs affecting bone-mineral balance, sex hormones and related drugs

Pharmaceutical Chemistry - II (PHAR304)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 3 | ECTS: 6

Autonomic nervous system, introduction to central nervous system drugs (analeptics, sedatives and hypnotics, general and local anesthetic drugs, drugs affecting serotonin receptors, anti-Parkinson drugs, tranquilizers, anticonvulsants, opiate derivative analgesics), antihistamines, non-steroidal anti-inflammatory drugs (NSAIDs), anti-ulcer drugs, drugs affecting the hormonal system, peptide hormones, insulin and hypoglycemic drugs, steroidal hormones, and anabolic agents, functional group analysis, qualitative analysis of drugs with conventional and spectral methods such as UV, IR, H-NMR, mass spectroscopy, and structure determination

Pharmacognosy - II (PHAR306)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 3 | ECTS: 5

Introduction to terpenes, definition, biosynthesis, classification, isolation and analysis techniques of terpenes, terpene derivatives used in medicine, volatile (essential) oils, fixed oils, lipids, their natural sources, their quality control and analysis methods and medicinal use, microbial biotransformation of natural products (terpenes, steroids, etc.)

Pharmaceutical Technology - II (PHAR308)

Credit: 4 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 3 | ECTS: 6

Sterile dosage forms and drug carrier systems, parenteral dosage forms, ophthalmic solutions, suspensions, ointments, nasal and otic preparations, sterilization techniques, aseptic technique, sterile formulation routes, solid dosage forms and drug carrier systems, powders, granules, capsules, tablets, solid oral drug carrier systems, coating processes and techniques, quality control techniques applied to dosage forms, validation, packaging of products, introduction to new modern dosage forms and tools (microspheres, liposomes, etc.)

Pharmacoeconomics (PHAR310)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 4

Legal and regulatory issues in management of a pharmacy, legislation, responsibilities of pharmacist, necessary legal documents for a pharmacy

Physical Pharmacy - I (PHAR312)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 2

Physico-chemical parameters between chemical structure and biological effects of drugs, pharmaceutical calculations

Semester 7

Pharmacology - III (PHAR401)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 1 | ECTS: 4

Introduction to central nervous system pharmacology, general and local anesthetics, sedative-hypnotics, neuroleptics, anxiolytics, antidepressants, pain conception and classification and analgesics, non-steroidal anti-inflammatory drugs, anti-epileptics and anti-Parkinson drugs, chemotherapeutics, antiseptics, disinfectants, antibiotics (macrolides, lincosamides, sulfonamides, penicillins, cephalosporins), antiparasiter and antimalarial drugs, antiviral agents, antifungal drugs, immunomodulators and learning of cancer therapy, drugs used in dermatological diseases

Pharmacognosy - III (PHAR403)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 3 | ECTS: 5

Introduction to alkaloids, alkaloid identification methods, medicinal alkaloids and protoalkaloids and their related herbal sources, chemical classification, pyridine, piperidine, quinoline, and tropane alkaloids, Opium alkaloids, steroidal alkaloids, and terpene-derived

alkaloids, lectins, introduction to amino acid and proteic compounds from plants proteins and natural compounds produced by biotechnological methods, fermentation technology, antibiotics of natural origin

Pharmaceutical Chemistry - III (PHAR405)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 3 | ECTS: 6

Antineoplastic and antihistamine drugs, gastrointestinal system drugs, steroids, vitamins, minerals, electrolytes, geriatric medicine, Parkinson's and Alzheimer's medications, menopause-prostate-osteoporosis drugs, biotechnology and general concepts, plasma fractionation products, oral and parenteral drugs for nutrition, peptidomimetics, radiopharmaceuticals

Pharmaceutical Technology - III (PHAR407)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 3 | ECTS: 6

Radiopharmacy, good manufacturing practice (GMP), pharmaceutical water, parenteral preparations (ophthalmic preparations, dry powders, the design and formulation of sterile preparations, aseptic conditions, other carriers except water), ointments, percutaneous absorption, suppository, solid-state pharmaceuticals (micromeritics)

