CHEM 7737 – Spring 2013
CHEMICAL ANALYSIS OF PHARMACEUTICALS
SCHOOL OF NATURAL SCIENCES
FARLEIGH DICKINSON UNIVERSITY

General Information
Day/Time: Thursday 7:00-9:30 pm
Room: Dickinson Hall 1153
Instructor: Dr. Jason Shen
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Phone: N/A
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Office Hours: N/A

Course Description
Chemical analysis is widely utilized in the pharmaceutical industry from discovery, through development, and finally manufacture. The analyte of interest may be a small molecule or a large biomolecule. The sample source may vary from milligrams at the discovery level to tons at the manufacturing level. The analytical technology used covers a wide range of techniques and scientific disciplines. This course will focus on the analytical aspects of drug development and manufacture with emphasis on the analysis of the active pharmaceutical ingredient (drug substance). The course will also cover the quality and regulatory topics associated with analysis. The major areas covered in the course include:
1. Overview of Pharmaceutical Development
2. Titrimetric and Spectroscopic Analysis
3. Chromatographic Analysis
4. Physicochemical Characterization
5. GMP in the chemical analysis of pharmaceuticals.

Course Objective
This course is suitable for students planning a career in the pharmaceutical industry. Students are expected to have a basic knowledge of general, organic, and analytical chemistry.

Textbook
None required

Other Useful Books (Optional)
Practical HPLC Method Development, by Lloyd Snyder, Joseph Kirkland, and Joseph Glajch, John Wiley and Sons, 1997
Introduction to Modern Liquid Chromatography (3rd edition), by Lloyd Snyder, Joseph Kirkland, and John Dolan, John Wiley and Sons, 2010

**Useful Journals**
- Journal of Chromatography A
- Journal of Chromatography B
- Journal of Liquid Chromatography and Related Technologies
- Journal of Pharmaceutical and Biomedical Analysis
- Journal of Pharmaceutical Science
- LC-GC

**Online resources**
- LC-GC: [http://www.chromatographyonline.com](http://www.chromatographyonline.com)
- SeparationsNOW: [http://www.separationsnow.com](http://www.separationsnow.com)
- SpectroscopyNOW: [http://www.spectroscopynow.com](http://www.spectroscopynow.com)

**Grading Policy**
- Attendance: 10%
- Oral Presentation: 20%
- Mid-term exam: 30%
- Final exam: 40%