

Academic Programs Booklet

College of Health and Sport Sciences

2025



Prepared By: VP For Academic Programs and Graduate Studies Office

College of Health and Sport Sciences

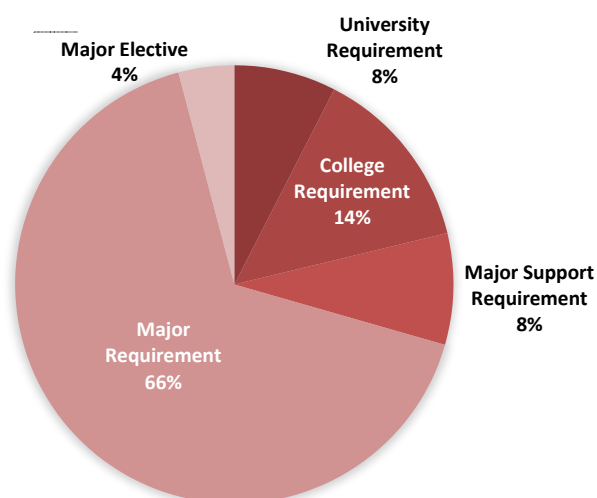
Bachelor of Science in Pharmacy

Program Components

Course Type	CRD
University Requirement (UR)	11
College Requirement (CR)	20
Major Support Requirement (MSR)	12
Major Requirement (MR)*	97
Major Elective (ME) ¹	6
Total Credit (CRD)	146

* Including Clinical Training (20 CRD).

¹ Student should select two courses from Major Elective (ME) List.



Teaching Language: English

Detailed Study Plan

Year 1 - Semester 1

Course Code	Course Title	Crdt	Contact Hours			Course Type	Pre-requisite	Major GPA
			Lec	Lab	Clinical			
PHAM 140	Pharmaceutics I	5	4	2	0	MR	-----	Yes
LFS 118	Anatomy and Physiology I	4	3	2	0	CR	-----	No
ENG 115	English for Healthcare Professionals I	3	2	2	0	CR	-----	No
SBS 316	Fundamentals of Sociology and Psychology	3	3	0	0	MSR	-----	No
ISLM 101	Islamic Culture	3	3	0	0	UR	-----	No

Year 1 - Semester 2

Course Code	Course Title	Crdt	Contact Hours			Course Type	Pre-requisite	Major GPA
			Lec	Lab	Clinical			
PHAM 210	Pharmaceutics II	4	3	2	0	MR	PHAM 140	Yes
PHAM 212	Pharmaceutical Organic Chemistry	3	3	0	0	MR	-----	Yes
ENG 125	English for Healthcare Professionals II	3	2	2	0	CR	ENG 115	No
LFS 128	Anatomy and Physiology II	4	3	2	0	MSR	LFS 118	No
ARAB 110	Arabic Language Skills	3	3	0	0	UR	-----	No
HRLC 107	Human Rights	2	2	0	0	UR	-----	No

Year 2 - Semester 1

Course Code	Course Title	Crdt	Contact Hours			Course Type	Pre-requisite	Major GPA
			Lec	Lab	Clinical			
PHAM 220	Pharmacology I	5	4	2	0	MR	LFS 128	Yes
LFS 227	Pathophysiology	4	4	0	0	CR	LFS 128	No
PHAM 226	Inorganic Pharmaceutical Chemistry	2	2	0	0	MR	-----	Yes
LFS 217	Microbiology	3	2	2	0	CR	-----	No
MLS 205	Biochemistry	2	2	0	0	MSR	PHAM 212	No
PHAM 312	Pharmacy Practice	3	3	0	0	MR	PHAM210	Yes

Year 2 - Semester 2

Course Code	Course Title	Crdt	Contact Hours			Course Type	Pre-requisite	Major GPA
			Lec	Lab	Clinical			
PHAM 310	Pharmacology II	4	4	0	0	MR	PHAM 220	Yes
PHAM 228	Medicinal Chemistry	5	4	2	0	MR	PHAM 212	Yes
PHAM 314	Law, Ethics and Professionalism	2	2	0	0	MR	PHAM 220	Yes
PHAM 318	Pharmacokinetics	2	2	0	0	MR	PHAM 210 & PHAM 220	Yes
PH 222	Biostatistics	3	2	2	0	CR	-----	No
HIST 122	Modern History of Bahrain and Citizenship	3	3	0	0	UR	-----	No

