

SPLH 463 Principles of Hearing Science
Spring 2018 Syllabus

Class Meetings:

Lecture: Tuesdays & Thursdays, 11:00am – 12:15pm
Location: DHDC 2092

Instructors:

Instructor: Nikki Go, AuD; n516g473@ku.edu
Office Hours: Tuesdays, 12:30-2:30pm, DHDC 3016
Additional times available by appointment

GTA: Anna Grace McCarthy; amccarthy4@kumc.edu
Office Hours: By appointment only; DHDC 3025

Prerequisite/Co-requisite:

SPLH 120 Physics of Speech

Course Description:

This course discusses the concepts and principles relevant to normal hearing processing: gross anatomy, psychophysical methods, and basic subjective correlates of the auditory system. ASHA standards met by successful completion: IV-A11, IV-A12, IV-A15, IV-A23, IV-B2

Course objectives:

During this course, students will learn about the following:

1. The anatomy and physiology of the peripheral auditory system.
2. The basic psychophysical approaches in evaluating the auditory system.
3. The fundamental aspects of auditory sensation and perception.

Course Materials:*Textbooks and Materials:*

1. Required: Lass, N.J. & Woodford, C.M. (2007). *Hearing Science Fundamentals (1st Edition)* Mosby, Elsevier - Health Sciences Division, United States.
2. Optional: Yost, W.A.(2007). *Fundamentals of Hearing: An Introduction (5th Edition)* New York: Academic Press.
3. Few chapters from other books or other reading materials from the web will be posted online.

Online Resources:

1. Blackboard course website at <http://courseware.ku.edu>
 - Blackboard will be used extensively in this course. Students should check the course site frequently for announcements. In addition, all email from the instructor to students will be sent through Blackboard account. Please be sure to check the email account associated with your Blackboard account. See the instructor if you have any questions about or problems with Blackboard.

- When possible, lecture notes will be posted to Blackboard no later than 6 p.m. on the day before class. If this cannot be accomplished, a note to that effect will be posted and handouts will be brought to class.

Requirements

1. Lecture Attendance

- Although attendance will not be taken in lecture, due to the large volume of material that will be covered, students are expected to attend each scheduled class period. If absent from lectures, the individual student is responsible for getting materials and information provided during the class.

2. Assignments (20% of course grade)

- Assignments will be posted on Blackboard by 6pm as scheduled. Students will be required to complete the assignment and bring their answers to class on the following meeting.
- Students will be assigned to one of 5 groups. On the day the assignment is due, 2 or 3 groups will be randomly chosen to hand in their assignments for grading. These assignments will be collected at the beginning of class and late assignments will not be accepted. *Late submission will only be allowed for extreme circumstances (e.g., excused absence for illness, with physician documentation) and only by prior arrangement with the GTA (Anna Grace McCarthy).*
- Group assignment will be posted on the Blackboard course module under the 'Assignment' section. Students are responsible for checking (and remembering) their group assignment.
- Each assignment will be worth a maximum of 10 points and each student will have the opportunity to earn a maximum of 40 points. Note: only submissions when your group is called will be counted toward your 40 points; it will not be possible to earn extra points for submitting additional problems.
- Graded assignments will be returned to the students in class by Dr. Go or can be collected from Dr. Go or Anna Grace McCarthy during their office hours or by appointment.
- Additional requirements regarding the submission of assignments:
 - i. *If your answers result in 2 or more pages to be turned in for grading, you must staple all pages together prior to handing in the assignment. The instructor will not bring a stapler to class, so please plan ahead.*
 - ii. The assignments must be turned in on 8 1/2 X 11 paper (slightly larger graph paper is acceptable, small notepad paper is not acceptable). Answers can be typed or handwritten provided your penmanship is legible.
 - iii. Failure to adhere to these guidelines will result in you receiving **0 points** for the assignment.
- While students are allowed to discuss the assignments with each other, make sure that what you turn in is your own work. Plagiarism will not be tolerated. Students who commit plagiarism will be penalized accordingly.
- Answers to the assignments will be posted the week after they are due. Students are encouraged to consult these answers to check their work and to ask questions during lecture or office hours to clarify difficult topics.

3. Online Quizzes (20% of course grade)

- Seven quizzes will be administered through Blackboard (see schedule for dates). These quizzes will provide students with sample questions that may be asked on exams, will help

students identify key concepts covered in readings and lecture, and will provide extra practice applying course concepts.

