

# MEDICINAL CHEMISTRY I (30:715:409)

FALL 2009

**Times and Location:** Monday, Wednesday, Friday 1:55-2:50 PM; SEC-111

**Required Textbooks:**

- *Foye's Principles of Medicinal Chemistry, Sixth Edition*, By Thomas L. Lemke and David A. Williams, Lippincott Williams & Wilkins, 2008
- *Medicinal Chemistry Class Notes Handout*

**Optional Resource:** ChemDraw Ultra 11.0 (<http://scistore.cambridgesoft.com/sitelicense.cfm>)

**Course Home Page:** <http://medchem.rutgers.edu/MedChemI/index.shtml>

**Organic Medicinal Chemistry** (Sept. 2 - Sept. 11)

**Dr. Rice, Room # 320; Office Hours: *By Appointment*; email: [jrice@rci.rutgers.edu](mailto:jrice@rci.rutgers.edu)**

*Mandatory Reading:*

Handout - Organic Medicinal Chemistry, pp. 1-80, 91-97 (you should know ALL of the ring systems in Appendices A-F)

Topics

- Review of Chemical Bonding, Acids and Bases, Stereochemistry, and Partition Coefficients
- Nomenclature of Polycyclic Ring Systems, Heterocycles

**Cholinergic and Adrenergic Drugs** (Sept. 14 – Oct. 2)

**Dr. LaVoie, Room # 326; Office Hours: *By Appointment*; email: [elavoie@rci.rutgers.edu](mailto:elavoie@rci.rutgers.edu)**

*Mandatory Reading:*

Med. Chem. Handout - Nomenclature of Bridged and Spiro Compounds, pp. 80-86

Foye, Chapter 12- Drugs Affecting Cholinergic Neurotransmission

Foye, Chapter 13- Adrenergic Receptors and Drugs Affecting Adrenergic Neurotransmission

Topics

- Cholinergic Agents
- Nomenclature of Bridged and Spiro Compounds
- Adrenergic Agents

**EXAM # 1 - Friday, October 2, 2009, 4:00 PM, ARC 103**

**Cardiovascular Drugs** (Oct. 5 – Nov. 6)

**Dr. LaVoie, Room # 326; Office Hours: *By Appointment*; email: [elavoie@rci.rutgers.edu](mailto:elavoie@rci.rutgers.edu)**

*Mandatory Reading:*

Med. Chem. Handout

Foye, Chapter 26- Cardiac Agents: Cardiac Glycosides, Antianginal, and Antiarrhythmic Drugs

Foye, Chapter 27- Diuretics

Foye, Chapter 28- Angiotensin Converting Enzyme Inhibitors, Antagonists and Calcium Blockers

Foye, Chapter 29- Central and Peripheral Sympatholytics and Vasodilators

Foye, Chapter 30- Antihyperlipoproteinemics and Inhibitors of Cholesterol Biosynthesis

Topics

- Organic Nitrates
- Calcium Channel Blockers
- ACE Inhibitors
- Diuretics
- Antihypertensive Agents
- Antiarrhythmic Agents
- Cardiac Glycosides
- Antilipidemic Agents

**EXAM # 2 - Friday, November 6, 2009, 3:30 PM, ARC 103**

**Platelet Inhibitors, Anticoagulants, and Drugs for Parkinson's Disease** (Nov. 9 – Nov. 13)

**Dr. LaVoie, Room # 326; Office Hours: *By Appointment*; email: [elavoie@rci.rutgers.edu](mailto:elavoie@rci.rutgers.edu)**

Mandatory Reading:

Med. Chem. Handout

Foye, Chapter 31- Antithrombotics, Thrombolytics, Coagulants, and Plasma Extenders

Foye, Chapter 25- Drugs Used to Treat Neuromuscular Disorders: Antiparkinsonian and Spasmolytic Agents

**CNS Stimulants** (Nov. 16 – Dec. 2)

**Dr. Hu, Room # 314; Office Hours: *By Appointment*; email: [longhu@rci.rutgers.edu](mailto:longhu@rci.rutgers.edu)**

Mandatory Reading:

Med. Chem. Handout

Foye, Chapter 23- Hallucinogens, Stimulants, and Related Drugs of Abuse

Foye, Chapter 21- Antidepressants

Topics

- CNS Stimulants
- MAOIs and Tricyclic Antidepressants
- Selective Serotonin Reuptake Inhibitors

**Antihistamines and Gastrointestinal Drugs** (Dec. 4 – Dec. 9)

**Dr. LaVoie, Room # 326; Office Hours: *By Appointment*; email: [elavoie@rci.rutgers.edu](mailto:elavoie@rci.rutgers.edu)**

Mandatory Reading:

Med. Chem. Handout

Foye, Chapter 37- Antihistamines and Related Antiallergic and Antiulcer Agents

Topics

- Non-Sedating H<sub>1</sub> Antagonists
- H<sub>2</sub> Antagonists
- Gastrointestinal Drugs

**EXAM # 3 - Friday, December 11, 2009, 3:30 PM, ARC 103**

**FINAL EXAM - Optional** for all students and **Cumulative** for the semester (**Counts as two hourly exams.**)

## Course Policies

**Grading:** In addition to the examinations, there may be **ANNOUNCED OR UNANNOUNCED QUIZZES** throughout the semester, worth 10% of your semester grade. All quizzes will be based on important concepts discussed in class as well as on the reading assignments from the handout and textbook. **Make up quizzes are not given.** Attendance is mandatory! Students are expected to be in class and ready for lecture at the scheduled time. Grades in medicinal chemistry are based solely on the numerical average of your tests and quizzes and are not curved. **Grades:** **A**, 100-90; **B+**, 89-85; **B**, 84-80; **C+**, 79-75; **C**, 74-70; **D**, 69-60; **F**, <60.

**Exams:** Have student ID or photo drivers license face up on desk during exams. Calculators, PDAs, cell phones, pagers, portable radios, etc may not be used during exams. When you enter the exam room you are to **TURN OFF** all cell phones and pagers and you may not have them on your person during the exam. Textbooks, notes, and handouts may NOT be opened once you enter the exam room. Come prepared with 2 or 3 pens or pencils – but regrading of any answers written in pencil will not be allowed. You may not ask any questions during the exam. If you wish to dispute something on the exam write a note in the margin. When the announcement to “put your pencils or pens down” is made you must **immediately stop writing**. If you continue to write your exam may not be accepted or you might lose points. When it is announced in class that your exams may be picked up you will have 7 calendar days to submit it for regrading. **No regrading of any exam for any reason will be done after 7 days.**