



Course Syllabus  
**Hearing Aids II**

**HESP 701**  
Spring 2019

## Learning Outcomes

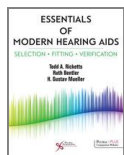
This course is the second of two graduate courses in the use of amplification devices for the treatment of hearing impairment. The courses are augmented by concurrent clinical education in rehabilitative audiology. At the end of the sequence, students will be prepared to independently perform the assessment, selection, fitting, verification, validation, adjustment, modification, counselling, and troubleshooting activities required for amplification-based rehabilitation. The focus of the present course is advanced topics in the clinical use of modern hearing aid technology.

After successful completion of this course you will be able to:

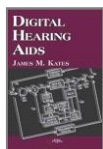
- Understand the effect of hearing aid signal processing on speech signals.
- Recommend, fit, verify, and explain to patients advanced features.
- Administer the clinical use of hearing technologies for special populations based on current research and best practice guidelines.
- Evaluate and validate the success of hearing aids through objective and subjective outcome measures.
- *See Knowledge and Skills below for a complete list of learning outcomes.*

## Resources

Course website: [elms.umd.edu](http://elms.umd.edu)



Essentials of Modern Hearing Aids **Required**  
*Selection, Fitting, and Verification*  
Ricketts, T. A., Bentler, R., & Mueller, H. G.  
First edition (2019).  
ISBN: [978-1-59756-853-1](https://www.amazon.com/dp/9781597568531)



Digital Hearing Aids **Recommended**  
Kates, J. M.  
First edition (2008).  
ISBN: [978-1597563178](https://www.amazon.com/dp/9781597563178)

## Campus Policies

It is our shared responsibility to know and abide by the University of Maryland's policies that relate to all courses, which include topics like:

- Academic integrity
- Student and instructor conduct
- Accessibility and accommodations
- Attendance and excused absences
- Grades and appeals
- Copyright and intellectual property

Please visit [www.ugst.umd.edu/courserelatedpolicies.html](http://www.ugst.umd.edu/courserelatedpolicies.html) for the Office of Undergraduate Studies' full list of campus-wide policies and follow up with me if you have questions about how they apply to graduate students. These policies are superseded by this document, your CAUD program handbook, and any relevant policies of the Dept. of the Hearing and Speech Sciences, the College of Behavioral and Social Sciences, and the Graduate School.

**Eric C. Hoover,**  
**Ph.D.**

[ehoover@umd.edu](mailto:ehoover@umd.edu)

### Class Meets

Tuesdays  
3:30pm - 6:00pm  
LeFrak Hall 1221

### Office Hours

LeFrak Hall 0119E  
Mondays  
9:30am - 11:30am  
*and by appointment*

### Course Communication

Subscribe to course announcements via ELMS. Students may contact the instructor via ELMS or email to discuss questions, absences, or accommodations. Consider the following helpful guidance on writing professional emails ([ter.ps/email](http://ter.ps/email)).

## Activities, Learning Assessments, & Expectations for Students

The format of the course is a combination of lecture and laboratory instruction. PowerPoint slides will be available on the course website prior to each meeting. The content of the lectures is a combination of material from the required text and additional sources available through the University of Maryland library or the course website. Laboratory instruction will take place both in the scheduled meeting room and in the audiology clinic in LeFrak Hall. Laboratory instruction will occur during the second half of the scheduled meeting time on the dates listed in the course calendar.

Prior to each class meeting, students are strongly encouraged to read the material listed on the course calendar for that meeting. Students are also strongly encouraged to review the material from the previous week prior to each meeting. A review of the material from the previous week, including a brief quiz and discussion, will occur prior to each lecture. The purpose of the review is to reinforce learning and to provide a mechanism for communicating expectations and competency prior to the exams.

Student grades will be based on a combination of **laboratory assignments, evidence-based practice report and presentation, self-administered audiology report and presentation, quiz participation, and two exams**. See the table below for a breakdown of relative weighting and details of the grading policy. In addition to graded assignments and exams, students are expected to achieve mastery of the software and devices used in the course. You will be guided through the development of this mastery by completing the laboratory assignments, however it is up to you to practice the skills needed to complete the laboratory assignments with the different systems available in the clinic to the point of mastery. Mastery in this context will be achieved when, asked by the clinical faculty or an audiologist at an outside placement to perform any of the tasks associated with amplification devices, you are able to do so immediately without referring to notes or manuals, without any trial-and-error hunting for cables, buttons, menus, etc., and in the most efficient and effective of available methods.