- The scores on the lowest quiz will be dropped. In other words, only the best **6** quizzes will be included in the computation of your grade for this class.
- Quizzes will be posted by 6pm as scheduled and must be completed by noon on the following Monday. Students should attempt to answer each question without referring to class notes or the textbook and then verify their answers before submitting the answer. The quizzes will be timed for 60 minutes and once a quiz is started, it must be completed in the same session. You will only have one attempt to complete the quizzes.
- If you have a computer problem that prevents you from completing the quiz, email Dr. Go at the time the problem occurs. If the computer problem is considered valid and verified by the time stamp on the email, you may be permitted to take the quiz after the deadline.
- *Beyond valid computer problems, there will be no opportunities to make-up or postpone weekly quizzes. Quizzes must represent a student's own independent work.*

4. In-class Exams (60% of course grade)

- Two exams are scheduled, **a midterm exam** and **a cumulative final exam**. The exams will include objective-style (multiple-choice, matching, labeling, true-false) exam questions. Questions will include material covered in the readings and in class lectures and discussions. Each exam is 30% of your course grade. .
- Makeup examinations will only be allowed for extreme circumstances and only if arrangements have been made with the instructor **prior** to the examination.

Audio or Video Taping Lecture

Course materials prepared by the instructor, together with the content of all lectures and review sessions presented by the instructor are the property of the instructor. Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited. On request, the instructor will usually grant permission for students to audio tape lectures, on the condition that these audio tapes are only used as a study aid by the individual making the recording. Unless explicit permission is obtained from the instructor, recordings of lectures and review sessions may not be modified and must not be transferred or transmitted to any other person, whether or not that individual is enrolled in the course.

Cellphone

Use of cellphone (including texting) in class is not allowed. Cellphones and other devices must be on silent mode or turned-off so as not to disrupt the class.

Studying

Significant learning may start in the classroom but it should continue to grow outside the classroom when students become actively engaged with the material. In this course, you will be actively engaged with the material outside of class through completion of readings, quizzes, and study guides. As stated in the Faculty Senate Rules and Regulations (5.1.1) "One semester hour means course work normally represented by an hour of class instruction and two hours of study a week for one semester, or an equivalent amount of work. The concept may vary according to the level at which instruction is offered."

Academic Misconduct

Students are expected to observe all University guidelines pertaining to academic misconduct. As stated in the University Senate Rules and Regulations (2.6.1):

“Academic misconduct by a student shall include, but not be limited to, disruption of classes; threatening an instructor or fellow student in an academic setting; giving or receiving of unauthorized aid on examinations or in the preparation of notebooks, themes, reports or other assignments; knowingly misrepresenting the source of any academic work; unauthorized changing of grades; unauthorized use of University approvals or forging of signatures; falsification of research results; plagiarizing of another’s work; violation of regulations or ethical codes for treatment of human and animal subjects; or otherwise acting dishonestly in research.” Academic misconduct will not be tolerated and will be dealt with in accordance with all University rules and regulations.

Non-Academic Misconduct

The scope and content of the material included in this course are defined by the instructor in consultation with the responsible academic unit. While the orderly exchange of ideas, including questions and discussions prompted by lectures, discussion sessions and laboratories, is viewed as a normal part of the educational environment, the instructor has the right to limit the scope and duration of these interactions. Students who engage in disruptive behavior, including persistent refusal to observe boundaries defined by the instructor regarding inappropriate talking, discussions, and questions in the classroom or laboratory may be subject to discipline for non-academic misconduct for disruption of teaching or academic misconduct, as defined in the Code of Student Rights and Responsibilities (CSRR), Article 22, Section C, and the University Senate Rules and Regulations, Section 2.4.6. Article 22 of CSRR also defines potential sanctions for these types of infractions.

Accommodations

The Academic Achievement and Access Center (AAAC) coordinates academic accommodations and services for all eligible KU students with disabilities. If you have a disability for which you wish to request accommodations and have not contacted the AAAC, please do so as soon as possible. They are located in 22 Strong Hall and can be reached at 785-864-4064 (V/TTY). Information about their services can be found at <http://www.access.ku.edu>. Please also notify the instructor in writing (e-mail is acceptable) within one week of receiving this syllabus so that appropriate accommodations for this course can be discussed.

If a scheduled exam, lab exercise, or quiz is in conflict with a mandated religious observance, you must notify the instructor in writing (e-mail is acceptable) within one week of receiving this syllabus so that an alternative arrangement can be made in advance of the scheduled requirement.

