SHS 736- Pharmacological Applications in Audiology
Summer 2016

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Learning Outcomes

Students in this class will:

• understand pharmacodynamics and pharmacokinetics associated with common otologic drugs
• describe the regulatory process for reviewing new drug applications
• relate the mechanisms of toxicity in the cochlea to types of hearing loss
• apply the principles of infection control to audiological practice
• describe the effect of chemo-therapeutic drugs on the auditory system
• describe the effect of ototoxic drugs on the auditory system
• describe the effect of ototoxic drugs on the vestibular system
• identify industrial solvents and chemicals affecting the auditory system
• describe the potential for oto-protective agents
• describe research regarding regeneration of inner ear hair cells and relate research to evolving methods for treating hearing loss

This course is designed to meet the 2012 standards for the Certificate of Clinical Competence in Audiology from the American Speech-Language-Hearing Association:

Standard IV:

A8. Effects of pharmacologic and teratogenic agents on the auditory and vestibular systems

A9. Patient characteristics (e.g., age, demographics, cultural and linguistic diversity, medical history and status, cognitive status, and physical and sensory abilities) and how they relate to clinical services

A10. Pathologies related to hearing and balance and their medical diagnosis and treatment

A20. Health care and educational delivery systems

A21. Universal precautions and infectious/contagious diseases

D1. The provision of intervention services (treatment) to individuals with hearing loss, balance disorders, and other auditory dysfunction that compromises receptive and expressive communication

CIP Code: 51.0202 - Audiology/Hearing Sciences
Instructional outcomes assessment

Meeting the objectives noted above will be determined by your performance on

- quizzes and written assignments that will determine approximately 60% of the final grade
- a final exam that will determine approximately 40% of the final grade


Presentation Format: The modules in this class consist of information presented via standard web pages and on videos presented in MP4 format. Although the videos are produced in a format that provides efficient internet downloading, if you have a slow connection it may take several minutes for the videos to download. If you have DSL or cable modem connection to the internet, files will download very rapidly.

Announcements and E-mail: There will be occasional postings on the blackboard announcement board. Please check the announcements periodically to make sure you don't miss any important information about the course.

Final Examination: The final examinations will be given online and may be taken on any internet-capable computer.

Checking the Calendar: The online calendar will list important dates for assignments and other class requirements. You should check the calendar on a regular basis.

Library Access: For information about accessing resources at Cook Library, click on the “Library” link from the course’s homepage.

Grading:

The total number of points you earn in this class will be divided by the total number of possible points. That percentage will be used to determine your grade according to the following scale:

- Percent: 90-100 Grade: A
- Percent: 81-89 Grade: B
- Percent: <81 Grade: C

Office hours: During the summer I am in my office on an irregular basis. If you’re in the Hattiesburg area and would like to meet with me, please send me an email and we’ll arrange a mutually convenient time to meet. If you are outside the Hattiesburg area, we can speak on the phone or correspond via email as necessary.
**Academic Honesty:** The university policy regarding academic honesty will be strictly enforced as will the university policy regarding plagiarism. If you think an action represents academic dishonesty, it probably does. Don’t do it.

**Knowledge and Skills:**
In this course you will acquire knowledge (areas of content that you can recall, relate and use) and skills (the learned capacity to do some task). Your acquisition of knowledge and skills will be assessed during the course of the semester (through formative assessment) and at the end of the semester (through summative assessments). Formative assessments will measure your progress during the course of the semester; the summative assessment will determine if you have acquired the knowledge and skills expected of students completing the course. Formative assessments may be utilized to determine if remedial activities are required for individual students. Any remedial assignments or activities are at the discretion of the instructor and participation in remedial activities does not guarantee a passing grade in the course.

**A final word:** Most students find the format of this class enjoyable and the class material interesting. There is a perception by some students that online courses are easier than regular lecture-type courses. While that may be true in some cases, student grades in my online courses compare well with those of students taking regular lecture courses (good students get good grades; poor students get poor grades). This course demands as much effort as any lecture course. If you do not have the ability for self-motivation you can easily fall behind. Devoting less time to an online course than to a regular lecture course will result in poor grades. In the interest of honest disclosure, you should know that Blackboard provides the instructor with a record of your online activities, so if you don't do well in the class, don't try to exaggerate the amount of time you've spend doing the lessons. The Blackboard program tracks your access to system and I routinely review how much time a student spends on each lesson.

Best wishes in this and all your classes this semester!

**Tentative Topic Outline**
This is a tentative topic outline - I may adjust the topics or the order of presentation to meet the expressed interests of the class.

I. Drug classifications, development and approval
II. Drug pharmacokinetics
III. Patient factors in pharmacotherapeutics
IV. Common classes of drugs used in otolaryngological practice
V. Aminoglycoside antibiotics and ototoxicity
VI. Ototoxicity of chemotherapeutics in cancer treatment
VII. Renal function, diuretics and ototoxicity
VIII. Vestibular ototoxicity
IX. Infection control in the audiology clinic
X. Regeneration of auditory and vestibular hair cells

**ADA Accommodations:** If a student has a disability that qualifies under the American with Disabilities Act (ADA) and requires accommodations, he/she should contact the Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact ODA if they are not certain whether a medical condition/disability qualifies.
Address: The University of Southern Mississippi
Office for Disability Accommodations
118 College Drive # 8586
Hattiesburg, MS 39406-0001
Voice Telephone: (601) 266-5024 or (228) 214-3232 Fax: (601) 266-6035
Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1-800-582-2233 (TTY) or email ODA at oda@usm.edu.

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