Year 3 - Semester 1

Course Code	Course Title	Crdt	Contact Hours			Course Type	Pre-requisite	Major GPA
			Lec	Lab	Clinical			
PHAM 320	Pharmacology III	4	4	0	0	MR	PHAM 310 & LFS 217	Yes
PHAM 322	Pharmacotherapy I	4	3	2	0	MR	PHAM 310 & LFS 227	Yes
PHAM 324	Pharmacy Practicum I	4	0	0	12	MR	PHAM 220 & PHAM 312 & PHAM 314	Yes
PHAM 326	Natural Health Products	3	3	0	0	MR	LFS 227	Yes
PHAM 328	Pharmaceutical Analysis	4	3	2	0	MR	PHAM 210 & PHAM 220	Yes

Year 3 - Semester 2

Course Code	Course Title	Crdt	Contact Hours			Course Type	Pre-requisite	Major GPA
			Lec	Lab	Clinical			
PHAM 410	Pharmaceutical Technology	3	3	0	0	MR	PHAM 328	Yes
PHAM 412	Pharmacotherapy II	4	3	2	0	MR	PHAM 320 & PHAM 322	Yes
PHAM 414	Pharmacy Practicum II	4	0	0	12	MR	PHAM 324	Yes
PHAM 416	Non-Prescription Drugs	4	4	0	0	MR	LFS 227 and Co-requisite PHAM 414	Yes
PHAM 420	Toxicology	3	3	0	0	MR	PHAM 320	Yes

Year 4 - Semester 1

Course Code	Course Title	Crdt	Contact Hours			Course Type	Pre-requisite	Major GPA
			Lec	Lab	Clinical			
PHAM 422	Pharmacotherapy III	4	3	2	0	MR	PHAM 320 & PHAM 322	Yes
PHAM 424	Pharmacy Practicum III	4	0	0	12	MR	PHAM 412 & PHAM 414	Yes
PHAM 44X	Major Elective (I)	3	3	0	0	ME	-----	Yes
PHAM 411	Evidence-Based Pharmacy Research	3	3	0	0	MR	PH 222 & PHAM 412	Yes
HCA 301	Leadership and Management in Healthcare Setting	3	3	0	0	MSR	-----	No

Year 4 - Semester 2

Course Code	Course Title	Crdt	Contact Hours			Course Type	Pre-requisite	Major GPA
			Lec	Lab	Clinical			
PHAM 428	Senior Research Project	3	0	9	0	MR	PHAM 411 & Co-requisite PHAM 432	Yes
PHAM 432	Pharmacy Field Practice	8	0	0	24	MR	PHAM 422 & PHAM 424	Yes
PHAM 44X	Major Elective (II)	3	3	0	0	ME	-----	Yes
PHAM 440	Pharmacoeconomics	3	3	0	0	MR	PHAM 322	Yes

Major Elective Courses

Course Code	Course Title	Crdt	Contact Hours			Course Type	Pre-requisite	Major GPA
			Lec	Lab	Clinical			
PHAM 441	Pharmacoepidemiology and Pharmacovigilance	3	3	0	0	ME	PHAM 312 & PHAM 322	Yes
PHAM 448	Cosmetics Science	3	3	0	0	ME	PHAM 210 & PHAM 322	Yes
PHAM 443	Molecular Biology and Pharmacogenomics	3	3	0	0	ME	PHAM 220 & PHAM 322	Yes
PHAM 449	Business for Pharmacy	3	3	0	0	ME	PHAM 314 & HCA 301 & PHAM 322	Yes
PHAM 446	Nutraceuticals	3	3	0	0	ME	PHAM 220 & PHAM 322	Yes
PHAM 447	Sports Pharmacy	3	3	0	0	ME	PHAM 220 & PHAM 322	Yes

Course Code:	PHAM140	Course Title:	Pharmaceutics I
Course Description:	This course introduces students to the principles of designing pharmaceutical dosage forms. The course emphasizes aspects of basic computational skills needed to perform pharmaceutical and clinical calculations. Additionally, reading and interpreting prescriptions is one of the prime focuses of this course. Furthermore, students apply formulation concepts and techniques to compound and dispense liquid dosage forms.		

