# PHC 353 : Pharmaceutics I: Dosage Forms and Stability

This course introduces the student to the technologies involved in pharmaceuticals development processes and their required pharmaceutics components or excipients. Students will learn the basic requirements of good manufacturing practices (GMP) followed worldwide for drug or pharmaceuticals development. The students will differentiate between the most common dosage forms, their routes of administrations, and the use of bioavailability and bioequivalence for formulations'92 assessments. The major classifications and pharmaceutical compounding of dosage forms will be covered, including; powders and granules, capsules, tablets (coating, disintegration, dissolution), solutions (solubility, polymorphism, crystal structure), polyphases systems (colloids, gels, suspension, emulsions, surface tension, surfactants, HLB), topical dosage forms (creams, ointments, absorption), and mucosal delivery (nasal, pulmonary, buccal). Stability and quality control studies of each dosage form will be addressed. The basic principles associated with pharmaceutical (extemporaneous) compounding will be explained. There will be laboratory sessions to provide general principles and hands-on experience in the preformulation, formulation, manufacturing, and quality control fields that are necessary in design, formulation, compounding and manufacturing of drug dosage forms.
**Credits** 3