### Laboratory Assignments

A total of six laboratory assignments will be assigned following an in-class demonstration of the techniques required to complete the assignment. Each assignment consists of an activity that must be completed by following step-by-step instructions. Students are encouraged to work together and to seek the assistance of clinical faculty and AuD students in their second year, if available. However, each student must turn in an independent laboratory report for grading. The details of the laboratory assignments and reports will be provided when each laboratory is assigned (see calendar). Laboratory reports submitted by the assigned deadline (see calendar) will be scored and returned to the student with feedback in a timely manner. **Students will have the ability to revise and resubmit the report for full credit.** Reports submitted after the deadline will be scored but may not be returned with feedback and revisions will not be accepted. In other words, the penalty for late assignments is that you forfeit the ability to receive and respond to feedback. The final deadline to receive credit for completing the laboratory assignments is midnight on the Sunday after UMD Reading Day.

### Reports & Presentations

A written report and in-class presentation will be completed by each student twice during the semester. The first report and presentation will address the state of the scientific evidence for a specific topic in the scope of device-based hearing rehabilitation. Students will select any topic of interest to them and discuss it with the instructor by the deadline (see calendar). The second report and presentation will address patient factors associated with the self-administration of rehabilitative audiology via new and emerging technologies. Students will select a device, app, or other technology and thoroughly evaluate its use in rehabilitative audiology. The deadline for each report and presentation will coincide (see calendar), but students are encouraged to submit a draft of their report prior to the

deadline to ensure that material presented to the class will be accurate and that the report will earn a satisfactory grade. Each student is expected to complete their own work. **Late reports will not be accepted and students will not have the ability to revise and resubmit reports.** Detailed instructions and grading criteria for both report and presentation assignments will be provided in class. See the grade weighting below.

## Quizzes & Exams

Quizzes will be administered throughout the semester. The quizzes will not be graded, but participation in the discussion will be required for all students in attendance. Points may be earned by making a substantial positive contribution to the discussion after the quiz and throughout the class period, up to the total available (20).

Two exams will be administered throughout the course (see calendar). Each exam will focus on the material covered since the previous exam but will be considered “comprehensive” and may contain content from the entirety of the course as well as HESP 700. The exams will include material from the assigned readings, lectures, laboratory demonstrations, and laboratory assignments.

## Course-Specific Policies

Please refrain from using smartphones and related communication technology during class. If you have critical communication to attend to, please excuse yourself and return when you are ready. Students are expected to maintain a high level of respect for the instructor and fellow classmates in the use of digital technology. Please refrain from all non-essential activities during class including visiting websites for news, social media, shopping, or searching for information that is not directly related to the current course discussion.

Attendance is expected for the entirety of each course meeting. No accommodations will be made for unexcused absences or class time missed. Please inform me of an excused absence in a timely manner so that we can make a reasonable plan to accommodate your absence.

## Grades

Grades are not given, but earned. Your grade is determined by performance on the learning assessments in the course and is assigned individually (not curved). If earning a particular grade is important to you, please speak with the instructor early and often for helpful suggestions for achieving your goal. All assessment scores will be posted on the course ELMS page. If you would like to review any grades (including the exams), or have questions about how something was scored, please schedule a time to meet. Late work will not be accepted for course credit except where specified above. Formal grade disputes must be submitted in writing within one week of receiving the grade.

Learning Assessments	#	Points	Total	Weight
Quizzes	10	2	20	6.25%
Laboratory Assignments	5	20	100	31.5%
Written Report	2	40	80	25%
Presentation	2	20	40	12.5%
Exams	2	40	80	25%
<b>Total Points:</b>			<b>320</b>	

Final Grade Cutoffs					
+	97.0%	+	87.0%	+	77.0%
		+	67.0%		
A	94.0%	B	84.0%	C	74.0%
		D	64.0%	F	<60.0%
-	90.0%	-	80.0%	-	70.0%
		-	60.0%		

## Course Schedule

CLASS MEETING	READING	TOPICS	DUE
Tuesday 1/29	Ch 2	Course overview Role of audiologist Lab 1: Transparent fitting	
Tuesday 2/5	Ch 4	Speech acoustics	
Tuesday 2/12	Ch 6	Speech testing Lab 2: Experience	<b>Lab 1</b>
Tuesday 2/19	Ch 11	Advanced features I	
Tuesday 2/26	Ch 12	Advanced features II Lab 3: Feedback	<b>Lab 2</b>
Tuesday 3/5	Ch 17b	Advanced feature verification	
Tuesday 3/12	-	<b>Exam 1</b>	<b>Lab 3</b>
		<i>Spring Break</i>	
Tuesday 3/26	Ch 8b	Device styles II Lab 4: Advanced features	
Tuesday 4/2	-	<b>Presentations – Evidence-based practice</b>	<b>Report 1</b>
Tuesday 4/9	Ch 15	Behavioral validation	
Tuesday 4/16	Ch 18	Patient orientation Lab 5: Behavioral validation	<b>Lab 4</b>
Tuesday 4/23	See ELMS	Troubleshooting	
Tuesday 4/30	Ch 19	Questionnaire validation	<b>Lab 5</b>
Tuesday 5/7	-	<b>Presentations – Self-administered Audiology</b>	<b>Report 2</b>
Tuesday 5/14	-	<b>Exam 2</b>	
5/19	-	<b>Final deadline to submit revisions for credit</b>	