Course Code:	PHAM210	Course Title:	Pharmaceutics II
Course Description:	This course is a continuation of Pharmaceutics I, with an emphasis on the formulation and dispensing of solid, semi-solid, and sterile dosage forms. Students are familiarized with the compounding skills needed to prepare these dosage forms. Additionally, students are introduced to the basic principles of radioactivity and use of contrast media. Safe dispensing of radiopharmaceutical products is also emphasized.		

Course Code:	PHAM212	Course Title:	Pharmaceutical Organic Chemistry
Course Description:	This course provides an exploration of the fundamental principles of organic chemistry for pharmaceutical applications. Students study heterocyclic compounds, stereochemistry, carbohydrate, amino acids and peptide chemistry emphasizing their importance in drug design and biological activity. The course also covers the use of spectroscopy for structure elucidation. Students develop a comprehensive understanding of the chemical principles that underpin pharmaceutical science.		

Course Code:	PHAM220	Course Title:	Pharmacology I
Course Description:	In this course students recognize and apply the basic pharmacological principles governing interactions of medications with biological systems. Students also explore the mechanisms of action, pharmacological effects and therapeutic indications of drugs acting on the Cardiovascular and Autonomic nervous systems. Emphasis is placed on adverse drug reactions, interactions and patient counseling on the safe and effective use of these drugs.		

Course Code:	PHAM228	Course Title:	Medicinal Chemistry
Course Description:	This course introduces students to the basic concepts of drug design, through identifying different bonding interactions with various receptors. Students also develop a better understanding of drug action of selected classes of drugs at the molecular level through the application of computer aided drug design.		

Course Code:	PHAM226	Course Title:	Inorganic Pharmaceutical Chemistry
Course Description:	This course provides students with an overview of inorganic compounds with pharmaceutical applications.. Students explore the physiological roles and therapeutic importance of electrolytes and selected inorganic compounds. Students are also introduced to various types of inorganic impurities found in pharmaceutical formulations.		
Course Code:	PHAM310	Course Title:	Pharmacology II
Course Description:	This course is an extension of Pharmacology I, covering pharmacological aspects of drugs used in inflammatory and immune disorders as well as drugs acting on the gastrointestinal tract and the central nervous system. Students explore the mechanisms of action, pharmacological effects and therapeutic indications of these drug classes. Emphasis is placed on adverse drug reactions, interactions and patient counseling on the safe and effective use of these drugs.		

Course Code:	PHAM312	Course Title:	Pharmacy Practice
Course Description:	This course acquaints students with the standards and processes of pharmacy practice within hospitals and community pharmacies. Students explore facilities, personnel, drug distribution, infection control, and safety measures within these settings. In addition, the role of the pharmacist in ensuring drug safety and efficacy is highlighted.		

Course Code:	PHAM314	Course Title:	Law, Ethics and Professionalism
Course Description:	This course prepares students to become professional pharmacists following ethical and professional guidelines as applied to the Kingdom of Bahrain. Students are introduced to local and international laws governing pharmacy practice. Focus is placed on ethical and professional concepts and their application to the profession.		
Course Code:	PHAM318	Course Title:	Pharmacokinetics
Course Description:	This course introduces students to the basic concepts of drug absorption, distribution, metabolism, and elimination, with an emphasis on applying these concepts to optimize dosage regimens. Students apply pharmacokinetic model systems to develop clinically appropriate dosage plans. Additionally, the course provides a comprehensive understanding of drug dynamics and individualized dosage strategies.		

Course Code:	PHAM320	Course Title:	Pharmacology III
Course Description:	In this concluding course of Pharmacology, emphasis is placed on the chemotherapy of infectious diseases. The application of pharmacological principles to drugs for endocrine disorders as well as anticancer drugs, vaccinations and immunosuppressants is covered. Students explore the mechanisms of action, pharmacological effects and therapeutic indications of these drug classes focusing on adverse drug reactions, interactions and patient counseling on the safe and effective use of these drugs.		

Course Code:	PHAM322	Course Title:	Pharmacotherapy I
Course Description:	This course introduces students to the principles of disease pharmacotherapy, emphasizing the role of laboratory data and drug pharmacokinetics in clinical practice. It focuses specifically on the pharmacotherapy of cardiovascular diseases, providing students with the skills to evaluate, recommend, counsel, and monitor individualized patient treatment plans.		

