DMU Catalog AY 2026–27: Program Requirements

1. Program Overview

Program Title	**Master of Pharmacy – Clinical Pharmacy**
Program Type	Master's Degree
Total Credit Hours **Credit Hours for Theory** **Contact Hours for Theory** **Credit Hours for Practical** **Contact Hours for Practical** **Credit Hours for Clinical** **Contact Hours for Clinical**	55 15 225 6 180 24 960
Mode of Study	Full time
Program Duration	2 years / 4 semesters
Language of Instruction	English
Program Description	A graduate program available to DMU and external BPharm graduates.

2. Program Learning Outcomes (PLOs)

PLO #	PLO Description
1	Apply integrated knowledge from foundational sciences (biomedical, pharmaceutical, and clinical sciences) to evaluate scientific literature and advances, explain drug actions and interactions, support high-level clinical reasoning, solve complex therapeutic problems to optimize individualized and population-based therapeutic strategies, and improve health outcomes across diverse patient populations.
2	Provide patient-centered care as a pharmacotherapy expert by assessing patient needs, formulating and adjusting individualized, evidence-based care plans, utilizing technology, compounding and dispensing medications, and collaborating with healthcare teams to optimize health outcomes, while promoting patient respect and satisfaction.
3	Manage medication systems to support patient care by identifying their components, recognizing the pharmacist's role across all stages, and utilizing human, economic, technological, and physical resources, while implementing best practices and continuous quality improvement to optimize medication safety and effectiveness.
4	Apply public health knowledge and collaborate across healthcare teams to develop preventive, educational, and intervention strategies addressing individual, community, and population health needs.
5	Apply ethical principles and structured reasoning to identify, evaluate, and solve complex problems, while monitoring and reflecting to improve future professional decision-making.
6	Collaborate within healthcare teams by demonstrating mutual respect and shared values, engaging in peer learning, decision-making, and clearly defining roles and responsibilities to optimize patient care outcomes.
7	Communicate effectively and empathetically with patients caregivers, and healthcare providers, and produce clear, structured documentation using appropriate professional and medical terminology.
8	Perform precise calculations and interpret data accurately to optimize medication dosing, minimize errors, and improve patient outcomes across diverse populations.
9	Demonstrate self-awareness, emotional intelligence, resilience, managing emotions, self-directed learning and a commitment to lifelong learning and professional growth.
10	Apply leadership and management principles by motivating teams, aligning shared goals, managing resources, and supporting continuity of services.
11	Exhibit professionalism by adhering to ethical standards, regulatory frameworks, and core values of integrity, accountability, and respect in all interactions.
12	Design ethically sound clinical pharmacy research studies using appropriate quantitative and/or qualitative methodologies to address complex medication-related and healthcare problems.
13	Analyze clinical and research data using advanced biostatistical and evidence-based approaches to generate valid and clinically meaningful conclusions.
14	Communicate research findings to scientific, clinical, and policy audiences to support evidence-informed decision-making and improve patient-centered pharmacotherapy outcomes.

3. Study Plan (attached)

4. Course Descriptions

CP901: CLINICAL PHARMACY PRACTICE (3 CH, First Semester)

Course Coordinator: Prof. Mirza Baig

This course introduces to the concepts and abilities required for a clinical pharmacist in relation to interpersonal skills and their responsibilities for caring and respecting the patients' needs and beliefs. ADR reporting and documenting are also discussed in this course. The student works with and discusses real and complex patient cases with a focus on drug-related problems, rationalize pharmaceutical care plan and cost-

effective analysis of medications. Pharmacist Interventions, wider public health issues, and the awareness of guidelines are studied to reflect the changes which occur in drug development and disease management.

CP902: THERAPEUTIC DRUG MONITORING (1+1 CH, First Semester)

Course Coordinator: Dr. Mariam Diab,

This course is designed to provide students pursuing a Master of Clinical Pharmacy with in-depth knowledge and skills related to therapeutic drug monitoring (TDM) of specific drugs. Students will explore the principles, methodologies, and clinical applications of TDM to optimize drug therapy, ensure therapeutic efficacy, and minimize the risk of adverse drug reactions. The course will focus on selected drugs (antiepileptic drugs, cardiovascular drugs, antimicrobials, immunosuppressant, and antipsychotics) commonly monitored in clinical practice.

CP903-1: PHARMACOTHERAPEUTICS I (2+1 CH, First Semester)

Course Coordinator: Dr. Bassam Atallah

The aim of this course is to provide the students with comprehensive knowledge and skills related to the use of medication for cardiovascular, renal and endocrine disorders. This includes the pathophysiology, clinical presentation, goals of therapy, evidence-based guidelines and the rationale behind drug selection of drugs used. The practical emphasizes the importance of patient assessment in pharmacotherapy. Students learn how to evaluate patients' medical history, physical examination findings, and laboratory results to determine the most suitable drug therapy. They also study how to monitor patients for therapeutic response and potential adverse effects and provide patient education for different patient populations.

