

Auditory Perception
EXP 4120 CRN XXXXX Fall 2019
3 credits

Department of Psychology
College of Science
Florida Atlantic University

Meeting Time and Place

Tuesday and Thursday 11:00am – 12:20pm, Performing Arts (PA), Room 101

Prerequisites

PSY 1012 General Psychology
EXP 3505 Cognition

Instructor

Dr. Lauren Mavica
Office: Behavioral Science 228
Email: lkogelsc@fau.edu
Office Hours: Tuesday and Thursday 2pm - 5pm
Wednesday and Friday 10am – 1pm or by appointment

Teaching Assistant

TBA
Office: BS 123
Email: TBA
Office Hours: By appointment Only

Course Web Site

This course is available through Canvas. Log in to: <https://canvas.fau.edu>
A course syllabus, announcements, PowerPoint slides, additional information and course instructions will be available on Canvas. In addition, grades will also be available on the site.

Required Texts

Title: Fundamentals of Hearing 5th ed.
Authors: Yost, W.A.
ISBN-13: 0-12-370473-1
Publisher: Elsevier Press
You *must* have access to the MindTap software suite.
SEE INSTRUCTIONS ON CANVAS TO REGISTER

Course Description

This course provides a thorough introduction to the normal processes of auditory perception and attention. We will study the physics of sound, peripheral auditory

anatomy and physiology, auditory psychophysics and anatomy and physiology of the central auditory pathway. We will also introduce attention and the processing of the complex sounds of speech and music.

Course Objectives

Upon completing this course, students should understand:

1. The basic physics of sound
2. Sinusoidal waveforms
3. Sound transmission
4. Complex waveforms
5. Fourier analysis and Fourier Synthesis
6. Analysis of sound, resonance and filters
7. Decibels
8. Peripheral auditory anatomy and physiology
9. Outer and middle ear
10. Auditory Nervous system and hair cells
11. Perception of sounds and localization
12. Central Auditory nervous system
13. Neural anatomy and physiology
14. Speech perception
15. Music perception
16. Auditory deficits
17. Auditory attention

Course Evaluation Method

This class will consist of lectures and class discussions. Grading will be based on **homework assignments** (MindTap), (25%) and performance on **exams** (75%). There will be three exams. Exams will consist primarily of multiple-choice questions, although other types of questions are also possible. Exams will be administered in class and will be machine scored. **Please bring a #2 pencil and a blue scantron to each exam.** Exam grades will not be curved.

Attendance Policy Statement

Attendance is mandatory and your performance in the class will invariably depend on your coming. Some of the material covered in class (app. 15%-20) may not be covered in the textbook and you will be responsible for this material.

MindTap Readings and Activities

MindTap suite is a learning interface maintained by Cengage that combines an electronic textbook with learning objects, tutorials, videos, quizzes, and other study tools. Assigned activities include weekly MindTap activities to assist you in developing

a study plan for each chapter and end of chapter quizzes. Students are encouraged to use the other available activities on MindTap to assist with their studies.

Students are expected to register on the class portal sites the first day of class.

Cengage provides students with a period of courtesy access to the portal site at the beginning of the semester to allow students to keep up with class assignments without a financial expenditure during the drop/add period and while waiting for financial aid. Students will need to purchase full access to *MindTap* before the courtesy access expires. Failure to register on time or to purchase full access after the courtesy access period may result in the loss of points earned through the *MindTap* activities.

Chapter readings and the accompanying MindTap homework should be completed one hour prior to the corresponding lectures (**by 10:00am this semester**). You will find formal due dates for all assigned *MindTap* listed on the portal Weekly View. Students are responsible for knowing due dates and therefore you should check the portal site regularly.