Course Code:	PHAM324	Course Title:	Pharmacy Practicum I
Course Description:	This course enables students to put their pharmaceutical knowledge and skills into practice. Students are oriented to the in-site procedures followed on a daily basis within primary care pharmacies. Opportunities for hands-on experience in various aspects of pharmacy practice including pre-packaging, dispensing and compounding are provided.		

Course Code:	PHAM326	Course Title:	Natural Health Products
Course Description:	This course introduces students to the utilization and importance of various natural health products among the alternative systems of therapy. Students are familiarized with the chemical constituents and physiological effects of commonly used herbal products. General application of the safety and efficacy of commonly used natural health products is also discussed with special emphasis on herb-drug interactions.		

Course Code:	PHAM328	Course Title:	Pharmaceutical Analysis
Course Description:	This course introduces students to the principles and applications of commonly used analytical methods, essential for ensuring quality of drugs. Students gain hands-on experience in a variety of analytical techniques including spectroscopy, chromatography, electrophoresis, titrimetric and extraction methods that are used in drug analysis.		
Course Code:	PHAM410	Course Title:	Pharmaceutical Technology
Course Description:	This course focuses on the various equipment and technologies used in the manufacture of different dosage forms and novel drug delivery systems. Students are introduced to the formulation of different biopharmaceutical products together with the general application of fermentation technology to manufacture antibiotics, vitamins, and vaccines.		

Course Code:	PHAM412	Course Title:	Pharmacotherapy II
Course Description:	In this course students explore the pharmacotherapy of diseases affecting the respiratory and the gastrointestinal systems in addition to infectious diseases and the application of supplements and vitamins. Students develop skills in patient assessment and disease state management to evaluate, recommend, counsel and monitor individualized pharmacotherapy for patients.		
Course Code:	PHAM411	Course Title:	Evidence Based Pharmacy Research
Course Description:	This course enables students to develop their research knowledge through exploring various types of research methods, sampling techniques and data collection. Students critically appraise different types of published literature and apply their skills in developing their research proposal.		

Course Code:	PHAM432	Course Title:	Pharmacy Field Practice
Course Description:	This course builds upon students' past training experiences in various pharmacy settings. The course emphasizes communication skills, professionalism, and ethical practice. Students develop professional judgment and skills through participation in all duties expected of a pharmacist under minimal supervision. This comprehensive training enables students to practice their future roles in the real world.		
Course Code:	PHAM414	Course Title:	Pharmacy Practicum II
Course Description:	In this course, students practice within a community pharmacy setting. Students apply their knowledge of non-prescription medications to assist a diversity of patients in selecting medications and devices. Furthermore, students will explore areas unique to community pharmacy practice, such as sales, inventory and insurance.		

Course Code:	PHAM416	Course Title:	Non-Prescription Drugs
Course Description:	This course prepares students for dispensing non-prescription medications and medical devices in community pharmacy practice. Emphasis is placed on the pharmacists' role in patient consultation, assessment and guidance in managing self-limiting conditions.		
Course Code:	PHAM420	Course Title:	Toxicology
Course Description:	This course introduces students to key concepts and principles of toxicology. Sources, routes of exposure and mechanisms of harm caused by various poisons are discussed. Emphasis is placed on the general and poison-specific management of an intoxicated victim. Students also explore the scope of practice in clinical and forensic toxicology, gaining insight into the application of toxicological knowledge in real-world settings.		

Course Code:	PHAM422	Course Title:	Pharmacotherapy III
Course Description:	This course explores the pharmacotherapy of endocrine, renal, bone and rheumatic, neurological and psychiatric disorders. Students develop skills in patient assessment and disease state management to evaluate, recommend, counsel and monitor individualized pharmacotherapy for patients.		
Course Code:	PHAM424	Course Title:	Pharmacy Practicum III
Course Description:	In this course students develop clinical practice skills through patient case studies and cultivate insights into effective patient care. It focuses on patient-centered pharmacy practice, training students to provide pharmaceutical care to inpatients across various hospitals.		