CP903-2: PHARMACOTHERAPEUTICS II (2+1 CH, First Semester)

Course Coordinator: Dr. Ahmad El Ouweini

The aim of this course is to provide the students with comprehensive knowledge and skills related to the use of medication used for respiratory, infections and antibiotics surgical prophylaxis. This includes the pathophysiology, clinical presentation, goals of therapy, evidence-based guidelines and the rationale behind drug selection of drugs used. The practical emphasizes the importance of patient assessment in pharmacotherapy. Students learn how to evaluate patients' medical history, physical examination findings, and laboratory results to determine the most suitable drug therapy. They also study how to monitor patients for therapeutic response and potential adverse effects and provide patient education for different patient populations.

CP903-3: PHARMACOTHERAPEUTICS III (2+1 CH, Second Semester)

Course Coordinator: Prof. Sathvik Sridhar

The Rheumatology, Neurology Disorders, and Psychiatric Disorders pharmacotherapy course is designed to provide comprehensive knowledge and understanding of the diagnosis, management, and treatment of rheumatological, neurological, and psychiatric conditions. This course integrates the three disciplines to foster a holistic approach in understanding the interplay between these interconnected fields. Throughout the course, students will engage in case-based learning, critical appraisal of clinical trials, and evidence-based decision-making exercises. They will also develop skills in medication therapy management, patient counseling, and interprofessional collaboration in the context of rheumatology, neurology disorders, and psychiatric disorders.

CP903-4: PHARMACOTHERAPEUTICS IV (2+1 CH, Second Semester)

Course Coordinator: Prof. Kishore Sam Gnang

This course aims to provide students with comprehensive knowledge and skills related to the therapeutic use of medications for the treatment of various neoplastic disorders, hematologic disorders, and immunologic diseases. The course's primary focus is on integrating pathological and pharmacological principles and therapeutic decision-making skills in the management of complex patient cases. It builds upon the knowledge and skills learned in earlier pharmacotherapy courses in the program. This involves the application of knowledge from different disciplines, including pathophysiological, pharmacology, pharmacokinetics, pharmacodynamics, pharmaceutics, and clinical pharmacy. Case studies for continuous monitoring and identifying drug related problems when developing pharmaceutical care plans and assignment on the innovations on cancer diagnostics, management and students will be required to explore how advances in research, treatment, and healthcare practices can lead to improve patient outcomes. Oncology includes the study of the principles of combination chemotherapy, cancer immunotherapy, targeted therapy, and stem cell transplantation. It also covers the management of the most common types of cancer and special patient populations, as well as ethical considerations and future directions in cancer treatment.

The students will develop a comprehensive understanding of advanced therapeutics concepts and their clinical applications, learn about the various treatment options available for these conditions, and the rationale for selecting one treatment over

another using an evidence-based treatment approach. The course may be offered in a variety of formats, including lecture-based, case-based, or problem-based learning.

CP904: CLINICAL TOXICOLOGY & DRUG POISONING (1+1 CH, Second Semester)

Course Coordinator: Prof. Kishore Sam Gnang

This course is intended to provide a comprehensive framework for students to gain a solid understanding of clinical toxicology and develop the necessary skills to assess and manage poisonings in diverse clinical settings. It will empower students with an in-depth mechanistic exploration of toxic effects of poisonous substances and the comprehensive management of poisonings caused by various agents. The major focus of the course is on their effects on the human body, selection of the best antidotes and the strategies employed in diagnosing and treating poisoned patients. Students will gain knowledge of how selected chemicals/drugs exert toxic effects during clinical Presentation, monitoring and prevention and managed clinically.

CP905: CLINICAL RESEARCH METHODOLOGY AND BIOSTATISTICS (2 CH, Second Semester)

Course Coordinator: Prof. Mirza R. Baig

This course integrates epidemiological and biostatistical techniques, emphasizing applications to clinical research (including study design, bias and confounding, hypothesis testing, confidence intervals, sample size calculations, and introduction to parametric and nonparametric tests). Students will gain practical skills in developing a research project and in carrying out data analyses. This course helps the students develop the writing skills of research proposals, reports, thesis and articles in international standards. The course familiarizes the students with using a statistical package and gives them the skills needed for effective data management, data manipulation, and data analysis at a basic level. The course will develop fundamental skills in using a statistical package through classroom demonstrations and independent lab. This helps the students get acquainted with different research strategies and identify potential research plans that will help them in their future research projects.

Clinical Clerkships (28 CH, Third & Fourth Semester)

Clinical clerkship is for 24 weeks each during third and fourth semester, during which students will be assigned primarily to clinical rotations in different hospital departments of DHA, DOH, EHS approved facilities. The plan for the rotations are explained below:

