

**Title:** AUD 940 Seminars in Audiology: Pharmacology

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### **Course Description**

Presentation and discussion topics including: basic mechanisms of pharmacology and neuropharmacology; discussion of pharmacologic principles pertaining to etiologic and management issues pertaining to several high profile illnesses which produce impaired communication; mechanisms of ototoxicity and selected ototoxic agents.

### **Course Objectives/learning outcomes**

1. Discuss weaknesses of most textbook approaches to “Pharmacology for SLPs and/or Audiologists”.
2. Describe the essential components of drug prescriptions
3. Present, discuss: Tolerance, dependence, addiction
4. Present, discuss handout on drug categories and multiple examples from each.
5. Discuss the essential components of Pharmacology:
  - Routes of Administration
  - Pharmacokinetics
  - Pharmacodynamics and the concept of “Receptors”
6. Review and discuss as needed:
  - Neuropharmacology including: neural transmission, membrane permeability, agonistic and antagonistic chemical effects, major transmitter systems
7. Discuss pharmacologic issues relevant to current understanding and management of high profile illnesses including:
  - Pharmacologic Treatment of AD: “Therapy to Remember”
  - “Movement Disorders”
  - Depression
  - CVA, Traumatic Brain Injury, and “Neuroprotection”
  - Schizophrenia
8. Mechanisms of ototoxicity; ototoxic agents

### **ASHA Standards**

B.10, B.16, E.20

### **General Course Outline and Readings**

Class meets Monday mornings, 9:30- 11:30; Miller 3005

The first approximately 75% of the course will be taught by Dr. Baumgartner; Dr.

Chertoff will then teach the remaining 25% pertaining to ototoxicity and ototoxic drugs.

## Course Format

1. Lecture including assigned textbook readings; discussion including student participation and presentation of material/issues found independently by students. Student questions pertaining to prior or current clinical assignments and/or personal experiences involving issues relevant to pharmacology are strongly encouraged.
2. Handouts and “course notes” will be provided by Dr. Baumgartner for assistance with lectures and text readings

## Required textbook reading

1. Walsh, CT., and Schwartz-Bloom, RD. (7<sup>th</sup> Ed.) (2007) Levine’s Pharmacology: Drug Actions and Relations. Taylor and Francis: Boca Raton, Fl.
2. Campbell, Kathleen, CM (Ed.) (2007) Pharmacology and Ototoxicity for Audiologists. Thomson Delmar Learning: Clifton Park, NY

## Course Schedule and Text Readings

January 28	Previous texts “for the SLP/AuD” Previous student experiences/coursework The prescription Drug Categories and examples
Feb. 4	Drug Categories and examples (cont.) Tolerance, dependence, addiction
Feb. 11	The Basics: Historical Perspectives “Drugs”; Compounds; Terms to Remember Routes of Administration
Feb. 18	Pharmacokinetics Drug absorption, distribution, “membrane permeability”
Feb. 25	Drug metabolism; enzymes Excretion; liver and kidney function
March 3	Drug levels Pharmacodynamics: the concept of “receptors” Potentiation, degradation, re-uptake
March 10	Neuropharmacology Neural transmitters, transmitter systems Alteration of transmitter activity
March 17	Spring Break
March 24	Finish neurotransmitter activity Behavioral Pharmacology
March 31	Pharmacologic management of select neuropathologies AD, “Therapy to Remember” Cognitive enhancers, palliative treatment Movement Disorders and pharmacologic management
April 7	Depression; pharmacologic management Cerebrovascular accidents; accelerating/decelerating injuries The concept of neuroprotection Schizophrenia; the disease; pharmacologic management

April 14 Start MC **OR** Start MC on April 7  
April 28 Ototoxics  
May 5 FDA approval??