Grading

The University has prescribed definitions for grades. The University Senate Rules and Regulations define grades in the following way:

- 1..1.1 The grade of A will be reported for achievement of outstanding quality
- 1..1.2 The grade of B will be reported for achievement of high quality
- 1..1.3 The grade of C will be reported for achievement of acceptable quality
- 1..1.4 The grade of D will be reported for achievement that is minimally passing but at less than acceptable quality

In this course, quality of achievement will be evaluated through assignments, online quizzes and exams. Grades will be based on the following:

Midterm Exam	30%	
Final Exam	30%	
Quizzes	20%	(drop the lowest quiz score)
Assignment	20%	
Total	100%	

The final grade for the course will be based on the following:

A	(94-100%)
A-	(90-93%)
B+	(87-89%)
B	(84-86%)
B-	(80-83%)
C+	(77-79%)
C	(74-76%)
C-	(70-73%)
D+	(67-69%)
D	(64-66%)
D-	(60-63%)
F	(<60%)

If your level of achievement during this course is falling short of your goal, you are **strongly encouraged** to consult with the instructor during office hours or by appointment to improve the quality of your learning of course material.

SPLH 463: <i>Tentative</i> Schedule		
Session	Topic	Readings
*****Review of Basic Acoustics*****		
TU 1/16	Introduction to Course & Review of Acoustics	• Chapter 1
TH 1/18	Review of Acoustics (cont.) Assignment #1 posted by 6pm	
TU 1/23	Review of Acoustics (cont.) Assignment #1 due in class Quiz #1 posted by 6pm	
*****Anatomy and Physiology of the Auditory System*****		
TH 1/25	Anatomy and Physiology of the External/Middle Ear	• Chapter 2
Quiz #1 due Monday, 1/28 at 12nn		
TU 1/29	Anatomy and Physiology of the External/Middle Ear (cont.) Assignment # 2 posted by 6pm	
TH 2/1	Anatomy and Physiology of the Inner Ear Assignment #2 due in class	• Chapter 3
TU 2/6	Inner Ear (cont.)	
TH 2/8	Inner Ear (cont.) Assignment #3 posted by 6pm Quiz #2 posted by 6pm	
Quiz #2 due Monday, 2/12 at 12nn		
TU 2/13	NO CLASS	
TH 2/15	Inner Ear (cont.) Assignment #3 due in class	• Chapter 3
TU 2/20	Anatomy and Physiology of the Central Auditory System	• Chapter 4
TH 2/22	Central Auditory System (cont.) Assignment #4 posted by 6pm	

TU 2/27	Central Auditory System (cont.) Assignment #4 due in class	• Chapter 4
TH 3/1	Central Auditory System (cont.) Quiz# 3 posted by 6pm	
Quiz #3 due Monday, 3/5 at 12nn		
*****Fundamentals of Psychoacoustics*****		
TU 3/6	Auditory Sensitivity: Psychophysical Methods Assignment #5 posted by 6pm	• Chapter 5
TH 3/8	Auditory Sensitivity: Normal Hearing & Bone Conduction Hearing Assignment #5 due in class Quiz #4 posted by 6pm	• Chapter 5
Quiz #4 due Monday, 3/12 at 12nn		
TU 3/13	Differential Sensitivity	• Chapter 8
TH 3/15	MIDTERM EXAM	
TU 3/20	SPRING BREAK	
TH 3/22	SPRING BREAK	
TU 3/27	Localization & Binaural Hearing Assignment #6 posted by 6pm	• Chapter 5
TH 3/29	Masking Assignment #6 due in class	• Chapter 6
TU 4/3	Masking (cont.) Assignment #7 posted by 6pm	
TH 4/5	Masking (cont.) Assignment #7 due in class	
TU 4/10	Masking (cont.) Quiz # 5 posted by 6pm	
TH 4/12	Loudness & Pitch	• Chapter 7
Quiz #5 due Monday, 4/16 at 12nn		

TU 4/17	Loudness and Pitch Assignment # 8 posted by 5pm Quiz #6 posted by 6pm	• Chapter 7
TH 4/19	NO CLASS (<i>To be confirmed</i>)	
Quiz #6 due Monday, 4/23 at 12nn		
*****Abnormal Auditory System*****		
TU 4/24	Outer & Middle Ear Pathologies Assignment # 8 due in class	• Chapter 9
TH 4/26	Inner Ear Pathologies Quiz #7 posted by 6pm	
Quiz #7 due Monday, 4/30 at 12nn		
TU 5/1	Central Auditory System Disorders	
TH 5/3	Catch-up and Review	
Tuesday, 5/8/18 FINAL EXAM (time to be confirmed)		