Course Code:	PHAM428	Course Title:	Senior Research Project
Course Description:	This course integrates skills and knowledge, enabling students to execute a comprehensive supervised research project in pharmacy. Students utilize their research skills and develop critical thinking and problem-solving abilities by engaging with their research team.		
Course Code:	PHAM440	Course Title:	Pharmacoeconomics
Course Description:	This course introduces students to the fundamentals of pharmacoeconomics. Emphasis on the various types of pharmacoeconomic analysis, especially analyses of cost-benefit, cost-effectiveness, cost-utility, cost-minimization, and health-related quality-of-life. Furthermore, students develop skills in reviewing and critiquing pharmacoeconomic studies.		

Course Code:	PHAM441	Course Title:	Pharmacoepidemiology and Pharmacovigilance
Course Description:	This course introduces students to the basic concepts of pharmacoepidemiology and pharmacovigilance. It also relates the various pharmacological concepts of adverse drug reactions to individuals' and populations' health-related issues. In addition, students study the application of pharmacoepidemiologic principles and methods to practical drug issues.		
Course Code:	PHAM448	Course Title:	Cosmetics Science
Course Description:	This course introduces students to the fundamental principles of skin, nail, hair, eye, and oral care products, highlighting their safe and effective use. Students explore the different ingredients commonly used in formulating and designing cosmetic products, gaining insight into their roles and benefits.		

Course Code:	PHAM443	Course Title:	Molecular Biology and Pharmacogenomics
Course Description:	This course introduces students to molecular biology and genetics exploring how DNA, RNA and protein structures fulfill their various biological roles. Students explore techniques of molecular biology and their application in pharmacy and research. Additionally, the course covers pharmacogenomics in regard to how genetic variations affect the safety and efficacy of medicines.		
Course Code:	PHAM449	Course Title:	Business for Pharmacy
Course Description:	In this course students learn business skills necessary to manage either a community or hospital pharmacy. The course focuses on specific topics essential to business administration; purchasing, finance/accounting, human resource, marketing, inventory control and general management as applied to pharmacy and health care.		

Course Code:	PHAM446	Course Title:	Nutraceuticals
Course Description:	This course explores the role of nutraceuticals and functional foods in disease prevention and health promotion. Students learn about the mechanism of action of bioactive compounds in the management and prevention of disease as well as their bioavailability, and safety. The course covers the scientific evidence behind health claims on nutraceuticals and functional foods and the regulatory frameworks guiding their use. Students also engage in evaluating product formulation and the ethical considerations of marketing these products.		

Course Code:	PHAM447	Course Title:	Sports Pharmacy
Course Description:	This course explores the role of pharmacy in sports, focusing on medications, performance-enhancing drugs and the ethical, legal and health implications related to their use. Students learn how drugs affect athletic performance, rules around drug use in sports and issues surrounding doping practices. This course aims to prepare students to handle the challenges faced in sports pharmacy.		

Course Code:	LFS118	Course Title:	Anatomy and Physiology I
Course Description:	The course covers the organization of the human body structure and function of cells, tissues, and organs. It also includes the gross and microscopic anatomy and physiology of the integumentary, skeletal, muscular, blood, cardiovascular and lymphatic systems.		

Course Code:	LFS128	Course Title:	Anatomy and Physiology II
Course Description:	The course covers gross and microscopic anatomy and physiology of the nervous, special senses, endocrine, respiratory, digestive, urinary, and reproductive systems.		
Course Code:	ENG115	Course Title:	English for Healthcare Professionals I
Course Description:	Develop the language skills of reading, listening, speaking, and writing, emphasizing the language needs of healthcare professionals. Examine verbal and non-verbal communication skills, extracting ideas, paraphrasing, writing using the APA style and guidelines, and writing assessment reports. Comprehend the medical terminologies, prefixes, suffixes, and word roots.		

Course Code:	ENG125	Course Title:	English for Healthcare Professionals II
Course Description:	Apply the language and communication skills of reading, listening, speaking, and writing at a higher level. Adopt critical reading skills, inferential comprehension, analytical report writing, and a research essay based on medical terminologies and the APA style and guidelines.		