Course Grading scale (%):

- 100 - 93.00 = A
- 92.99 - 90.00 = A-
- 89.99 - 87.00 = B+
- 86.99 - 83.00 = B
- 82.99 - 80.00 = B-
- 79.99 - 77.00 = C+
- 76.99 - 73.00 = C
- 72.99 - 70.00 = C-
- 69.99 - 67.00 = D+
- 66.99 - 63.00 = D
- 62.99 - 60.00 = D-
- <59.99 = F

Exam Dates (all dates subject to change)

Exam 1: February 14	Regular Class Time
Exam 2: March 26	Regular Class Time
Exam 3: April 30	11:00am

Policy on Missed Exams

Students will be allowed to take a make-up exam only for documented, University-sanctioned reasons and only if they have followed the below outlined procedures for receiving approval. For foreseeable instances in which the student will miss the exam period, students must provide acceptable documentation and get approval to make-up the exam **prior** to the absence. When an exam is missed due to an unforeseeable emergency, students must contact the instructor and provide acceptable documentation no later than 24 hours from the time of the missed exam to get approval

to take a make-up exam. **No make-up exams will be administered to any student who does not have a documentable, University-sanctioned reason.** Missing the exam for any reason other than those covered under the university policy or being unable to document a University-sanctioned reason will result in a student receiving a 0. For example, “My alarm did not go off.” is not acceptable reason for missing an exam. Further, students are expected by the University to participate in the assigned final activity during the final exam period. **Scheduled travel arrangements that conflict with exam period do not fall under the University-sanctioned absence policy and therefore students are strongly urged to keep exam dates and times in minds when making any travel arrangements.**

Policy on Missed or Late Assignments

Ample time will be provided for students to complete assignments. Therefore, **NO late work will be accepted.** Please note that it is unusual for make-up opportunities for *MindTap* Activities to be granted because these activities are open well before the due dates. Further, excuses such as, “I forgot about the assignments” or “I did not have Internet access at home” are not acceptable excuses that warrant assignment extensions. In other words, it behooves you to complete these assignments early. All assignments are due one hour before the start of class time on the day the assignment is due. **THIS IS STRICTLY ENFORCED.**

Credit Hour Definition: This course involves 50 minutes of in class instruction for each credit hour per week, and a minimum of two hours of out of class assignments each week for 15 weeks. To master the material covered in this course it is expected that the student will spend a *minimum* of two hours per week per credit hour on the out of classroom assignments.

Disability policy statement: In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU’s campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/

Code of Academic Integrity Policy Statement: Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001. If your college has particular policies relating to cheating and plagiarism, state so here or

provide a link to the full policy—but be sure the college policy does not conflict with the University Regulation.

Reasonable Accommodation Statement for Makeups: Reasonable accommodation will be made for students participating in a religious observance or in University-approved activities, including athletic or scholastics teams, musical and theatrical performances and debate activities.

Counseling and Psychological Services (CAPS) Center: Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

Attendance Policy: Students are expected to attend all their University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

Religious Accommodation

In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs with regard to admissions, registration, class attendance and the scheduling of examinations and work assignments. Students who wish to be excused from coursework, class activities or examinations must notify the instructor in advance of their intention to participate in religious observation and request an excused absence. The instructor will provide a reasonable opportunity to make up such excused absences. Any student who feels aggrieved regarding religious accommodations may present a grievance to the director of Equal Opportunity Programs. Any such grievances will follow Florida Atlantic University's established grievance procedure regarding alleged discrimination.

Course topical outline:

Introduction to Auditory Perception

- The Auditory Stimulus
 - Sinusoids
 - Sound Transmission
 - Complex Stimuli
 - Sound Analysis
 - Trigonometry and logarithms
- Peripheral Auditory Anatomy and Physiology
 - Outer and middle ear
 - Structure of the inner ear and its mechanical response
 - Fourier analysis
 - Peripheral auditory nervous system and hair cells
 - The neural response and the auditory code
- Auditory Perception of Simple Sounds
 - Psychophysics
 - Auditory sensitivity
 - Masking
 - Sound localization
 - Loudness and pitch
- The Auditory Nervous System
 - Neural anatomy and physiology
 - The central auditory pathway
- Advanced Topics
 - Speech Perception
 - Music Perception
 - Abnormal processes
 - Attention