**Note:** This is a tentative schedule, and subject to change as necessary – monitor the course ELMS page for current deadlines. Details about chapter sections assigned to ‘a’ and ‘b’ portions will be determined based on material covered in class for exam purposes; please read all of the listed chapter prior to class. Additional readings will be posted to the course ELMS page. In the unlikely event of a prolonged university closing, or an extended absence from the university, adjustments to the course schedule, deadlines, and assignments will be made based on the duration of the closing and the specific dates missed.

## **Knowledge and Skills for Audiology (KASA)**

### **3.1.1A PROFESSIONAL PRACTICE COMPETENCIES**

- Clinical Reasoning
- Evidence-Based Practice
- Effects of hearing loss on the speech and language characteristics of individuals across the life span and the continuum of care

### **3.1.2A FOUNDATIONS OF AUDIOLOGY PRACTICE**

- Effects of hearing impairment on educational, vocational, social, and psychological function and, consequently, on full and active participation in life activities
- Physical characteristics and measurement of simple and complex acoustic stimuli
- Methods of biologic, acoustic, and electroacoustic calibration of clinical equipment to ensure compliance with current American National Standards Institute (ANSI) standards (where available) and other recommendations regarding equipment function
- Principles of psychoacoustics as related to auditory perception in individuals with normal hearing and those with hearing loss

### **3.1.3A IDENTIFICATION AND PREVENTION OF HEARING LOSS, TINNITUS, AND VESTIBULAR DISORDERS**

- Applying the principles of evidence-based practice
- Selection and use of outcomes measures that are valid and reliable indicators of success of prevention programs

### **3.1.4A ASSESSMENT OF THE STRUCTURE AND FUNCTION OF THE AUDITORY AND VESTIBULAR SYSTEMS**

- Evaluate information from appropriate sources to facilitate assessment planning
- Obtain a case history
- Perform an otoscopic examination
- Perform audiologic assessment using techniques that are representative of the challenges listeners may face in everyday communication situations
- Perform assessment to plan for rehabilitation
- Perform assessment to characterize tinnitus
- Document evaluation procedures and results
- Interpret results of the evaluation to establish type and severity of disorder
- Generate recommendations and referrals resulting from the evaluation processes
- Provide counseling in a culturally sensitive manner to facilitate understanding of the hearing loss, tinnitus, or balance disorder of the individual being served
- Maintain records in a manner consistent with legal and professional standards
- Communicate results and recommendations orally and in writing to the individual being served and other appropriate individual(s)
- Assign the correct Common Procedural Terminology (CPT) code(s) and the correct International Classification of Diseases (ICD) code(s)
- Apply the principles of evidence-based practice
- Select and use outcomes measures that are valid and reliable indicators of success in assessment protocols that are used

### **3.1.5A ASSESSMENT OF THE IMPACT OF CHANGES IN THE STRUCTURE AND FUNCTION OF THE AUDITORY AND VESTIBULAR SYSTEMS**

- Administer clinically appropriate and culturally sensitive self-assessment measures for communication function for individuals across the lifespan and the continuum of care
- Determine contextual factors that may facilitate or impede an individual's participation in everyday life
- Select and use outcomes measures that are valid and reliable indicators of success in determining the impact of changes in structure and function of the auditory and vestibular systems

### 3.1.6A INTERVENTION TO MINIMIZE THE EFFECTS OF CHANGES IN THE AUDITORY AND VESTIBULAR SYSTEMS ON AN INDIVIDUAL'S ABILITY TO PARTICIPATE IN HIS OR HER ENVIRONMENT

- Develop culturally sensitive and age-appropriate management strategies
- Perform hearing aid, assistive listening device, and sensory aid assessment
- Perform assessment of device used to manage tinnitus
- Recommend, dispense, and service prosthetic and assistive devices
- Provide hearing aid, assistive listening device, and sensory aid orientation
- Serve as an advocate for individuals served, their families, and other appropriate individuals
- Monitor and summarize treatment progress and outcomes
- Assess efficacy of interventions for auditory, tinnitus, and balance disorders
- Apply the principles of evidence-based practice
- Document treatment procedures and results
- Communicate results, recommendations, and progress in a culturally sensitive and age-appropriate manner to appropriate individual(s)
- Select and use outcomes measures that are valid and reliable indicators of success in determining the impact of the interventions used to minimize the effects of changes in structure and function of the auditory and vestibular systems