COURSE CONTENT

Course Code & Title : **CM4016 Pharmaceutical Chemistry**

Academic Unit : 3 AU

Pre-requisite : (CM1031, CM1051, CM2011, CM2031, CM3031) Or by permission

**CM4016 – Pharmaceutical Chemistry**

**Course Workload:**

Lectures based teaching, 3 hours per week

**Learning Objects:**

Pharmaceutical Chemistry, with title of CM 4016, is one interdisciplinary course to train the chemistry students with extensive knowledge of pharmacology and biomedical sciences. In this course, the students will learn how the drug molecules will sustain their activities, their basic metabolism process, the essential pharmacokinetics and pharmacodynamics of drugs, biomedical analysis assay, biomedical microbiology and the antibiotic bacterial inactivation, basic concepts in clinical antitumor treatment. Moreover, brand new techniques in biomedical molecular imaging, and functional nanotechnology in nano-medicine will be also extensively covered in this class.

**Course Description**

The principles of pharmacology, drug metabolism, essential knowledge and analytical techniques in pharmaceutical science, latest development in bacterial inactivation and cancer theranostics, multi-modality molecular imaging, and nano-medicine and nano-toxicity.

**The topics to be covered**

- Molecular recognition and Drug – receptor interactions
- Pharmacokinetics and Pharmacodynamics
- An introduction to Drug Metabolism
- Principles of Pharmacogenetics
- Anticancer therapeutics
- Antibiotics and Biomedical Microbiology
- Approaches to Fluorescent Imaging of Cellular Dynamics
- Nanotechnology in Multimodality Biomedical Imaging
- Recent progress in Nano-medicine and Nano-toxicity
- Course revision
Course Grading:

The final grades will be determined by continual assessments (CA, 40%) and one final Exam (60%).

Continual assessments are consisted of one written midterm examination (20%) and one written report to review one latest literature in biomedical science (20%).

Text/References books:


3. Materials will be also chosen from latest literatures.