

## Syllabus

### **MCB 750: Neuroscience of Nervous System Diseases (Nervous System Disorders)**

Fall Quarter 2007-2008

#### **Time and Place**

TuTh 5:00-7:00 PM  
LSB 201

#### **Course coordinators**

Yang Li, Ph.D.  
Robert Colvin, Ph.D. (instructor of record)  
Gary Cordingley, M.D., Ph.D.

#### **Office hours**

Li - By appointment, Irvine Hall 346, email [Li@oucom.ohiou.edu](mailto:Li@oucom.ohiou.edu), phone 593-2384,  
Robert Colvin – By appointment, LSB 219, [colvin@ohio.edu](mailto:colvin@ohio.edu), phone 593-0198  
Gary Cordingley- By appointment, 75 Hospital Drive, Suite 360, email [cordingl@yahoo.com](mailto:cordingl@yahoo.com),  
phone 594-8147

**Text:** Handouts and/or assigned readings will be provided; suggested reading:

*Neurobiology of Disease*, by Sid Gilman (Dr. Li has one copy, also one copy is reserved for this course in Alden Library)

*Basic Neurochemistry, Molecular, Cellular and Medical Aspects*, Seventh Edition, by George J. Siegel, R. Wayne Albers, Scott Brady, and Donald L. Price (Dr. Colvin has one copy)

**Grades:** Attendance is mandatory. All absences must be justified and explained to the course coordinator in advance. Each unjustified absence will result in the reduction of the student's final course grade by one full letter grade.

Grade breakdown:

Class participation engagement – 25%

Presentation or discussion in the Journal Club – 25%

Final Exam (take home exam, due Nov. 14) 50%

#### **Course contents and presenters.**

(Schedule subject to change)

Fall quarter starts September 4, 2007

#### Week 1: Introduction (September 4/6)

Overview of neurotransmission (Dr. Li)

Over view of neuropharmacology (Dr. Colvin)

Overview of brain anatomy (Dr. O'Connor)

Overview of brain imaging and diagnostic procedures in neurology (Dr. Cordingley)

Week 2: Headache (September 11/13)

Neurological (clinic) aspect of headache (Dr. Cordingley)  
Basic mechanism (molecular, cellular or genetic) of headache (Dr. Li)  
Mechanisms of action of therapeutic agents (Dr. Colvin)  
Research paper discussion (All)

Week 3: Substance Abuse-1 (September 18/20)

Neurological (clinic) aspect of drug addiction and drug abuse (Dr. Clay)  
Basic mechanism (molecular, cellular or genetic) of drug addiction and drug abuse (Dr. Li)  
Mechanisms of action of therapeutic agents (Dr. Colvin)  
Research paper discussion (All)

Week 4: Hearing Disorders (September 25/27)

Auditory anatomy and physiology (Dr. Xu)  
Etiology, pathophysiology, and treatment of sensorineural hearing loss (Dr. Xu)  
Research paper discussion (Dr. Xu)

Week 5: Epilepsy (October 2/4)

Neurological (clinic) aspect of epilepsy (Dr. Cordingley)  
Basic mechanism (molecular, cellular or genetic) of epilepsy (Dr. Li)  
Mechanisms of action of therapeutic agents (Dr. Colvin)  
Research paper discussion (All)

Week 6: Parkinson's Disease (October 9/11)

Neurological (clinic) aspect of Parkinson's Disease (Dr. Cordingley)  
Basic mechanism (molecular, cellular or genetic) of Parkinson's Disease (Dr. Li)  
Mechanisms of action of therapeutic agents (Dr. Colvin)  
Research paper discussion (All)

Week 7: Stroke (October 16/18)

Neurological (clinic) aspect of Stroke (Dr. Cordingley)  
Basic mechanism (molecular, cellular or genetic) of Stroke (Dr. Li)  
Mechanisms of action of therapeutic agents (Dr. Colvin)  
Research paper discussion (All)

Week 8: Alzheimer's Disease (October 23/25)

Neurological (clinic) aspect of Alzheimer's Disease (Dr. Cordingley)  
Basic mechanism (molecular, cellular or genetic) of Alzheimer's Disease (Dr. Li)  
Mechanisms of action of therapeutic agents (Dr. Colvin)  
Research paper discussion (All)

Week 9: Selective psychiatric disorders (October 30/ November 1)

Neurological (clinic) aspect of bipolar disorder (Dr. Janice Carrick)  
Mechanisms of action of therapeutic agents (Dr. Colvin)  
Research paper discussion (All)

Week 10: Substance Abuse-2 (November 6/8)

Neurological (clinic) aspect of alcoholism (Dr. Cordingley)

Basic mechanism (molecular, cellular or genetic) of alcoholism (Dr. Li)

Mechanisms of action of therapeutic agents (Dr. Colvin)

Research paper discussion (All)

Week 11: Final taking home exam (Dr. Li)

Turn in exam by the end of November 14

Fall quarter end November 21.