Pharmaceutical Toxicology (PHAR409)

Credit: 4 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 2 | ECTS: 6

Introduction to toxicology, toxicity tests, absorption, dispersion, metabolisms of toxic compounds, biotransformation of xenobiotics, pharmacogenetic, DNA technology in toxicology, pharmacogenomic, toxicogenomic, target organ toxicity, mutagens, teratogens and carcinogens, chemical and environmental toxins (pesticides, organic solvents and metal toxicity, animal toxins, environmental contaminants), immunotoxicology and allergy, drug addiction

Pharmacotherapy - I (PHAR411)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 4

All aspects of drug therapy (clinical indications, dosage guidelines, side effects, common drug interactions) and to improve student's understanding on how drugs cure disease and ameliorate signs and symptoms of the disease, epidemiology and pathophysiology of diseases and integration of disease pathophysiology, drug action and drug therapy, pharmacotherapy in cardiovascular, respiratory, renal and endocrine disorders

Semester 8

Cosmetics Science (PHAR402)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 4

Introduction to cosmetology, definitions (cosmeceuticals, dermocosmetics), application areas and formulations of cosmetic products, active compounds used in cosmetic

products, physical properties of surfactants used in cosmetic products, natural products used in cosmetics, fragrance compounds of natural origin, lipids in cosmetics, stability of cosmetic products, new cosmetic delivery systems, the side effects and toxicity of compounds used in cosmetics, anti-aging cosmetics

Phytotherapy (PHAR404)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 5

Historical development and conception of phytotherapy, herbal medicine definition, the current situation and the regulations in the world, standardization and production of herbal extracts, side effects and toxicity of herbal drugs, modern phytopharmacotherapy and their formulations, quality control of herbal drugs, plants used in the treatment of gastrointestinal diseases, cardiovascular diseases, respiratory diseases, urinary tract diseases, rheumatic complaints, nervous system diseases; gynecology, ophthalmology, dermatology and cancer, plants effective on the immune system

Pharmaceutical Chemistry - IV (PHAR406)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 3 | ECTS: 3

General anesthetics, local anesthetics, narcotic analgesics, narcotic antagonists, antitussives, antipyretic-analgesics, sedative-hypnotics, NSAIDs, myorelaxants, minor tranquilizers, antipsychotics, tricyclic antidepressants, monoamine oxidase (MAO) inhibitors

Pharmaceutical Technology - IV (PHAR408)

Credit: 3 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 3 | ECTS: 5

Solid dosage forms (powders, granules, hard and soft capsules, tablets, coated tablets), controlled release, microcapsules, biopharmaceutical, targeted dosage forms, dosage forms used in veterinary medicine, packaging material, and surgical materials

Clinical Biochemistry (PHAR410)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 5

Spectrophotometric measurements and their principles, buffer solutions, enzymes, determination of alpha-amylase activity in saliva, blood glucose quantification, serum total lipid quantification, determination of creatinine and urea in serum, physical and microscopic examination of urine, chemical analysis of urine, glucose, ketone bodies, hemoglobin, bilirubin, urobilinogen, urobilin exploration in urine, protein analysis in urine, kidney, and urinary tract stones

Pharmacotherapy - II (PHAR412)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 5

Pharmacotherapy in neurology, oncology and hematologic disorders, infectious and dermatologic diseases, and special situations as geriatrics, pediatrics, pregnancy and organ failure. Students will learn the process of solving drug therapy problems with case-based study

Physical Pharmacy - II (PHAR414)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 2

Physico-chemical parameters between chemical structure and biological effects of drugs, pharmaceutical calculations

Semester 9

Thesis Project - I (PHAR451)

Credit: 2 | Lecture Hour (hrs/week): - | Lab (hrs/week): - | Tutorial (hrs/week): 4 | ECTS: 6

Student is expected to collect scientific literature and cover information on a subject which will be established under supervision of an academic staff posted by a department of the student's interest and and make an oral presentation of one the articles.

