CHE405XS2: Chemistry for Drug design and Chemotherapy
(30 Hours of lectures and tutorials)

Objectives:

- Formulate novel targets for drugs that are identified from natural sources.
- Survey of the recently and widely used methods for the design of new drugs.
- Discuss therapeutic functions of chemotherapy drugs

Syllabus:

- Drug discovery from natural sources: Selection of sources (plants, microorganism, and algae) and isolation, identification and synthesis of biologically active compounds, application in indigenous medicine.
- Drug design and development:Rational, quantum mechanical and molecular orbital approaches. History of drug discovery, research and development strategies, computer aided designing (CAD) of drugs and pro-drug approach.
- Chemotherapy:Therapeutic functions of antifungal, antibacterial, parasitic infectious, anthelmintic, anti HIV, cardiovascular and antihistamine drugs.

Evaluation:

- In-course Assessments 30%
- End-of-course Examination 70%

Recommended Readings:

- Kar Ashutosh, “Pharmaceutical Drug Analysis”, New Age International Publishers, Third Edition, 2010.
- Richard B.Silverman, The organic chemistry of drug design and drug action, Elsevier Academic press, 2004.
- Kar Ashutosh, “Medicinal chemistry”, New Age International Publishers, Fifth Edition, 2010.