Course Code:	SBS316	Course Title:	Fundamentals of Sociology and Psychology
Course Description:	The course will familiarize students with the basic concepts and theories in Sociology and Psychology that will enable the allied health graduate to recognize the various societal forces and aspects of human behavior that control human interactions. It will facilitate the graduate to develop a holistic perception of health care needs and services		

Course Code:	MLS205	Course Title:	Biochemistry
Course Description:	Students are familiarized with the basic concepts associated with understanding the metabolism of the three important biomolecules viz. carbohydrates, lipids and proteins and their regulation. Students are also exposed to the pathways for synthesis of prostaglandins, thromboxanes and leukotrienes which will serve as a foundation for understanding basic biochemical processes and mechanism of action of various steroidal and non-steroidal anti inflammatory drugs.		

Course Code:	PH 222	Course Title:	Biostatistics
Course Description:	This course examines the core concepts, principles, and techniques of biostatistics relevant to health sciences. Students will apply descriptive and inferential statistical methods necessary for designing, analysing, and interpreting research data using statistical software, enabling them to make informed decisions based on statistical evidence.		

Course Code:	HCA301	Course Title:	Leadership and Management in Healthcare Settings
Course Description:	Recognise management functions and leadership principles and their application in health care organisations. Apply the principles of organisational theory and behavioural aspects of management across a variety of healthcare settings. Demonstrate the knowledge, skills and attributes required for effective leadership, decision-making, motivation, team members, managing stress and time, planning and organisation at the workplace.		

Course Code:	LFS217	Course Title:	Microbiology
Course Description:	You will be introduced to the basic concepts of microbiology with special emphasis on microbial ecology, epidemiology, and pathogenesis of infectious diseases. As health care professionals, you will be equipped to apply the concepts of microbial growth control in preventing the spread of infections in your daily life and in your professional field.		
Course Code:	LFS227	Course Title:	Pathophysiology
Course Description:	Discuss the pathogenesis, complications, and diagnostic measures related to diseases affecting various body systems. Utilize critical thinking skills in analyzing the underlying pathophysiological changes, identifying the abnormal findings and their clinical significance of different health conditions while exploring their therapeutic management.		

Course Code:	HIST122	Course Title:	Modern History of Bahrain and Citizenship
Course Description:	الشخصية المكانية للبحرين، مختصر تاريخ البحرين حتى القرن الثامن عشر ميلادي، الجذور التاريخية لتكوين الهوية الوطنية للبحرين منذ القرن الثامن عشر الميلادي، الدولة الحديثة وتطور الحياة الدستورية في البحرين، البعد العربي والإسلامي في هوية البحرين، القيم الأساسية لمجتمع البحرين وحقوق المواطنة (القانونية والسياسية والمدنية والاقتصادية)، المسؤوليات والواجبات والمشاركة المجتمعية، التطور الاقتصادي والتنمية في البحرين، العلاقات الخليجية والعربية والدولية للبحرين.		

Course Code:	ISLM101	Course Title:	Islamic Culture
Course Description:	دراسة لمفهوم الثقافة الإسلامية، وبيان مصادرها من القرآن والسنة والاجتهاد، وبيان أهم ركائزها من العقيدة والعبادة والأخلاق، وأهم النظم الإسلامية، كالنظام الاجتماعي والاقتصادي والسياسي، مع التركيز على موقف الثقافة الإسلامية من أهم قضايا العصر مثل: قضية الإرهاب والتطرف، وقضية الحوار.		

Course Code:	ARAB110	Course Title:	Arabic Language Skills
Course Description:	دراسة أساسيات اللغة العربية، صياغة، وتركيباً، ومعجماً، ودلالة، ومعالجة أساليبها قراءةً وتذوقاً، ونقداً، وبيان خصائصها الجمالية وقيمها الدلالية والتعبيرية، من خلال نصوص تتناول مختلف الأجناس الأدبية شعراً ونثراً.		

Course Code:	HRLC107	Course Title:	Human Rights
Course Description:	دراسة ماهية حقوق الإنسان ومصادرها الدولية والوطنية، وأنواع الحقوق المحمية: المدنية والسياسية والاقتصادية والاجتماعية والثقافية وتطبيقاتها في مملكة البحرين، بالإضافة إلى دراسة آليات مراقبة حقوق الإنسان الدولية والوطنية ويتضمن المقرر إنجازات مملكة البحرين في مجال حقوق الإنسان من خلال بيان وتعريف الطلبة بأجهزتها الحقوقية		