THE MCWHORTER SCHOOL OF PHARMACY
INFORMATION FOR FIRST-YEAR STUDENTS
TO PREPARE FOR THE 2026 FALL SEMESTER

Course Number (Credit Hours)	Course Title	Brief Description & Preparation	Course Coordinator
PHAR 303 (2 hours)	Drug Delivery Systems-I	This course is the first of a two-course sequence that focuses on the physicochemical properties of drugs, excipients, and dosage forms critical for the rational design, manufacture, and extemporaneous compounding of drug products. This course guides students in the application of physical chemistry and dosage form science to various characteristics of drug products (drug stability, delivery, release, disposition, pharmacokinetics, therapeutic effectiveness, application of quality standards for drug products). Commonly utilized conventional oral dosage formulations will be emphasized during the course. **What do I need to know to prepare for this course:** Students should prepare by reviewing basic physical chemistry principles including physical states of matter and bonding, pH, acid-base equilibria (i.e., acid dissociation constant), the Henderson-Hasselbalch equation and its utility in determining ionization state of weak acids or bases, and common chemical functional groups.	Dr. John Arnold
PHAR 304 (3 hours)	Foundations of Health and Pharmacy-I	This two-course series will address foundational components of the pharmacy profession and incorporate aspects of personal and professional development of student pharmacists. This series will include topics such as the United States' health care system, a brief history of pharmacy, patient information and assessment, ethics, cultural awareness, pharmacy law and regulatory affairs, professional communication, social and behavioral aspects of practice, and patient safety. In addition, students will develop professional self-awareness, explore contemporary pharmacy practice roles, and develop techniques and skills that will enhance their wellbeing during pharmacy school. This course will also prepare students for their upcoming introductory pharmacy practice experiences (IPPEs) by introducing foundational concepts and other topics crucial to IPPE success. **What do I need to know to prepare for this course:** Basics of insurance (e.g., Medicare, Medicaid, the Affordable Care Act), common lab values, medical abbreviations (e.g., BID, hs, po), communication skills, and areas in which pharmacists can practice.	Dr. Amy Broeseker

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PHAR 306 (3 hours)	Integrated Biomedical Sciences-I	Modular course (weeks 2-8) This course is the first of the four modular courses in a series that focuses on basic biomedical sciences. Topics within this module address biomolecule structure and function, enzymology, and cellular processes. Students learn the foundations for the biochemical action of medications. **What do I need to know to prepare for this course:** Reading the online materials reviewing organic chemistry, cell biology, and genetics posted to Canvas this summer and participating in the DASH week will prepare students well for this module.	Dr. Robert Wang
PHAR 307 (3 hours)	Integrated Biomedical Sciences-II	Modular course (weeks 9-14) This second modular course in the sequence addresses basic biomedical sciences focusing on metabolism and endocrinology. Students learn the foundations for the pharmacological treatment of relevant disease states. **What do I need to know to prepare for this course:** Being successful in the first modular course along with a strong physiology background will help students be successful.	Dr. Robert Wang
PHAR 309 (2 hours)	Pharmaceutical Calculations	This mathematical skills-based course involves reinforcement and mastery of topics such as proper prescription interpretation, accurately calculating drug doses for prescriptions, weights and measures, concentrations, conversions, and accurate dosing of drugs in different dosage forms. Students also learn to apply kinetic principles and physicochemical parameters of drugs to therapeutically relevant issues. This course emphasizes the importance of accurate drug and dose calculations to ensure optimum and safe patient medication outcomes. **What do I need to know to prepare for this course:** Review various mathematical procedures that include unit conversions within the metric system, significant figures and rounding, proportions, percentages and ratios, multiplication and division techniques, rules of exponents and logarithms. Review word problems involving algebraic equations for the above procedures.	Dr. Bernadette D'Souza

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PHAR 320 (2 hours)	Integrated Pharmacy Lab* (includes DASH week*)	The first course in a series of authentic, hands-on experiences that enable students to develop skills that are essential for exemplary patient care. Students meet weekly for various lab activities that integrate course content (e.g., calculations, compounding, patient interview, biomedical sciences) providing the opportunity to assimilate and demonstrate knowledge and skills related to be team- and practice-ready. **What do I need to know to prepare for this course:** Ensure these important dates are on your calendar. Students will meet all day during DASH week. More details will be provided during P1 student orientation. DASH week (Developing Academic Success & Health): August 24 thru August 28 Your weekly lab day* will be assigned during the summer. *Attendance for all sessions of this course is required.	Dr. Jennifer Beall

In addition to the information above, students should review all content in the Class of 2030 New Student Orientation Course in Canvas and actively participate in all activities during Pharmacy School Orientation the week of August 17th.