Biopharmacy and Pharmacokinetics (PHAR455)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 5

Introduction to the concepts of biopharmaceutics and pharmacokinetics, processes of absorption, distribution, metabolism, and excretion of drugs with the purpose of improving evaluation of drug delivery systems and the therapeutic management of patients, qualitative and quantitative descriptions of factors which influence drug disposition, clinical applications of pharmacokinetics

Microbial Control of Pharmaceuticals (PHAR457)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 1 | ECTS: 5

Influence of microbiological matters on drug quality, principal aspects of microbiology that are relevant to the pre-formulation, formulation, manufacturing, and license application stages involved with the production of pharmaceuticals, good manufacturing practice in the control of contamination, additional materials on package integrity and contamination risks in clean rooms

Physicochemical Control of Pharmaceuticals (PHAR459)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): 1 | ECTS: 5

Application of physics and chemistry in pharmacy, controlling quality control of drugs by the physicochemical-related methods, validation of analytical methods, application of these methods in raw material and final products, dissolution, quality assurance by physicochemical methods, information on ISO 9001 and ISO 9002

Area Elective I (AE01)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 5

University Elective - I (UE01)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 4

Semester 10

Thesis Project - II (PHAR452)

Credit: 3 | Lecture Hour (hrs/week): - | Lab (hrs/week): - | Tutorial (hrs/week): 6 | ECTS: 6

Student is expected to collect scientific literature, to cover information on a subject which will be established under supervision of an academic staff posted by a department of the student's interest, to write the thesis according to a format determined by the faculty make an oral presentation of the thesis.

Intoxication Control (PHAR454)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 4

Description of intoxication, intoxication types (alcohol intoxication, opioid intoxication, substance intoxication, cocaine intoxication, caffeine intoxication, hallucinogen intoxication, inhalant intoxication, sedative-hypnotic intoxication, etc.), drug overdose, poisoning with plants, food poisoning, control of various intoxication types

Biological Products (PHAR456)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 4

Introduction to the chemistry of DNA, RNA, and proteins, biosynthesis of DNA, RNA, and proteins, their physiological significance, allergenic extracts, blood and blood components, gene therapy, biological products used in transplantation, vaccines, monoclonal antibodies, cytokines, growth factors, immunomodulators, and biosimilars.

Instrumental Analytical Methods (PHAR458)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): 1 | ECTS: 6

Area Elective II (AE02)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 5

University Elective - II (UE02)

Credit: 3 | Lecture Hour (hrs/week): 3 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 5

Semester 11

Thesis Project - III (PHAR453)

Credit: 3 | Lecture Hour (hrs/week): - | Lab (hrs/week): - | Tutorial (hrs/week): 6 | ECTS: 6

Hospital Pharmacy Practice * (PHAR461)

Credit: 4 | Lecture Hour (hrs/week): - | Lab (hrs/week): - | Tutorial (hrs/week): 8 | ECTS: 8

Pharmacy Practice (PHAR462)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 8

A training course practically by student in private community pharmacy. The total period of the training depends on the program (i.e. J2) of the student and his/her selection among other trainings offered

Industrial Pharmacy Practice * (PHAR463)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 8

A training course practically by student in pharmaceutical industrial pharmacy. The total period of the training depends on the program (i.e. J2) of the student and his/her selection among other trainings offered

Semester 12

Pharmacy Practice Clerkship (PHAR464)**

Credit: 6 | Lecture Hour (hrs/week): 6 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 15

A training course practically by student in private community pharmacy. The total period of the training depends on the program (i.e. J2) of the student and his/her selection among other trainings offered

Industrial Pharmacy Clerkship (PHAR466)**

Credit: - | Lecture Hour (hrs/week): - | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 15

Hospital Pharmacy Clerkship (PHAR465)

Credit: 2 | Lecture Hour (hrs/week): 2 | Lab (hrs/week): - | Tutorial (hrs/week): - | ECTS: 15

A training course practically by student in hospital pharmacy. The total period of the training depends on the program (i.e. J2) of the student and his/her selection among other trainings offered.

CYPRUS HEALTH AND SOCIAL SCIENCES UNIVERSITY

FACULTY OF PHARMACY

Pharmacy (Pharm.D.) Undergraduate Program (Pharm.D., 6 Years)

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