MPHARM				
SECOND YEAR				
Major Clerkship		**Duration (weeks)**	**Credit hours**	**Faculty Coordinator**
CPC-IM -C	Internal Medicine	4	4	Dr. Mariam Diab
CPC-ID-C	Infectious Diseases	4	4	Dr. Sahar El Najar
CPC-IC-C	Critical Care	4	4	Dr. Ahmad El Ouweini
CPC-COM-AMB-C	Advanced Community Pharmacy/Ambulatory Care	4	4	Dr. Bassam Atallah
Minor Clerkship Elective (Any two)		**Duration (weeks)**	**Credit hours**	
CPC-PD-E	Pediatrics	4	4	Prof. Sathvik Sridhar
CPC-SG-E	Surgery	4	4	Dr. Rizah Assadi
CPC-PSY-E	Psychiatry	4	4	Prof. Sathvik Sridhar
CPC-OG-E	Obstetrics & Gynecology	4	4	Dr. Rizah Assadi
CPC-AR-E	Academic Pharmacy	4	4	Dr. Mariam Diab
CPC-ON-E	Oncology	4	4	Prof. Kishore Gnana Sam
CPC-NEP-E	Nephrology	4	4	Prof. Sathvik Sridhar
CPC-CAR-E	Cardiology	4	4	Dr. Bassam Atallah
CPC-TPN-E	Total Parenteral Nutrition	4	4	Dr. Sahar El Najjar
CPC-LEAD-E	Pharmacy Administration/Leadership	4	4	Dr. Bassam Atallah
Research Thesis Project [CP 906]		20	10	Prof. Kishore Gnana Sam
			34	

Research Thesis Project (10 CH, Third (5CH) & Fourth (5CH) Semester)

The M. Pharm Research Thesis is a core requirement of the Master of Clinical Pharmacy program at DMU. The course provides supervised, year-long training in designing, conducting, analyzing, writing, defending, and disseminating an original clinical pharmacy research project. Students will identify a clinically relevant research problem, develop a focused research question, prepare a proposal, obtain the required institutional and site ethical approvals, collect and analyze data using appropriate methods, and prepare a complete thesis in accordance with DMU requirements. The project promotes evidence-based clinical pharmacy practice, medication safety, public health relevance, innovation, sustainability, ethical research conduct, and scholarly communication. Students are also required to present a research thesis poster at a local, national, or international conference, either on-site or virtually, and submit proof of a journal manuscript submission to a Scopus-indexed journal before final thesis archiving.

5. Remedial/Bridging Courses

Principles of Pharmacotherapy – CP803 – 3CH

Course Coordinator: Prof. Sathvik Sridhar

Principles of Pharmacotherapy is a 3-credit remedial pre-entry course designed for B. Pharm graduates entering the M. Pharm (Clinical Pharmacy) and/or Post-Graduate PharmD programs who require bridging preparation to ensure readiness for advanced pharmacotherapy and clinical pharmacy coursework. The course bridges variability in prior preparation by developing a systematic approach to patient assessment, identification of medication-related problems, therapeutic goal setting, evidence-based treatment selection, individualization of therapy, monitoring, and follow-up.

The course uses selected common cardiovascular, endocrine/metabolic, renal, respiratory, infectious-disease, and special-population cases to reinforce the principles of rational pharmacotherapy without duplicating advanced postgraduate pharmacotherapeutics. Geriatric pharmacotherapy and medication safety are included as an important special-population component. Learning is delivered predominantly through lectures, hands-on clinical application activities, structured self-directed LMS activities, guided clinical exercises, and faculty interaction.

Evidence Based Drug Information – CP801 – 3CH

Course Coordinator: Prof. Kishore Sam Gnang

This course is designed to provide students with the knowledge and skills needed to effectively gather, evaluate, and communicate drug-related information to healthcare professionals, patients, and other stakeholders. This course is typically offered in pharmaceutical and healthcare-related programs and is essential for those pursuing careers in pharmacy, healthcare, or the pharmaceutical industry. This course provides comprehensive training in the principles and practice of Drug Information Services (DIS) within healthcare and pharmaceutical settings. It encompasses the systematic collection, critical evaluation, synthesis, dissemination, and application of evidence-based drug information to support clinical decision-making, promote safe and effective medication use, and enhance patient care outcomes. Students will develop the expertise to provide accurate, evidence-based information on medications and their use, ensuring the safe and effective delivery of healthcare services.

Laboratory Data Interpretation (CP802- 3 CH)

Course Coordinator: Prof. Mirza Baig

This course presents the latest updates on selected LABORATORY TESTS and Diagnostic tests used in most health care facilities today. Not ALL Lab Tests will be included in this course. The objective of this text is to present pharmacists with a guide to the considerations of some of the most commonly used laboratory tests and some select diagnostic tests which help in pharmaceutical care plans.

6. Graduation Completion Requirements

- **Completion of all courses, Professional Practice Experience, and Research Thesis Project**

- The curriculum, delivered over 55 credit hours (CH), is structured to include a 21 CH of didactic theory and practical courses, 24 CH of experiential training in various areas of advanced clinical practice, and 10 CH for Research Thesis Project.
- Students are required to successfully complete the total number of credit hours, or their equivalent, as outlined in the program's study plan available in the Catalog.
- A minimum CGPA of 3.0 on a 4.0 scale, or its equivalent, is required for graduation
- The maximum duration allowed to complete this program is specified as follows:

Graduate Program Duration	Maximum Period
Two-year program	4 years

- If a student exceeds the maximum allowed duration for completing the program, an extension for an additional year may be granted only with the approval of the Deans' Council.